

# Innovation Indicator for Germany 2009.

Summary



**BDI**

Deutsche Telekom Stiftung



# How Innovative are the Leading Industrialised Nations?

## Overall Results.

The rapid downturn in the global economy has come to a halt. The first positive sets of economic data are rekindling hopes around the world that things are about to get better. However, in many companies the financial crisis will be felt for a long time to come – exports have slumped, balance sheets are in the red, financial cushions that have taken years to build up have been eroded away. Yet, despite economic gloom, companies still have to invest in the development of new products if they are to profit from an economic upswing. For them to rise to this huge challenge, good economic conditions – ranging from efficient access to credit and tailor-made state promotion policies to a sufficient number of skilled workers and creative scientists – are essential.

In these and many other areas crucial to sustainability, which of the industrialised nations have what it takes to come out of the crisis stronger than before? What do competitor nations in America, Asia and Europe do better than Germany? With “Innovation Indicator for Germany 2009”, Deutsche Telekom Stiftung (Deutsche Telekom Foundation) and Bundesverband der Deutschen Industrie (the BDI, Federation of German Industries) offer scientifically-based answers to these key questions. The study was performed by Deutsches Institut für

Wirtschaftsforschung (the DIW, German Institute for Economic Research). In the report, which has appeared annually since 2005, the DIW economists compare 17 leading industrialised countries. In addition to the innovative capacity of the companies, the indicator also focuses on state innovation policies and the social climate of innovation in the countries concerned.

## The Overall Result: The United States Takes Over the Lead.

The most innovative country worldwide is currently the US, followed by Switzerland and Sweden. Despite the recession, the US was able to improve by one place compared with 2008. Topping the league last year, Sweden has dropped down two places. In 9<sup>th</sup> place, Germany once again fails to join the ranks of the world's most innovative countries. Compared with 2008, Germany has even slipped down one place. The least well-equipped for the increasingly international nature of the race to innovate are Spain and Italy.

The competitive differences among the countries are illustrated by the scores each country achieves. To calculate these, the DIW uses the following approach: the most successful country in one particular discipline of innovation is awarded seven points in the category concerned, the least successful country one point. The countries in between are awarded points based on how they lie in relation to the first and last country.

The scores show that in terms of innovative capacity worldwide, a three-class society has developed. In the top group with the US, Switzerland and Sweden are also the Northern European countries Finland and Denmark. Not only are these countries ahead of the competition in terms of their scores, they have been in the top five now for a number of years.

Germany is quite a bit behind the established leaders. With 5.01 points, Germany is 1.75 points behind third-placed Sweden. As in previous years, Germany is part of a large group of mid-range countries ranging from Canada in 6<sup>th</sup> place to Ireland in 15<sup>th</sup> place. There is then a large gap between these countries and Spain

## Innovative Capacity of the Leading Industrialised Nations.

Place		Score
1	US	7.00
2	Switzerland	6.93
3	Sweden	6.76
4	Finland	6.26
5	Denmark	6.14
6	Canada	5.24
7	Japan	5.22
8	Netherlands	5.03
9	<b>Germany</b>	<b>5.01</b>
10	UK	4.78
11	Korea	4.47
12	France	4.25
13	Austria	4.15
14	Belgium	4.14
15	Ireland	3.77
16	Spain	1.79
17	Italy	1.00

Source: Calculations by the DIW, Berlin.

and Italy in last place. There are, for example, over three points of a difference between Spain and Germany and almost five points between Spain and Sweden in 3<sup>rd</sup> place.

## Germany: Strong in High-Technology, Weak in Education.

Despite the fact that Germany only managed to achieve a place in the mid-field, the country can draw on a number of strengths. Germany can boast, for example, excellent suppliers in many areas of industry along the whole value chain. And scientific institutions, such as the Fraunhofer Institutes, have an excellent reputation worldwide. Companies profit from this. In developing new products, they cooperate extremely closely with suppliers and partners in comparison with companies in other countries. A further strength of Germany is its highly-developed infrastructure. In surveys, companies speak particularly favourably of the excellent air and rail links in the heart of Europe that the country offers. The keen competitive landscape in Germany also has a positive effect, forcing companies to constantly invest in further developing their product portfolios and thus also improving the competitiveness of German companies on world markets.

