

Министерство науки и высшего образования Российской Федерации
Федеральное государственное бюджетное образовательное учреждение высшего образования
«Нижегородский государственный архитектурно-строительный университет»

**Сотрудничество России и Германии
в сфере высшего образования, исследований и науки**
Материалы XII Международного российско-немецкого семинара

German-Russian Cooperation in Higher Education and R&D
Materials of the 12th International Russian-German Workshop

Нижегород
2020

Министерство науки и высшего образования Российской Федерации
Федеральное государственное бюджетное образовательное учреждение высшего образования
«Нижегородский государственный архитектурно-строительный университет»

Сотрудничество России и Германии
в сфере высшего образования, исследований и науки
Материалы XII Международного российско-немецкого семинара

German-Russian Cooperation in Higher Education and R&D
Materials of the 12th International Russian-German Workshop

Нижегород
ННГАСУ
2020

ББК 60.9(2)Англ.

С67

УДК 332.1

Публикуется в авторской редакции

Сотрудничество России и Германии в сфере высшего образования, исследований и науки. Материалы XII Международного российско-немецкого семинара [Электронный ресурс]: сборник трудов /Нижегор. гос. архитектур. – строит. ун-т; редкол. Т.С. Алексеева, И.В. Арженовский, М. Венке [и др.] – Нижний Новгород: ННГАСУ, 2020. – 130 с. На англ. языке. 1 электрон. опт. диск (CD-RW). ISBN 978-5-528-00376-4

В сборник включены материалы XII Международного российско-немецкого семинара, который состоялся в марте – мае 2019 г. с участием Нижегородского государственного архитектурно-строительного университета, Ульяновского государственного университета, Университета прикладных наук Нижнего Рейна (г. Мёнхенгладбах, Германия). Рассматриваются теоретические и прикладные аспекты сотрудничества России и Германии в сфере высшего образования, исследований и науки. Особое внимание уделяется отраслям химической промышленности, машиностроения, авиационной и космической промышленности, а также межвузовскому сотрудничеству.

Редакционная коллегия:

Т. С. Алексеева - канд. филол. наук., доц., институт международных отношений УлГУ;

И. В. Арженовский - канд. экон. наук, проф., международный институт технологий бизнеса ННГАСУ;

М. Венке - д-р., проф., факультет экономических наук Университета прикладных наук Нижнего Рейна;

М. Ю. Дудиков – доц., институт международных отношений УлГУ;

Л. Р. Радченко - канд. пед. наук доц., декан российско-германского факультета ИМО УлГУ;

Г. Рупш – проф., факультет экономических наук Университета прикладных наук Нижнего Рейна.

Table of contents

Preface	4
A word of thanks	5
Nanotechnology in Münster: Allianz für Wissenschaft	6
Cooperation with Russian universities and companies in Research and Technology	11
DLR in facts and figures	18
Technology Marketing in DLR. Innovation2gether	34
Studying International Management at the Faculty of Business Administra- tion and Economics, Niederrhein University of Applied Sciences	38
How to communicate with the Germans	49
Strategies for Manager	67
17 questions around the world	79
Higher education and research between Germany and Russia	84
DMG MORI	92
Higher education and research - status and prospects of Russian-European cooperation in chemical sector	99
Space travel. The cooperation between Roscosmos and DLR/ESA	106
Appendix 1. Brexit. The whole story and it's impact on Europe	112

Preface

Dear Readers!

This publication contains research materials on the topic “German-Russian Cooperation in Higher Education and R&D”.

The book at hand is a result of the work of the 12th International workshop “German-Russian Cooperation in Higher Education and R&D”, held in Russia and in Germany in March – May 2019 with the participation of Ulyanovsk State University, Nizhny Novgorod State University of Architecture and Civil Engineering (Russia) and Niederrhein University of Applied Sciences (Mönchengladbach, Germany).

The economy of three regions is studied: the Nizhny Novgorod region and the Ulyanovsk region in Russia, the land North Rhine-Westphalia in Germany.

Special attention is paid to the cooperation of a number of Russian and German companies belonging to such industries as chemical industry, machine tool industry, aviation and astronautics, innovations.

The materials of the book took into consideration the similarities and differences between German and Russian companies, which are due to the different organizational cultures, different branches of trade and industry. Another aspect attended implications and applications of the reported findings in terms of practice and training programs aimed at the development of international cooperation.

A word of thanks

We would like to thank for support the Rector of Ulyanovsk State University Professor Dr. B.M. Kostishko the Rector of Nizhny Novgorod State University of Architecture and Civil Engineering Professor Dr. A.A. Lapshin, the President of Niederrhein University of Applied Sciences Professor Dr. H.-H. von Grünberg as well as all those who have assisted in the preparation and implementation of the workshop.

We would like to express our gratitude to all the participants for their valuable contributions and inspiring discussions, especially to the following persons:

- Prof. Dr. Lothar Heinrich, Dr. Holger Winter – Center for NanoTechnology (CeNTech), Münster,
- Dr. Christoph Becker, Katy Unger-Shayesteh – German Aerospace Center (DLR), Cologne,
- Alina Damm, Lena Hanten, Tatjana Klimov, Anna Masjutenko, Ornela Radani, Brendan Schäfer, Dilan Soysal, Denisa Xhaho - Niederrhein University of Applied Sciences,
- Viktoriia Gelman, Denis Gutcol, Anastasia Mamrukova, Iuliia Maslennikova, Kseniia Samsonova, Elizaveta Sannikova, Daniil Sergeev - Nizhny Novgorod State University of Architecture and Civil Engineering,
- Semen Kliushenkov, Stanislav Krasnikov, Gleb Petrovichev, Valeriia Shepelina, Elizaveta Viatkina, Maksim Voronin - Ulyanovsk State University.

