



Federal Ministry
of Education
and Research

The BMBF's International Cooperation action plan

Summary of the central points





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Summary of the central points of the BMBF's “International Cooperation” action plan



Why an Action Plan?

Globalization and growing international interdependencies mean that education, research and innovation in Germany are under constant pressure to adapt.

The current Coalition Agreement states:

“Increasing international competition including competition from rapidly growing emerging countries, swift scientific and technological progress, particularly digitalization, demographic change, including a shortage

of skilled workers, and dwindling natural resources are confronting us with new challenges. We are therefore focusing our strategy in the years to come on innovation, investments, integration in good and productive work and internationalization.”

The complexity of systemic changes and the dynamism of the economic, ecological and social upheavals and challenges which we are facing in the 21st century are altering our view of how to design our education, research and innovation policy, both national and

international, in future. This calls for new answers.

It is against this background that the Federal Ministry of Education and Research (BMBF) is presenting this Action Plan.

The Action Plan links up with the Federal Government's BMBF-led Strategy for the Internationalization of Science and Research ("Strengthening Germany's Role in the Global Knowledge Society", 2008).

The chapters of the Action Plan focus on the following key areas:

- **outlining the analytical principles for strategically placing the international instruments and projects on a sound evidence base;**
- **pooling the various BMBF strategies in order to establish a standard frame of reference;**
- **using the new frame of reference for future specialist, regional and country strategies;**
- **increasing the impact of the various BMBF activities through stronger goal orientation and coordination;**
- **establishing a basis for stronger networking activities between stakeholders in the fields of research and education policy with a view to ensuring a more coherent international presence;**
- **identifying and implementing projects which can serve as examples for further measures with regard to their structural approach, networking and impact (so-called "beacons") and**
- **increasing the visibility of Germany's excellent education, research and innovation scene.**

What are our objectives?

An analysis of the available data confirms the successful development of the German education, research and innovation system by international standards.

Internationally Germany is playing a powerful role as driver, initiator and innovator with its various stakeholders at different levels. It can depend on its strong and well developed national basis.

Germany will continue to focus on excellence in its international cooperation activities. An essential precondition is to ensure the quality of the commitment

of all stakeholders. Initiative and the coherent planning of national and international or European measures are important criteria for success.

The analysis draws five central conclusions which are the key to Germany's future success as an attractive site for education, research and innovation in the face of international competition:

1. **More mobile:** Germany must continue to increase the mobility of trainees, students and scientists both to and from Germany in order, among other things, to meet the future demand for skilled staff.
2. **More effective:** Cooperation and funding procedures are to be made as easy as possible; obstacles to bilateral and multilateral cooperation must be reduced.
3. **More efficient:** Germany must improve its networking activities and promote networking at all levels as well as between all stakeholders, both national and international.
4. **More focused:** Germany must focus even more consistently on quality and excellence in its global relations to the benefit of all concerned.
5. **More site-aware:** Germany must define its interests more closely and consider international collaborations from the aspect of strengthening the competitiveness of German industry (opening up markets) and science.

What is needed is a new quality in international science cooperation as stated in the Coalition Agreement (cf. Annex 2 for the other objectives in the Coalition Agreement which are relevant for the BMBF's international work).

These objectives and the need for action they describe serve as orientation and guidance in the chapters of the Action Plan. They form the basis for describing new lines of action and the yardstick for particularly effective measures, so-called "beacons" (cf. Annex 1).

What are we doing?

As lead Ministry, we will present an advanced Strategy of the Federal Government for the Internationalization of Science and Research and thus set the strategic

course for the Federal Government's international cooperation with its partners worldwide over the years to come.

The BMBF will adopt the following measures in compliance with the Coalition Agreement and in line with the four current target areas of the Internationalization Strategy and a new fifth target area covering the dynamic field of vocational education and training. These represent a selection of the BMBF's activities to promote international cooperation in education and research.