The strengths of Germany as a location for industry particularly benefit manufacturers in the mechanical, automotive and chemical engineering sectors. As the innovation indicator shows, Germany is a world leader in the manufacture of such high-tech products. Their competitive edge is reflected in the fact that manufacturers of high technology account for a relatively high percentage of German value-added and, compared internationally, a large number of jobs.

Germany's strengths are, however, counteracted by a number of shortcomings. A major weakness is the education of young talent. Not only does Germany invest far too little in its education system, the wrong sort of structural incentives result in young people being more poorly educated than in other countries. The poor conditions that exist for financing innovative projects also act as a major barrier to innovation. Compared with competitors in, for example, Sweden, the US and Denmark, German companies have a difficult time gaining access to loans and venture capital. This competitive disadvantage has existed not just since the onset of the financial crisis but has been apparent in the innovation indicator since the very beginning in 2005. Compared internationally, there are also clear shortcomings in the social climate of innovation: the Germans do not like taking risks. They rarely try something new and look at the future with scepticism.



The innovation indicator illustrates that Germany is the worldwide leader in developing and marketing high-technology products, such as cars.

## How the DIW Measures Innovative Capacity.

To measure the innovative capacity of the leading industrialised nations, the DIW analysed some 180 different items of data. These include international statistics from the OECD and Eurostat as well as surveys conducted among private individuals and representatives of industry. The DIW draws important conclusions, for example, from the manager survey performed by the World Economic Forum, the EU Commission's Eurobarometer and the World Values

Survey. Studies that clearly focus on particular topics are also used for the calculation. These include the indicators that the DIW calculates itself relating to the making of marketable products from inventions, Transparency International's corruption studies and the Global Entrepreneurship Monitor.

All the sets of data gathered are calculated in different units of measure. Expenditure on

education, for example, is expressed in international statistics in dollars, employment figures in percentages and so on. In compiling all these different items of data in an indicator, the DIW maps all the original data to a scale of 1 to 7. This leads to country rankings in all the key areas of innovative capacity. These are then compiled in a number of steps to obtain an overall score for each country.



# Ideas to Combat the Crisis.

Companies.

The low level of global demand has increased competitive pressure even further worldwide. Whether the companies in a country are successful depends more than ever before on their capability to stay one step ahead of the competition with innovative products. To analyse this capability, the DIW examined four areas:

- Success of the companies on world markets
- Networking with other companies and higher education and research establishments
- Research and development activities of business
- Further training

The overall result shows that Switzerland, Japan and Sweden have the most innovative corporate landscapes. The US, Finland and Denmark follow in close pursuit. All six countries achieved places in the top half of the league last year. Germany takes 7<sup>th</sup> place in 2009, sliding one place down from last year. France took the biggest leap forward, from 14<sup>th</sup> to 11<sup>th</sup> place. Companies in Korea and the UK, by contrast, lost ground considerably compared with the other countries. Both countries fell three places compared with 2008, with Korea taking 12<sup>th</sup> place and the UK a poor 14<sup>th</sup>.

## Outstanding Performance on Global Markets.

Germany is very successful at developing innovative products and marketing them worldwide. In the relevant sub-indicator in the innovation ranking, Germany took third place behind Switzerland and Ireland. Sweden, Korea and the US followed in 4<sup>th</sup> to 6<sup>th</sup> places. To calculate the score, the DIW economists analysed the value-added, the percentage of the population employed in R&D-based sectors and the export successes of three areas: high technology, cutting-edge technology and knowledge-based services.

Germany, Switzerland and Japan, in particular, have specialised in the high-technology sector. In all three countries, sectors such as chemical, automotive and mechanical engineering account for a relatively large percentage of total value-added and employment. This is reflected in the confidence of the company managers. When asked about the international competitiveness of their high-technology sectors, German and Swiss managers gave their countries the best marks worldwide. German and Japanese managers also indicated that they use the most efficient technologies in their home locations for the manufacture of high-tech products.

The US and the UK, on the other hand, have increasingly moved out of high technology, specialising instead in knowledge-based services. These include sectors of industry such as telecommunications, information technology and the currently crisis-ridden financial sector. In addition to the two Anglo-Saxon countries, the countries of Switzerland, the Netherlands, France, Denmark and Sweden are also well equipped in these sectors. In Germany, these sectors are still of secondary importance. As a result, Germany only takes 9<sup>th</sup> place in the "knowledge-based services" sub-indicator.