Nanotechnology in Münster: Allianz für Wissenschaft



NanoBioAnalytik

Medizinische Prävention

**Westfälischer Frieden
1648**

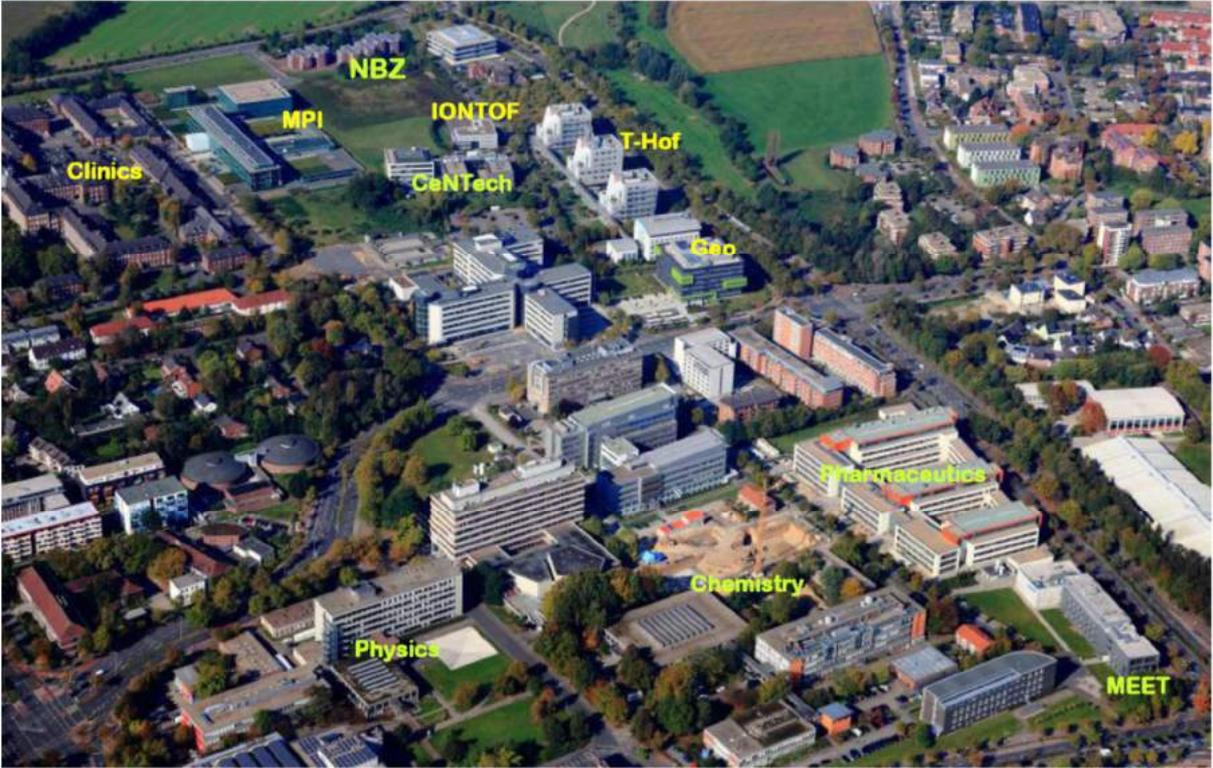


MÜNSTER – ALLIANZ FÜR WISSENSCHAFT



CeNTech GmbH

Science park in Münster



CeNTech: Development



2000	Concept
2001	Foundation GmbH
2002	Construction
2003	Opening

Volume	8.3 Mio. €
Founding	City and University MS State NRW

Stockholder

- Technologieförderung Münster
- Universität Münster
- Sparkasse Münsterland Ost

CeNTech: Infrastructure



- total area 2400 m²
- 8 research groups R&D, 8 companies
- physics, chemistry , biology, medicine
- occupation rate R&D & companies: 100 %
- anti vibration foundations (1 m thickness)
- clean room (class 3.000), flow boxes
- specific laboratories (chemistry, biology S1)
- specific electromagnetic features
- specific climate control

- 1200 square meter floor space
- Construction volume: 7.2 Mio. €
 - Federal/state funding: 5.0 Mio. €
 - University Münster: 2.2 Mio. € for technical equipment
- Special infrastructure like vibration-free foundation
- 70 work places exclusively for University of Münster
- Launch of R &D activities: 01.12.2011

CeNTech: Business Model

CeNTech R & D

- Scientific excellence in core areas
- Development of new technologies
- Basic and applied research
- Publications
- Ideas and inventions
- Scientific presentations

CeNTech GmbH

- Optimized infrastructure
- Patent application process
- Patent utilization (licensing)
- Set up of research collaboration
- Start-up support
- Training and education