We will strengthen research cooperation with the world's best and among other things

- **add new initiatives to the current portfolio of measures and activities promoting Germany as a leading science nation. These include, for example, a "Research Marketing Alliance";**
- **as lead Ministry, implement the Federal Government's Strategy on the European Research Area. Apart from political guidelines, the ERA strategy also comprises a national roadmap with concrete measures for implementation;**
- **trigger various activities to support the successful implementation of Horizon 2020. Among other things, the interface between national programmes and Horizon 2020 will be extended with a view to strengthening the Europeanization of national research programmes and the system of incentive mechanisms for stakeholders will be expanded (specialist strategies and Europeanization budget);**
- **support German higher education institutions and non-university research institutions in their efforts to maintain or recruit excellent staff through an "ERC Ideas Competition";**
- **improve framework conditions for the international mobility of scientists;**
- **support the networking of the specialist foreign activities of various organizations through a new initiative;**
- **expand joint funding or programming structures as a further instrument when dealing with developing, emerging and transformation countries alongside the "classical" instrument of individual projects. The emerging topics contained in the Federal Government's High-Tech Strategy will provide guidance when selecting the respective programmes;**

- **support measures to help Central Eastern and South-Eastern European countries participate in the ERA, for example by establishing networks and research collaborations with the countries of the Danube region;**
- **intensify cooperation with the "EU-13" states and EU accession candidates under a new programme entitled "The Establishment and Expansion of Joint Research Structures in Europe";**
- **pool the various German alumni initiatives in a single alumni strategy.**

We will tap international potential for innovation and among other things

- **develop the instruments of the High-Tech Strategy to make them internationally compatible in order to strengthen Germany as a centre of innovation;**
- **establish a national platform on "Global Knowledge Sourcing";**
- **strengthen the transfer of knowledge and the management of intellectual property in European and international projects by introducing specific measures;**
- **present a Federal Government "Open Access" strategy in our capacity as lead Ministry.**

We will strengthen cooperation with the emerging and developing countries lastingly and among other things

- **draft separate strategies for Central Asia and China. The BMBF introduced its new Africa Strategy for the period 2014 to 2018 on 20 June 2014;**
- **implement the planned measures as set out in the Africa Strategy, which provides for the expansion of programmes and projects within the framework of bilateral, multilateral and regional initiatives;**
- **strengthen bi-regional dialogues between the EU and the developing and emerging countries;**
- **support the establishment of thematic competence centres in developing and emerging countries;**
- **contribute to supporting civil society forces and modernization efforts within the framework of the Federal Government's transformation partnership with the North African countries, particularly with Egypt and Tunisia;**



- **support the establishment of bilateral higher education institutions such as the Turkish-German University in Istanbul.**

We will contribute towards tackling global challenges and among other things

- **establish a new funding priority dealing with climate protection and security of supply;**
- **expand funding initiatives such as “Securing the Global Food Supply (GlobE)”;**
- **establish research networks for health innovations in Sub-Saharan Africa;**
- **support the further development of regional integration processes;**
- **fund regional research chairs in Africa within the framework of a new initiative.**

We will create prospects for both people and industry through training and among other things

- **expand cooperation in the field of vocational education and training;**
- **establish vocational training profiles along German lines in partners states;**
- **continue to promote the recognition of vocational qualifications gained abroad and make full use of the potential of the Law to Improve the Assessment and Recognition of Foreign Professional Qualifications.**

Furthermore, we will

- **present a strategy for cooperation with the OECD;**
- **strengthen the UN Campus in Bonn;**
- **establish a comprehensive monitoring system. This monitoring system will cover the internationalization of the German research landscape as well as the opportunities for cooperation and international developments of important partner countries.**

Annex

Overview “Beacons”

“Beacons” are BMBF projects that can serve as examples for further measures with regard to their structural approach, networking and impact. They are specially marked in the Action Plan.

The beginning of measures which have already started or which are being continued due to their success is stated in brackets.