Germany is also far behind the leading countries when it comes to developing and marketing cutting-edge technology. In this area, Ireland, Switzerland and Korea are the three countries to beat. Cutting-edge technology is produced in companies with above-average levels of investment in research and development, such is the case in biotechnology, computer hardware and media technology companies.



A constant array of new developments – such as in the field of wind power technology – enables German companies to secure an excellent place on the world market.

## Joint Ventures: Germany Benefits from Good Suppliers.

There is now an incredible array of technology, software, services and high-tech materials in innovative products. Few companies boast comprehensive skills and knowledge in all these areas at the same time. They are therefore reliant on partners – IT companies, highly-specialised suppliers and experts in universities and scientific institutions.

To analyse the extent to which these partners work together, the DIW calculates the “networking” sub-indicator. A number of factors are taken here into account: the degree of inter-company networking, knowledge transfer between research institutes and companies, the distribution of clusters (the business and science networks that are concentrated in a particular region) and joint-ventures with researchers in other countries.

The results show that companies in Switzerland, Japan and Germany place the greatest importance on networking. In Switzerland, transfer of knowledge from establishments of higher education to companies works particularly well. Japan and Germany benefit from a particularly concentrated network of innovative suppliers. In Northern Europe, on the other hand, networking is still underdeveloped. Sweden, Denmark and Finland all occupy the mid-field. Their greatest shortfall: in all three countries, scientists rarely work with experts in other countries.

## Research and Development: Japan Leads the Field.

Companies in Japan, Sweden and Switzerland are the most closely involved in research and development. Finland, the US and Germany follow in 4<sup>th</sup> to 6<sup>th</sup> place. The extent to which Japanese, Swedish and Swiss companies are involved in the research and development of new products is illustrated, for example, by their levels of investment. In all three countries, corporate expenditure on R&D amounted on the whole to well over 2 per cent of gross domestic product (GDP). At over 1.8 per cent of GDP, German industry's spending on R&D was slightly less. Nonetheless, German companies managed to

## Overall Evaluation of the Innovative Capacity of Companies.

Place		Score
1	Switzerland	7.00
2	Japan	6.24
3	Sweden	6.18
4	US	5.86
5	Finland	5.75
6	Denmark	5.47
7	<b>Germany</b>	<b>5.11</b>
8	Austria	4.26
9	Netherlands	4.17
10	Belgium	3.99
11	France	3.82
12	Korea	3.78
13	Canada	3.75
14	UK	3.62
15	Ireland	3.46
16	Italy	1.10
17	Spain	1.00

Sources: Original data WEF; OECD, EUKLEMS, GEM; calculations by the DIW Berlin.

develop a relatively large number of useful ideas. On the whole, in 2007 they registered 293 inventions per million inhabitants with the European Patent Office. Only Switzerland, with 425 registrations, and Sweden, with 321 patents, had more ideas relative to the size of their population.

## Further Training: Northern Europeans Active.

For a company to be innovative, the skills and knowledge of its workforce has to be up to the minute. That is why further training is a key aspect of innovative capacity. This has long been recognised in Denmark, Sweden, Switzerland and Finland. These four countries lead the field in the “company training” sub-indicator. Germany, by contrast, only manages 13<sup>th</sup> place. The evaluation is based on surveys among representatives of industry and on OECD analyses. According to the statistics, only 12 per cent of employees in Germany take advantage of further training. In top-of-the-league Denmark, however, almost 40 per cent regularly attend further training activities, spending twice as much time on this than the Germans.

Germany is very successful at developing innovative products and marketing them worldwide.

# Promote, Not Hamper.

## Government Innovation Policy.

The best state climate for innovations is fostered by the US, Switzerland and Sweden. The governments of Denmark and Finland also provide good conditions for innovative companies and scientists to be able to work successfully. In 11<sup>th</sup> place, Germany only manages a place in the lower half of the league. Reforms, therefore, still remain unavoidable in Germany, especially since the innovation indicator shows that the international competition for the best state climate is a fierce one: all the countries in the mid-field are thus concentrated together. For example, there is just over a point between Korea in 13<sup>th</sup> place and France in 7<sup>th</sup>. When companies and researchers choose between locations to invest in, often specific criteria - such as uncomplicated access to state funding for R&D or the abundance of establishments of higher education providing young, highly-qualified talent - can therefore be crucial to the decision.