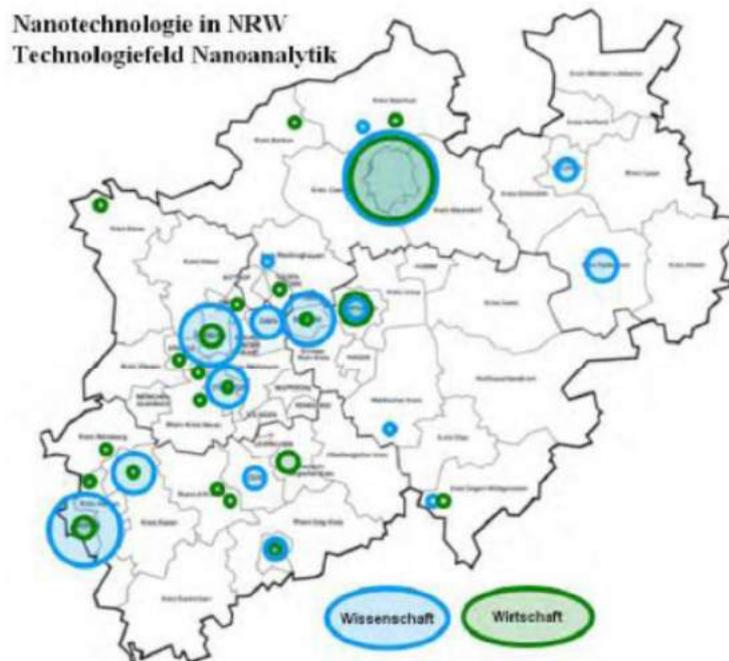
CeNTech: Tasks

Implementation of ideas

Main Research and Technology Transfer

Nanotechnology in Münster

- Nano- Analytics
- Nano - Biotechnology
- Nano - Medicine



Regionale Verteilung der NRW-Akteure des Technologiefeldes „Nanoanalytik“.

CeNtech R&D: ~ 100 scientists

Prof. Dr. H. Fuchs	Physics
Prof. Dr. R. Bratschitsch	Photonik
Prof. Dr. J. Klingauf	Medical Physics
Prof. Dr. M. Knoll	Physical Chemistry
Prof. Dr. B. Ravoo	Supramol. Chemistry
Prof. Dr. G. Wilde	Material Physics
Prof. Dr. H. Zacharias	Physics
Prof. Dr. H. Bracht	Material Physics
Prof. Dr. W. Pernice	Photonik
Dr. C. Herkt-Bruns	MEET (Batteriezentrum)

Young researcher groups:

Dr. H. Mönig	Nanoscale Interface Analytics
Dr. C. Strassert	Chemistry/Medicine
Dr. N. Seda Kehr	Nano-biomaterials
Dr. K. Riehemann	Nanomedicine

Technology - Transfer

Electronic Expiration Date PolyTaksys: Prof. Knoll



Organic electronics measures the time that has elapsed after activation of the system thereby taken temperature effects into account

Developments: Open monitor, RFID - Nano processor



- 2 NRW Transfer- and one BMBF Project
- 3 Patent application since 2006 (USA, China, Russia, Europe)
- 2012 Options/licence agreement for Commercialisation

CeNtech: Companies



arrows
biomedical GmbH

ChemBiotech

marCotech

nanoAnalytics

Monasterium GmbH SelectLab Chemicals PolyTaksys GmbH Serend-ip
Helmholtz Institut Münster

Strategic partnership in NRW

Cluster Nano/MicroMaterials Photonik.NRW



Strategic partnership at European level



Sources

www.allianz-fuer-wissenschaft.de

www.centech.de

www.nmw.nrw.de

Cooperation with Russian universities and companies in Research and Technology

marcotech oHG

Marketing, Controlling and Technology Management

founded in 2002 for application-related research and development in

- drug delivery systems (nano-encapsulations & nano-containers)
- investigations on oxidative stress in cell cultures
- diffusion coefficients and permeation of drugs across membranes
- surface modification on biomaterials

nanoanalytical services:

- surface characterization of biomaterials
- failure analysis at explanted medical devices

market analysis and feasibility studies

(economical & investment calculation, business plans)

organization of national and international R&D projects

including preparation of joint proposals for public funding

Cooperation with Russian companies

- НПК «Медбиофарм» г. Обнинск
 - joint project on drug-delivery (granted by BMBF, 2008-2011)
 - foundation of a subsidiary in Germany (2011)
- ООО Advanced Technologies Center, Moscow
 - joint presentations at trade shows like RUSNANOTECH (Moscow) & Hannover Messe (scanning probe microscope, software & adequate consumables)
 - creating joint projects & proposals
 - foundation of a subsidiary in Germany (Bionanoscopy, 2012)
- «МОЙЕ Керамик-Импланта́те» г. Томск
 - planning & applying grants
 - visits & mediation of contacts in Germany
 - exchange of technological developments (since 2010)
- АФК «Система», Москва
 - conceptual proposal for investments in an innovation center in Moscow, 2006



„Russian-German Round Table“,
meeting of entrepreneurs and scientists, Tomsk, 2013



Basics for business cooperation with Russian companies

- Technical cooperation should be targeted marketable subjects (= products), recommended cooperation access: granted joint project (FASIE, ERA.net.RUS PLUS, BMBF, EU-Horizon 2020;

secondment of co-worker can be financially supported by AiF)

- Cooperation should be based on a mutually agreed road map and a cooperation agreement (..... intellectual properties !), and both parties must be ready for visiting each other in order to update the plan.