Beacon	Beginning	Description
“Research Marketing Alliance”	2014/2015	The BMBF will initiate a dialogue with the stakeholders in science, industry and politics. All the parties involved in this dialogue will cooperate on drafting a framework strategy for a “Research Marketing Alliance”. The strategy will be presented at a conference of representatives of politics, science and industry in spring 2015.
Ideas Competition on the European Research Council	2015	The BMBF will issue a call for an ideas competition in the context of the ERC in which prizes will be awarded for concepts to enhance the attractiveness of German institutions and to thus strengthen Germany's international competitiveness.
ERA Fellowships for “EU 13”	2015	The BMBF will launch a special fellowship programme for science managers from the “EU 13” Member States in order to support the new EU Member States in their efforts to establish a professional science management sector.
International Human Epigenome Consortium (IHEC)	(2012)	As far as biomedical research is concerned, recent years have seen the emergence of the internationally highly acclaimed new field of medical epigenomics. Against this background, the International Human Epigenome Consortium” (IHEC) was founded in 2012 as a worldwide association of research funders and research groups. Germany is playing a leading role in this process due to its scientific competence and strategic commitment.
Cooperation with the USA in regenerative medicine	2014	In order to promote the implementation of regenerative therapies, the BMBF is providing targeted support for international cooperation between the respective world-leading experts and translation centres and has signed bilateral agreements with corresponding research funding institutions in the USA such as the Californian Institute for Regenerative Medicine (CIRM). In the meantime, seven projects involving German participants and funds of over 7 million euros have been approved; further projects are being prepared. This shows that regenerative medicine in Germany is very highly rated in the international science community.

Beacon	Beginning	Description
Establishment of International Centres for Advanced Studies in the Humanities and Social Sciences	2014	The BMBF supports the establishment of international centres for advanced studies in the humanities and social sciences outside of Europe. These are to be visible centres of cooperation between Germany and the partner country.
“Establishment and Expansion of Joint Research Structures in Europe” programme	2015	The “EU 13” and the official accession candidate states Former Yugoslav Republic of Macedonia, Montenegro and Serbia are gradually establishing and expanding research capacities and centres of excellence. With the support of the BMBF, German stakeholders in science and industry will profit as strategic partners from access to these institutions and contribute to establishing joint structures.
“Networking” initiative	2015	The BMBF will use this initiative to support the networking of specialist activities abroad conducted by various organizations.
Joint Programming at European level	2014	The BMBF will provide targeted support to help the German research scene actively participate in Joint Programming Initiatives. Furthermore, the BMBF will coordinate the JPI activities with relevant bilateral measures and make use of synergies to ensure a high level of sustainability.
“Centres for Innovation Competence (ZIK), Creating excellence – keeping talent”	(2014)	The Eastern German regions need top research on their doorsteps in order to develop clusters that are economically successful and internationally competitive in the long term. A total of 14 centres are receiving funding of over 240 million euros in two rounds of funding. The second funding phase for the most recently established centres (ZIK II) will end in 2019/2020. As a result of the positive effects of this funding instrument on the internationalization of the centres concerned, a new funding measure for the ZIKs is being considered with a view to systematically expanding the individual approaches currently taken by the centres.
National platform on “Global Knowledge Sourcing”	2015	As far as Global Knowledge Sourcing is concerned, the BMBF intends to provide targeted support to German companies and applied research, particularly with a view to funding cutting-edge German technology. A dialogue process is expected to lead to the establishment of a national platform which will contribute towards improving the general conditions for innovation-oriented companies and facilitate the exploitation of sources of knowledge.

Beacon	Beginning	Description
Internationalization of leading-edge clusters, forward-looking projects and comparable networks	2014	The BMBF is preparing a measure to support the further internationalization of leading-edge clusters (and other instruments of the High-Tech Strategy). Following a conceptual and preparatory phase, this measure will fund bilateral or multilateral projects between top international centres.
Internationalization of the forward-looking projects: Example "City of the Future"	2014	A first step will be to draft a strategic research agenda on the content design of the forward-looking project. This will be based on the "National Platform for the City of the Future (NPZ)". Demonstration projects will show how innovative concepts for avoidance and adaptation to climate change can function in cities all over the world.
Bilateral funding structures with BRICS states taking the example of Russia	(2014)	The BMBF is setting up bilateral funding structures in association with the BRICS states. The annual, non subject specific funding competitions which have been organized in association with the Russian Fund for Assistance to Small Innovative Enterprises (FASIE) since 2008 are representative of the large number of varied R&D measures in the context of German-Russian cooperation. The two sides are also considering the possibility of German-Russian cluster partnerships. The first phase to identify opportunities for cooperation and prepare a joint R&D agenda for cluster partners began in the first half of 2014.
German-Chinese "Innovation" platform and platforms with other BRICS states	(2011)	The BMBF and the Chinese Ministry of Science and Technology (MOST) set up the German-Chinese "Innovation" platform in June 2011. The platform is intended to promote mutual understanding and exchanges on the innovation policies of the two countries. The platform has proved valuable and is serving as an example for further innovation platforms which are being prepared with other BRICS states.
German-Chinese research and innovation programme "Clean Water"	(2011)	MOST and the BMBF agreed on a research and innovation programme and the establishment of a "Clean Water" innovation centre in Shanghai within the framework of the German-Chinese Intergovernmental Consultations (2011, 2012). These measures are helping to improve access for German SMEs to the growing Chinese market for adapted and sustainable environmental technologies.
Eurostars 2	(2014)	Due to its considerable success, Eurostars is being continued for a second programme period from 2014 to 2020.
EIT Knowledge and Innovation Communities (KICs)	2014	The calls for proposals for the future KICs are taking place in 2014 (topics: Raw Materials, Healthy Living and Active Ageing), 2016 (topics: Added Value Manufacturing, Food4Future) and 2018 (topic: Urban Mobility). Numerous German consortium partners or potential Co-location Centres (CLCs) have already been found for these calls. The BMBF will take preparatory measures to support the optimum involvement of German stakeholders in the calls.