## Evaluation of Government Innovation Policy.

In calculating the ranking, the DIW examined four areas via which the state greatly affects the innovative capacity of a country: education policy, state R&D policy, regulation, and public demand for innovative products and services. The results are as follows:

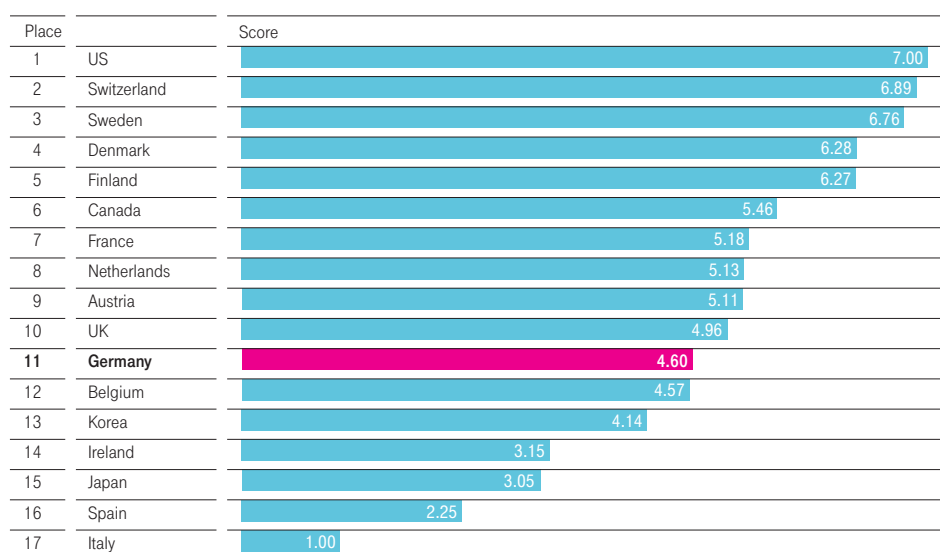
### Education: Finland Achieves Top Marks.

Schools and universities are where the skilled staff, developers and scientists of tomorrow are educated. How the education system of a country is evaluated therefore provides valuable insights into one of the most interesting questions of the future: how innovative will the industrialised nations be in the years to come? For Germany, the DIW analysis is cause for concern. It is apparent even now that the German economy will need even more academics in the future than will be available. Nonetheless, Germany only gives a comparatively small number of young people in the same age group the opportunity to study. The country is therefore set to face a huge shortfall in skilled labour - especially in mathematics, information sciences, natural sciences and technology, the areas so essential to innovative capacity.

The DIW also criticises the financing of the education system: according to OECD statistics, in 2005 the German state invested a mere 4.5 per cent of GDP in education, a figure which has stagnated for a number of years despite promises to the contrary by the politicians. Countries such as Finland, Sweden and Denmark, on the other hand, spend over 6 per cent of their GDP in educating and training young people.

In addition to expenditure on education, the DIW also analysed the quality of schools and establishments of higher education. Results showed that Finland, Switzerland and Canada have the best education systems overall. Finland not only scored high marks in PISA surveys, but was given top marks by managers. One negative aspect, however, is that Finland has few establishments of higher education of international repute. The US paints a different picture:

## Overall Evaluation of the Innovation Policy.



Sources: Original data WEF, OECD, NSF, Transparency International, university rankings; calculations by the DIW Berlin.

while the US bask in the glory of internationally acclaimed universities for the elite such as Harvard, Stanford and Berkeley, the quality of high-school education leaves a lot to be desired. Overall, the US therefore only takes 11<sup>th</sup> place. The German education system takes a disappointing 13<sup>th</sup> place. No school or establishment of higher education offers top-notch quality in international comparison.

## R&D Policy: Learning from the US.

In all industrialised countries, the state actively supports research and development. For example, the public sector finances the majority of basic research and makes grants available to innovative companies. State-run scientific institutions and establishments of higher education also provide companies with valuable input in developing new technologies.

These forms of state support work particularly well in the US, Sweden and Austria. However, all three countries have different strengths. In Austria, what impresses most is the amount of financial support available. Thus state-financed expenditure on R&D last year amounted to almost 1 per cent of gross domestic product – putting Germany's Alpine neighbour at the top of the league of the 17 leading industrialised countries. Sweden excels in basic research, the best example of which is the fact that Swedish scientists are leading contributors to scientific journals. The country's researchers most recently published 1,113 articles per one million inhabitants – coming second only to the Swiss. The US stands out because of the extremely high level of research funding that companies, in particular, are awarded by the state. American managers also praised the research landscape highly, indicating that scientific institutions are second to none and, in many areas of the country, have both good researchers and excellent teaching staff.