- Preferred language: English

Russian partners have to accept that English is necessary for business, also in conferences.

- Both parties have to accept different cultural behaviour patterns

for German partners e.g.	}	<ul style="list-style-type: none"> - adequate salutation form - small present for the host - participation in toast procedures - avoiding political statements
--------------------------	---	--

Keeping cooperation alive

- joint presentations at exhibitions and international conferences



Fasie-/IB conference,
Medbiopharm & marcotech,
Moscow, June 2010



marcotech & ATC,
RUSNANOTECH,
Moscow 2010



marcotech & ATC (Moscow),
Hannover Messe, 2011

- joint publications and press releases

Advanced Materials Research Vol. 872 (2014) pp 231-236
© (2014) Trans Tech Publications, Switzerland
doi:10.4028/www.scientific.net/AMR.872.231

Drug Delivery System of a Radio-protective Inclusion Complex

Lothar A. Heinrich^{1,2,a}, Betina Pajaziti^{3,b}, Rakhimdzhazhan Roziev^{4,c}

^aMarcotech OHG, Heisenbergstr. 11, 48149 Muenster/Germany

^bUniversity of Muenster, Institute for Biochemistry, Wilhelm-Klemm-Str. 2,

48149 Muenster/Germany

^cUniversity of Muenster, Institute for Pharmaceutical and Medical Chemistry, Corrensstr. 48,

48149 Muenster/Germany

^dOOO medbiopharm, 249031, Obninsk, Kaluga region, Kievskoe sh., building 3, Russia

Мюнстер-Обнинск, 2011

marcotech и ООО «НПК Медбиофарм», г. Обнинск, кооперировали в рамках германско-российского проекта «Разработка многофункционального фармацевтического препарата на основе селена как системы таргетного высвобождения лекарственного средства», финансируемого в 2009-2011 гг. международным бюро федерального министерства образования и исследований Германии и Российским фондом содействия развитию малых форм предприятий в научно-технической сфере (FASIE). В

Launching business

Pre-conditions:

- international patent situation (**Russian patents are not relevant!**)
- analysis on technology and competition
- economical analysis such as feasibility, investment, costs, start-up capital
(= business plan → necessary for credit)

Russian companies in Germany

- in cooperation with **German partners**
- via German trade company
- foundation a subsidiary

- before:
visit international exhibitions
(competing products, potential customers)
- German/English language
→ foundation procedures in German!
- ramp-up time: $\approx 2 \dots 3$ years,
running costs for office, marketing,
labors, travels... (**high labor costs!**)
- products/devices for demonstration
- fast service for repair or exchange

Founding costs are granted.

Reasons to launch business in Germany

- Access to the large, highly dynamic European market, as well as to the global market
- EU-harmonized approval procedures and certification
- Growth and success are supported by the innovative infrastructure
- Technological R&D supported by grants of the German government and the EU, reasonable credits by federal and state banks

Problems:

- Uncomfortable bureaucracy,
- Costs are much more higher than in Russia

Supports can be provided by:



Association of
the Russian Economy in
Germany



Chamber of Commerce and Industry
of the Russian Federation
For the benefit of business. For the benefit of Russia.
Frankfurt

Recommendations to launch business in Russia

Pre-conditions:

- infringements to Russian patents?
- admission requirements (e.g. GOST-R, EAWU, RosTechNadzor, RosZdravNadzor)
- conditions & rules of custom
- marketing concept, investment, costs, start-up capital (= business plan)

German companies in Russia

- in cooperation with **Russian partners**
- via Russian trade company
- foundation a subsidiary

- before:
 - visit exhibitions in Russia
- Russian language and mode of negotiations are necessary (**a Russian representative** is essential)
- different mode of payments
- ramp-up time: $\approx 2 \dots 3$ years, running costs for office, marketing, labors, travels
- products/devices for demonstration
- fast service for repair or exchange

German agencies support settlement (costs!).

German companies in Russia

about 5.000 German companies (2017), examples:

- | | |
|------------------------------|-------------------------------------|
| • OOO Raiffeisen Agro | seeds, fertilizers, feed mixtures |
| • OOO Beiersdorf | cosmetics |
| • OOO B. Braun Avitum Russia | medical devices |
| • ZAO Berlin-Pharma | pharmaceuticals |
| • OOO Claas Vostok | agriculture technique |
| • OOO Dachser | logistics |
| • ZAO Dr. Oetker | food products |
| • OOO Dreager | gas filters, gas analysis systems |
| • OOO EVONIK Chimia | chemical specialities |
| • OOO Fuchs Oil | lubricants |
| • OOO Knauf GIPS | gypsum based construction materials |
| • OOO Markotech | nanotechnology |