Beacon	Beginning	Description
Pilot Study: Agricultural Knowledge and Advisory Systems in Georgia and Tajikistan	2014	The aim of the project is to study the local cultures, stakeholders and structures of knowledge and innovation development as well as the channels of innovation diffusion in post-Soviet South Caucasus and Central Asia. The project is intended as a pilot project and, if successful, will be applied to other countries in Central Asia and the Caucasus also in other economic sectors.
Product Development Partnerships (PDPs) II	(2011/2014)	The BMBF is providing four PDPs with funding totalling 21 million euros over a four year period starting in 2011. An interim evaluation of the partnerships is taking place in 2014. The BMBF will use the evaluation as the basis for deciding on the continuation and perhaps the expansion of PDP funding.
Strengthening Bi-regional Dialogues between the EU and Developing and Emerging Countries	2014	The BMBF is making additional resources available to ensure that research topics that are of key importance for Germany are taken into account when implementing bi-regional dialogues between the EU and other world regions. At the same time, corresponding national platforms are being established to pool German competence and political and scientific interests and effectively include them in European initiatives.
Support for Societal Transformation Processes	2014	The Federal Government's transformation partnerships have proved successful. The BMBF will intensify these partnerships focusing on the countries of Egypt, Tunisia and Morocco.
Turkish-German University in Istanbul	2014	The Turkish-German University was opened in April 2014. The BMBF is contributing funding for academic operations, teaching and German language teaching, particularly via the foreign language centre. The BMBF is also providing one million euros per year for two years for a science fund which is intended to help recruit particularly well-qualified scientists to the university.
Research Chairs in Africa	2015	The BMBF plans to fund research chairs at universities in Africa under a new German initiative. The aim is to define an own "brand" of German Research Chairs that can set an international standard for recruitment and equipment and which will also make Germany and the BMBF highly visible internationally. There are plans to establish four research chairs at AIMS centres in addition to the existing successful chair of mathematics at the AIMS in Senegal.
New funding priority on Climate Protection and Security of Supply	2014/2015	The proposed funding priority is devoted to the effects of climate change on the supply situation including different fields and sectors of the supply chain. The funding priority offers great potential for cooperation with aspiring science nations and for improving Germany's innovativeness in the field of climate protection technologies.