In terms of state R&D policy, Germany is in 9<sup>th</sup> place. Like the US, Germany also has excellent establishments for research and development. Weaknesses, however, are apparent in the state promotion of R&D. While almost all the successful locations of innovation provide tax incentives for R&D, the German state so far does not

provide innovative companies with any particular tax breaks.

## Regulation: Germany Taking a Step Backwards.

The legal system of a country is an important prerequisite for innovation. Without modern patent law, for example, companies would invest little in R&D. Too many or too strict regulations can, however, act as a brake on innovation. The state must therefore find the right level of sensible legislation, uncomplicated bureaucracy and creative freedom. The governments of the UK, the US and the Netherlands come closest to achieving this ideal, as is proven by two OECD studies that use a whole range of data to assess regulation on product markets and in the area of company-based services. Both these studies show that in Germany the legislation of the country still makes the lives of innovative companies difficult in comparison with companies in other countries. Although policymakers have been attempting to encourage deregulation for a long time, Germany even slid down a place over the previous year to 13<sup>th</sup> place.

## The State Customer: Koreans Love Technology.

Surveys carried out by the DIW show that a big part of a decision to locate in a particular area is the extent to which local customers are interested in new technologies. If the state shows that it is open to high technology, it can therefore expect innovative companies to locate there. Korea, the US, Finland and Sweden, in particular, are prime examples in this respect. Top managers confirm that the public sector in these countries awards contracts not only based on price but displays an affinity to technology that promotes innovation. In Germany, on the other hand, a penny-pinching mentality prevails. Last year, the movers and shakers of the business world gave the German state the fourth-best marks in terms of innovation-friendly demand. This year, Germany was behind eight other countries.



Scientists and managers agree: Finland provides young people with the highest quality education.

Schools and universities are where the skilled staff, developers and scientists of tomorrow are educated.



# Breaking New Ground.

The Social Climate of Innovation.



The majority of people in all the industrialised nations believes that R&D makes our lives healthier.

The more importance a society places on these post-materialist values, the more successful it will be at producing new products and services.

In the “social climate of innovation” sub-indicator, the DIW analyses the attitudes of people to change processes and new technology. For example, the economists examine:

- What people think about setting up their own business
- The extent to which society has a positive attitude towards working women
- The image that people have of scientists and research companies
- Whether the citizens of a country want scientists to have a strong influence on political decisions.

The analyses show that Swedes, Americans and Finns are particularly open to innovations. In Spain, Italy and Austria, on the other hand, a social climate exists in which it is relatively difficult for new ideas to flourish. Compared internationally, the Germans prove to be not particularly open to change, as illustrated by the 11<sup>th</sup> place that Germany takes in this category.

Selected results of the “Social Climate of Innovation” sub-indicator:

## Company Start-ups: Germans Do Not Like Taking Risks.

Especially in difficult economic times, countries need people who are willing to take risks and venture something new. In Germany, however, there is a distinct lack of this type of pioneer. Only 42 per cent of people are of the opinion that you should set up a company if there is a risk of failure. Compared internationally, this puts Germany in last place. 74 per cent of Americans, by contrast, believe that the prospect of failing should not stop you from taking a risk. In Ireland and Korea, almost 70 per cent believe this.

## Tolerance: A Key Qualification in the Innovation Process.

Societies that place a great deal of importance on authority and conformity are less likely to accept innovation processes. This is proven, for example, by studies performed by the American political scientist Ronald Inglehart. The reason is that it is more important these days for people to be creative and take the initiative rather than simply toe the party line. Since researchers and developers work in teams that are constantly changing, they have to display high levels of tolerance and openness and have excellent communication skills. The more importance a society places on these post-materialist values, the more successful it will be at producing new products and services.

The DIW found the societies of Sweden, Denmark and Switzerland to be particularly open and tolerant. Swedes, for example, place more importance on post-materialist values such as friendship, tolerance, respect and environmental protection than any of the other societies analysed. In this sub-indicator, Germany is in 5<sup>th</sup> place, highlighting the fact that the society is much more open-minded than a few years ago. 75 per cent of Germans, for example, list tolerance as one of the most important values that you can instil in a child. The degree of liberalism is also apparent in other statistics: when it comes to accepting marginal groups in society, Germany comes in third place behind Sweden and Spain.