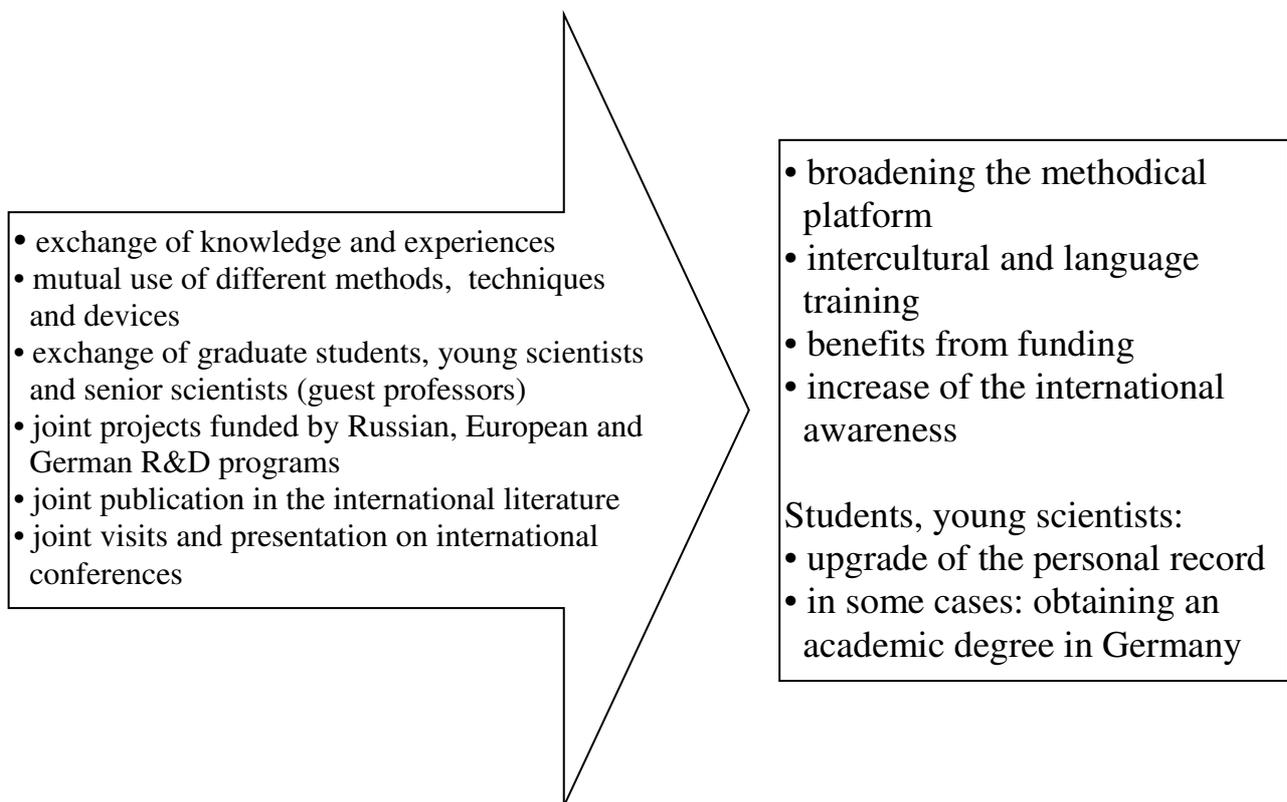
Deutsch - Russische
Auslandshandelskammer
Российско - Германская
Внешнеторговая палата

Russian-German cooperation in science and technology

Temporary collaboration & contacts (examples):

- Lomonosov Moscow State University (material science, chemistry, physics) since 2007 (status report on the Russian nanotechnology)
- Russian Academy of Science (Prof. Sergey Aljoshin, concept proposal for Chernogolovka)
- Administration of Troizk/Moscow Oblast: proposal for funding a scientific-technological marketing project to obtain the status „НАУКОГРАД“
- State Institute „GENETIKA“, Moscow (2009-2014): Collaboration on fermentation of the selective production of aminoacids and proteins; exchange of bacterial strains
- Boreskov Institute of Catalysis, Novosibirsk (license negotiation on N₂O-catalysis)
- Samara State University of Economics (conferences, student exchange, 2009-2013)

Reasons for the bilateral cooperation in science and technology



Keeping scientific cooperation alive

... both parties have to be active and highly committed for years!

- Lectureship and participation in educational tasks
- Integration of Russian students in seminars
- Russian and German students at the Biomaterial Conference

Post-operative Effects on Silver Coated Tumor Endoprosthesis and Biofilm Prophylaxis Systems

L. Heinrich^{1, 2, 3, a)}, H. Ahrens⁴, M. Wahrenburg², B. Pajaziti⁵, I. A. Kurzina^{b)}

¹Westphalian Wilhelms University of Muenster, Institute of Biochemistry, 48149 Muenster, Germany
^{a)}National Research Tomsk State University, Laboratory of transmission cell-like and molecular biomedicine, Tomsk, Russia

- Joint scientific publications !

Besides grants, budget for exchange must be available!