Beacon	Beginning	Description
Amazonian Tall Tower Observatory (ATTO)	(2014)	The BMBF is currently funding the construction of the ATTO measuring tower in association with the Brazilian Research Ministry (MCTI). The research results are expected to make a valuable contribution to our understanding of atmospheric exchange and to help forecast future climate developments.
Bilateral project with Uzbekistan to reduce the salinization of water	(2014)	The shortage of water resources and the rise in the salinity of soils and water are restricting the development of agriculture in Uzbekistan. In particular, the increase in the salinity of water not only affects water resources in the Aral Sea region but also leads to considerable disruptions, for example to the ecosystems affected and to food security.
“Securing the Global Food Supply (GlobE)” funding initiative	(2011)	The BMBF launched the “Securing the Global Food Supply (GlobE)” funding initiative in July 2011 as a contribution towards establishing an efficient and sustainable agriculture based on modern and traditional knowledge. The focus is on cooperation with the partner countries in Africa. The initiative is intended as a role model and is contributing to enhancing Germany's worldwide attractiveness and visibility as a partner in this key field of action of the international community.
Research Networks for Health Innovations in Sub-Saharan Africa	(2014)	The BMBF launched the Research Networks for Health Innovations in 2014 and is thus promoting health research in the countries of Sub-Saharan Africa.
Regional Integration Processes in West Africa	(2012)	The BMBF has been funding a research collaboration between the Center for European Integration Studies (ZEI) and the West Africa Institute (WAI) in Cabo Verde since 2012. The project is a role model for a sustainable partnership between Africa and Europe. It is not only encouraging the necessary networking activities but is also at the same time strengthening local and regional capacities for scientific policy advice in West Africa.
“MENDI – Mentoring Dual International”	(2014)	The aim of MENDI is to establish a three-year dual training course in tourism in Greece following a set-up phase lasting one year. As a growth industry, tourism has been selected to demonstrate that the employability of young people can be significantly improved through work-based learning.

Beacon	Beginning	Description
Establishment of German vocational training profiles in partner states	(2014)	Working in close cooperation with the partner states and the Association of German Chambers of Commerce and Industry (DIHK), the BMBF is supporting the systematic establishment of vocational training committees and examination commissions at German Chambers of Commerce abroad in order to establish sustainable dual vocational training profiles along German lines. Cooperation with Russia, India and China is particularly intensive. Corresponding cooperation schemes with Mexico and the European states are also being planned and existing schemes are to be stepped up.
VETNet	(2013)	Under the “VETNet” strategic project, the BMBF, together with the Association of German Chambers of Commerce and Industry (DIHK), is strengthening the competence of German Chambers of Commerce Abroad (AHK) in 11 countries, six of them within the European Union, through the introduction of sustainable dual training courses.
Using the potential of the “Law to Improve the Assessment and Recognition of Foreign Professional Qualifications”	2014	This federal law established new opportunities which are already being used. Now all the responsible stakeholders, in particular the Länder, chambers, competent federal ministries, the Federal Employment Agency and not least companies, are called upon to actively support the law’s effective implementation. As the lead ministry responsible for the law, the BMBF will closely support the various processes.

Extract from the Coalition Agreement

“Increasing international competition including competition from rapidly growing emerging countries, swift scientific and technological progress, particularly digitalization, demographic change, including a shortage of skilled workers, and dwindling natural resources are confronting us with new challenges. We are therefore focusing our strategy in the years to come on innovation, investments, integration in good and productive work and internationalization.”

“We want to achieve a new quality in international scientific cooperation and take the Internationalization Strategy a step further. We will seek agreement with the German science and research organizations on the stronger networking of their activities in the field of internationalization and support them in this area.”

“Moreover, we will strategically develop research cooperation with the emerging, developing and transformation countries.”

“We want to ensure that the number of foreign students rises by approximately one third to around 350,000 by the end of the decade. We want to achieve an increase in the mobility of German students. We intend that one in two graduates will have gained study experience abroad.”

“The German Academic Exchange Service and the Alexander von Humboldt Foundation are the key drivers of mobility in higher education and research. Their numerous branch offices and international university marketing activities promote Germany as a place for education

and science. We want to enhance their clout and make use of synergies.”

“We will continue to expand European and international research collaborations.”

“We will exercise our responsibility for completing the European Research Area (ERA) and steadfastly implement our ERA strategy at national and European level. For this purpose, we want to improve the conditions for the mobility of researchers, continue to develop joint programming, establish joint research infrastructures, facilitate the transfer of knowledge, support gender equity in the European science system and expand cooperation with third countries outside Europe.”

“We want to support and expand the participation of German science and industry in the new Research Framework Programme “Horizon 2020””

“German science is expected to play an active role in strengthening the European science and innovation system as a whole. Important instruments are bilateral innovation consulting and joint research and development projects with the new Member States in Eastern and South Eastern Europe and with those EU Member States particularly affected by the economic crisis.”

“We are making every effort to ensure greater mobility and transfer opportunities in a common European training and labour market.”

“We are cooperating worldwide in setting up and modernizing successful vocational training systems with partner countries that are interested in dual vocational training.”

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