## Working Women: German Prejudice on the Decline.

In Germany, the prejudice against working women is declining. In a survey that was used in the 2008 innovation indicator, only 73 per cent of Germans agreed that women had the same right to a job as men. This year, as much as 82 per cent agree. This improvement does not, however, detract from the fact that working women in Germany still do not enjoy the same level of support as in many other countries. In Denmark, Sweden and the US, for example, well over 90 per cent of people believe that men and women should have the same right to a job. In liberal-minded societies such as these, young women are encouraged considerably more than in Germany to study and bring their talents into the innovation process.

## Progress: Americans and Koreans Highlight Opportunity.

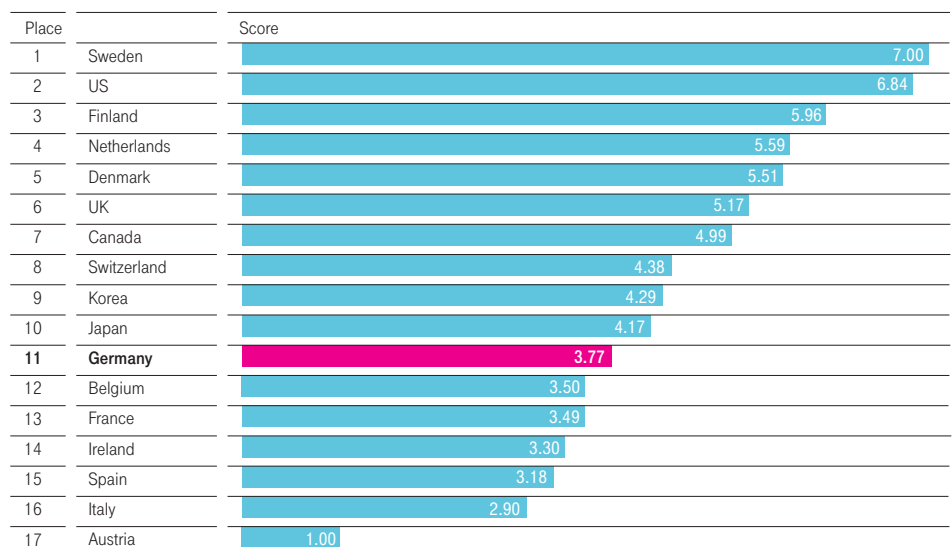
The more people believe in the benefits of technological progress, the more likely they are to accept change and be prepared to create something new themselves. The attitudes of people towards progress therefore have a decisive effect on the innovative capacity of a country. The US and Korea are the best example of this. In both countries, more people believe than in any other leading industrialised nation that the benefits of science and technology outweigh the disadvantages. This belief in progress is also reflected in the individual questions asked. A large percentage of Americans and Koreans surveyed indicated that technological advances make their lives healthier and their jobs more interesting.

For the Germans, progress is a double-edged sword. On the one hand, many believe that progress makes their lives easier. On the other, they fear the negative effects of technological progress. In a survey carried out by the European Union, for example, only 43 per cent of the Germans said that science and technology did more good than harm. Only the Dutch and the Japanese were any more sceptical.

## Scientists: Good Reputation in Northern Europe.

In Northern European countries in particular, scientists and research companies have a very good reputation. Finns, Swedes and Danes more than any other nationalities believe that researchers contribute to the good of society. There is therefore comparatively widespread support among people in Northern Europe for scientists having a large degree of influence on political decisions. This has a positive impact on the innovative capacity of a country, since according to the DIW the political advice given to the government by scientists leads to regulations that promote innovation. The situation is completely different in central Europe: the Swiss, Germans and Austrians have little faith in researchers and innovative companies. This is why there is relatively strong resistance to experts having any degree of influence in political discussions.

## Overall Evaluation of the Social Climate of Innovation.



Sources: Original data WVS, WEF, Eurobarometer, NSB; calculations by the DIW Berlin.

# Focus Areas of 2009.

Insights into Key Topics.



Swedish and German scientists come out tops in developing as many patents as possible within budget.