Highlights of the Russian-German collaboration in science, technology and education (2 examples)

1) German-Russian Institute of Advanced Technologies (GRIAT)
 Kazan State Technical Research University, TU Ilmenau and University of Magdeburg founded

“GRIAT”, funded by the DAAD and State Government of Tatarstan

Goal: creating a German-Russian University in 2020



2) German-Russian Arctic Expedition, 2014

Resources for funding joint projects

- “FASIE”, Foundation for Assistance to Small Innovative Enterprises

- Cooperation in innovation, research and development between the European Union and Russia = scientific bridge between the EU and Russia



- Russian researchers and organisations are encouraged to participate in all actions of Horizon 2020

- Ministry of Science and Higher Education of the Russian Federation

(www.mon.gov.ru)

- Russian Foundation for Basic Research (www.rfbr.ru)

- Foundation for Assistance to Small Innovative Enterprises (www.fasie.ru)

German funding resources (uncompleted)

- Federal Ministry of Education and Research

bmbf high-tech strategy 2025, areas: „Health and Nursing“, „Sustainability“, „Climate and Energy“, „Mobility“, „Urban and Rural Areas“, „Safety“ and „Economy and Work 4.0“



- German Academic Exchange Service DAAD

Internationales Büro

- Federal Ministry for Economic Affairs and Energy
Grants for cooperating SME



Conclusion

- Cooperation of Russian and German companies & science are supported by the Russian, European and German policy
→ (partly) funding for scientific and technological collaboration!
- Cooperation provides access to new (growing) markets, and increasing international awareness
- **Personal commitment/activity of the Russian and German partners is essential to succeed !** Success takes time and patience, lasting joint activities
- Both parties have **to bear mutually the costs for cooperation**
- Language barriers must be reduced and cross-cultural facts have to be accepted

DLR in facts and figures

DLR at a glance

Research and technology

The German Aerospace Center (DLR) combines its research topics in a way that is unique in Germany and Europe. It makes pioneering contributions in the areas of aeronautics, space, energy, transport, security and digitalisation. With its scientific and technical expertise, DLR strengthens Germany's position as a scientific and economic location.

Space Administration

DLR has been assigned the task of the German national space agency. Acting on behalf of the German Federal Government, the DLR Space Administration designs the German space programme and implements it in cooperation with national and international partners.

Project Management Agencies

The DLR portfolio is complemented by the DLR Project Management Agency and the Project Management Agency for Aeronautics Research and Technology. These agencies support their clients with analyses and expertise, as well as in the planning, implementation and communication of funding programmes and other measures in research, education and innovation.

20 sites, 40 institutes and facilities, the Space Administration and Project Management Agencies:

Augsburg

- Institute of Structures and Design
- Institute of Composite Structures and Adaptive Systems
- Institute of Robotics and Mechatronics
- Institute of System Dynamics and Control
- Institute of Test and Simulation for Gas Turbines

Berlin

- Institute of Propulsion Technology
- Institute of Vehicle Concepts
- Remote Sensing Technology Institute
- Institute of Optical Sensor Systems
- Institute of Planetary Research
- Institute of Transport Research
- Institute of Transportation Systems

- DLR Project Management Agency

Bonn

- Space Administration

- DLR Project Management Agency

- Project Management Agency for Aeronautics Research and Technology

Braunschweig

- Institute of Aerodynamics and Flow Technology

- Institute of Composite Structures and Adaptive Systems

- Institute of Flight Guidance

- Institute of Air Transport and Airport Research

- Institute of Flight Systems

- Institute of Transportation Systems

- Flight Experiments

- Simulation and Software Technology

Bremen

- Remote Sensing Technology Institute

- Institute of Space Systems

Bremerhaven

- Institute for the Protection of Maritime Infrastructures

Cologne

- Institute of Aerodynamics and Flow Technology

- Institute of Propulsion Technology

- Institute of Air Transport and Airport Research

- Institute of Aerospace Medicine

- Institute of Materials Physics in Space

- Institute of Solar Research

- Institute of Engineering Thermodynamics

- Institute of Materials Research

- Space Operations and Astronaut Training

- Simulation and Software Technology

- DLR Project Management Agency

Dresden

- Institute of Software Methods for Product Virtualization

Göttingen

- Institute of Aerodynamics and Flow Technology

- Institute of Aeroelasticity

- Institute of Propulsion Technology

Hamburg

- Institute of Aerospace Medicine

- Institute of Air Transportation Systems

- Institute of Maintenance, Repair and Overhaul
- Institute of System Architectures in Aeronautics

Jena

- Institute of Data Science

Jülich

- Institute of Solar Research

Lampoldshausen

- Institute of Space Propulsion
- Institute of Technical Physics

Neustrelitz

- Institute of Communications and Navigation
- Remote Sensing Technology Institute
- German Remote Sensing Data Center

Oberpfaffenhofen

- Microwaves and Radar Institute
- Institute of Communications and Navigation
- Remote Sensing Technology Institute
- Institute of Atmospheric Physics
- Institute of Robotics and Mechatronics
- Institute of System Dynamics and Control
- German Remote Sensing Data Center
- Flight Experiments
- Space Operations and Astronaut Training

Oldenburg

- Institute of Networked Energy Systems

Stade

- Institute of Composite Structures and Adaptive Systems

Stuttgart

- Institute of Structures and Design
- Institute of Vehicle Concepts
- Institute of Solar Research
- Institute of Technical Physics
- Institute of Engineering Thermodynamics
- Institute of Combustion Technology

Trauen

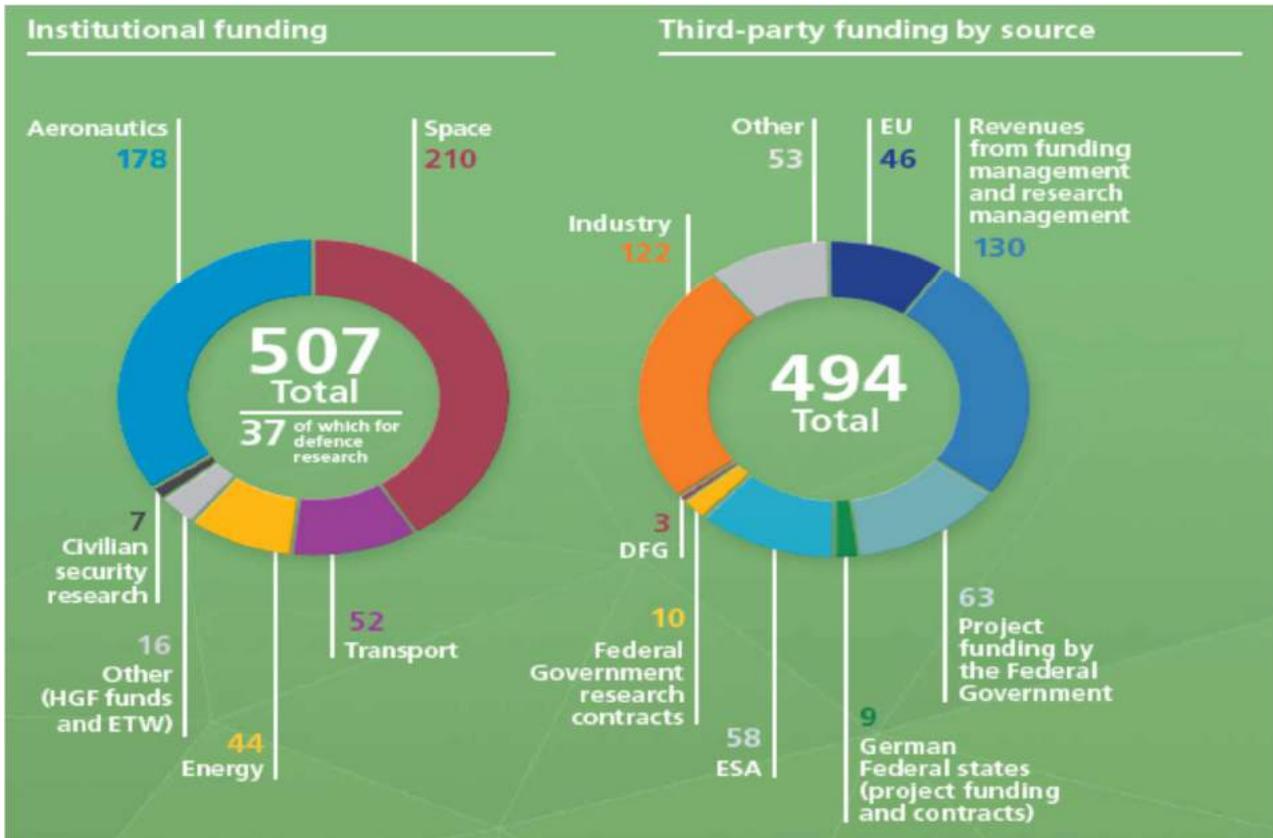
- Institute of Propulsion Technology

Weilheim

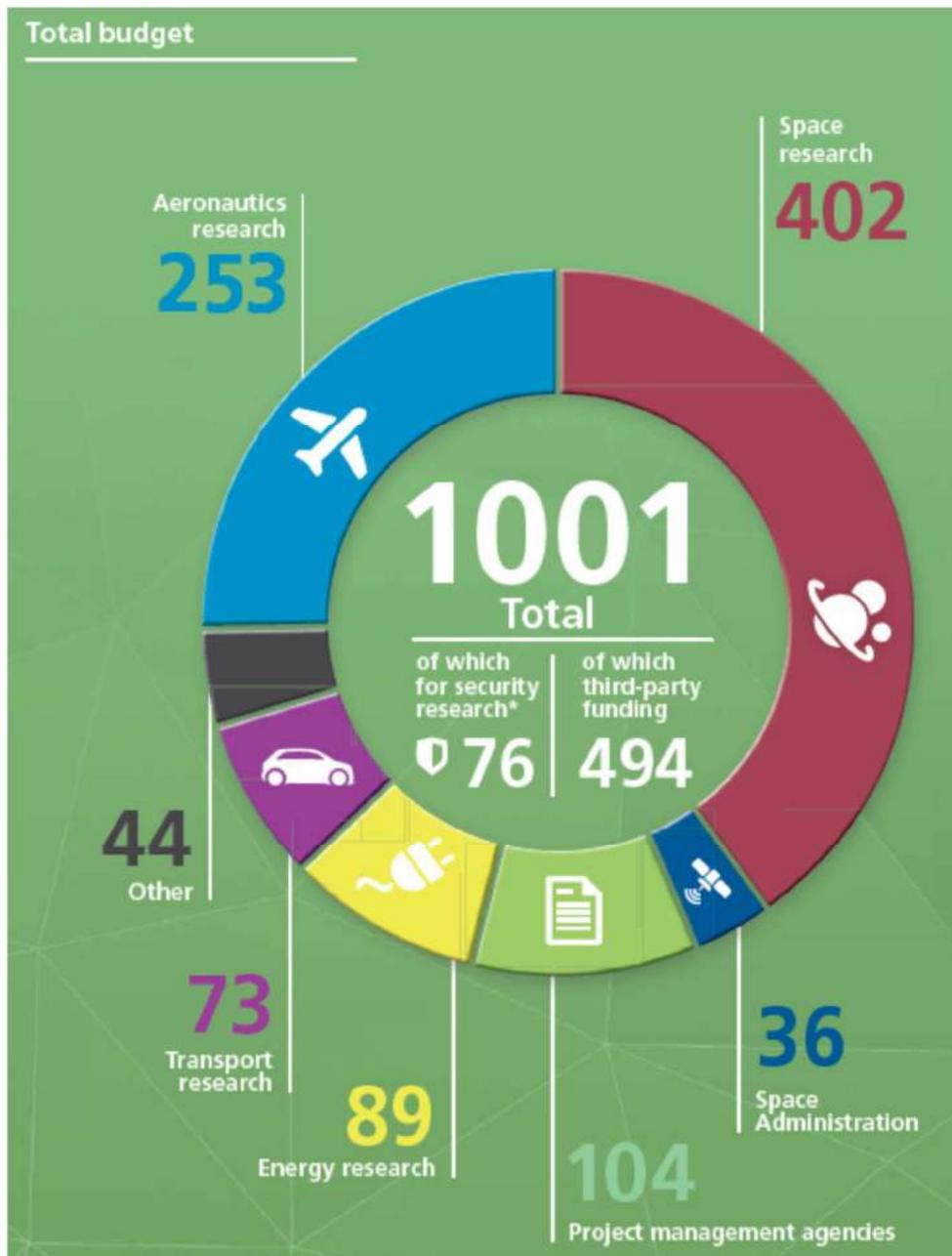
- Space Operations and Astronaut Training