## Access to Credit: Praise for Sweden.

In view of the global financial crisis, the DIW took a closer look this year at access to credit and venture capital. The result: compared with key competitors outside Germany, German companies are at a disadvantage in this respect – and not just since the onset of the financial crisis. This is illustrated, for example, by a survey among representatives of industry conducted for the World Economic Forum in the spring of 2008. Only company managers in Austria, Korea and Italy complained that they were experiencing even greater problems obtaining access to credit. For years, Germany has not offered any attractive financial conditions either for people setting up a business. In the early phase of start-ups in 2007, for example, venture capital investments only accounted for 0.015 per cent of gross domestic product. Germany thus came 12<sup>th</sup> among the 17 industrialised nations studied. Innovative companies and company start-ups can find the overall most favourable financial conditions in Sweden, the US and Denmark.

## R&D Efficiency: Investment in Germany Pays Off.

Researchers in Sweden, Germany and the US manage more than anywhere else to produce as many marketable products as possible within the available budget. This is the result of an international comparison of R&D efficiency. For the calculations, the DIW used statistical methods to compare the input and output of research and development. Input is based on expenditure on research by the public and private sectors as well as the number of researchers in a country. Output is based on the number of patents registered with the European Patent Office. The UK, Spain, Korea and Canada came out the worst among the leading industrialised states. The Czech Republic, Poland and China also have a lot of catching up to do in this area. Investment in R&D in these countries so far has hardly paid off. However, these three countries are learning fast. Poland, for example, used its R&D budget four times as efficiently in 2004 than in 1997. During the same period, China was able to improve its efficiency threefold.

## Climate-Friendly Energy Technologies: Bags of Potential in the US.

Germany is a leading location for the development of climate-friendly energy technologies. Both in the fields of wind power and solar cells, Germany has in the past been the worldwide number 2 – in terms of GDP – in patent registrations. Strong involvement in these sectors has enabled German companies to secure a stronghold on world markets. The pressure from the competition has, however, stepped up in recent years. China, for example, has become the world leader in the manufacture of solar cells within only a few years thanks to the considerable price advantages the country enjoys. The US also has the right prerequisites for solar cell production. In addition to the abundance of skilled labour and venture capital, industry and science work well together. Companies also have experience in working with semiconductors, i.e. with production methods similar to those required for manufacturing solar cells. Until now, however, the US has been unable to fully exploit these advantages, partially as a result of the reticence of the US government to promote these technologies. The DIW reckons, however, that the sea change under President Barack Obama towards more green technologies could soon lead to a marked improvement in the competitiveness of the American solar energy industry.

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## More Information.

In addition to the information contained in this summary, Innovation Indicator for Germany 2009 focuses on a number of different aspects of the international race to innovate. The results are covered in the full report, which is available only in German (see [www.innovationsindikator.de](http://www.innovationsindikator.de)).

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## The Power of Education: Deutsche Telekom Stiftung.

Deutsche Telekom Stiftung (Telekom's Charitable Foundation) is a registered charity that aims to improve education in science, technology, engineering and mathematics. With a capital of 150 million euros, they are one of Germany's largest corporate foundations. Based on the premise "Off to an Early Start", the Foundation is involved in projects at kindergarten and primary school for the education and development

of young children. "Sharing the Excitement" is the motto of their projects at and with secondary schools. Together with universities, they aim at "Taking Education to New Levels". The Foundation believes that a better understanding of research, technology and innovation is part and parcel of a broad-based general education for people who live like we do in a networked knowledge and information-based society. Just

how exciting science can be or how important innovations are for the future is illustrated in their fourth area of activity: Innovation. Under the heading "Joining Forces, Breaking New Ground", the Foundation helps stimulate public awareness and interest in these topics, remove prejudices and promote dialogue between politicians and the public.

## Umbrella Organisation for German Industry: BDI.

The Bundesverband der Deutschen Industrie (BDI, Federation of German Industries) is the umbrella organisation for industrial businesses and industry-related service-providers. As the representative of the interests of industry, the BDI coordinates the views and recommendations of its members. It provides information covering all fields of economic policy. The BDI

thus supplies support for businesses in the task of keeping pace with the intensive competition resulting from globalisation. With 38 affiliated industrial sector federations, it represents the interests of over 100,000 private enterprises employing over 8 million people. The Federation of German Industries (BDI) is an association of associations. As stipulated in the BDI's statutes,

membership is confined to "industrial sector associations and working groups acting as umbrella organisations to represent entire industrial groups within the territory of the Federal Republic of Germany". The BDI's legal status is that of a registered society.