Finances, 2017, Million Euro

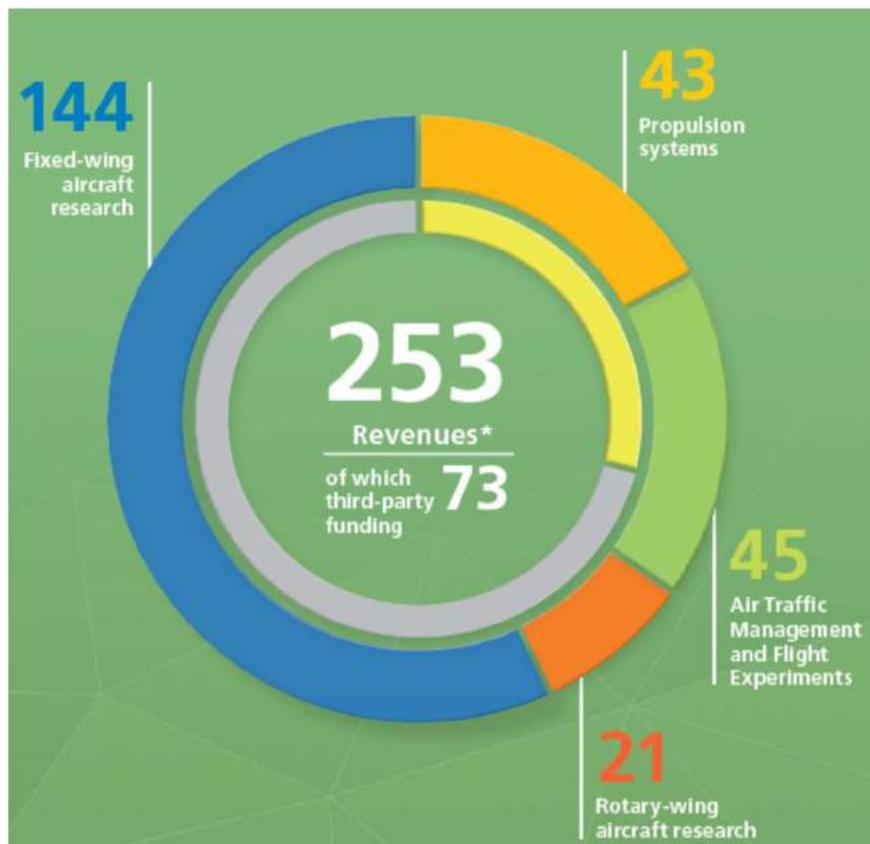


DLR's own research is financed up to 90 percent by funds provided by the German Federal Government, with the remaining 10 percent provided by the Federal States. In addition, DLR acquires funds from a variety of sources for its transfer and contract research. For example, it receives approximately 122 million euro from industrial contracts – an amount that testifies to the high quality and relevance of DLR's research and development activities. DLR also applies for national and European project funding. In addition, DLR operates as a service provider through the Project Management Agencies and the Space Administration, and generated revenues of 130 million euro in 2017.



Aeronautics

In the area of aeronautics research, DLR is facing the challenge of making the fast-growing air transport sector efficient, safe and environment friendly. Among other issues, DLR scientists are conducting research into the digitalization of aviation, electric flight and unmanned air transport. Drawing on the scientific excellence of its institutes, its research infrastructure, and Europe's largest fleet of civilian research aircraft, DLR is in a position to consider air transport systems from a holistic perspective and hence to strengthen the competitiveness of the national and European aviation industry.



*Including the cross-sectoral field of security research

Space

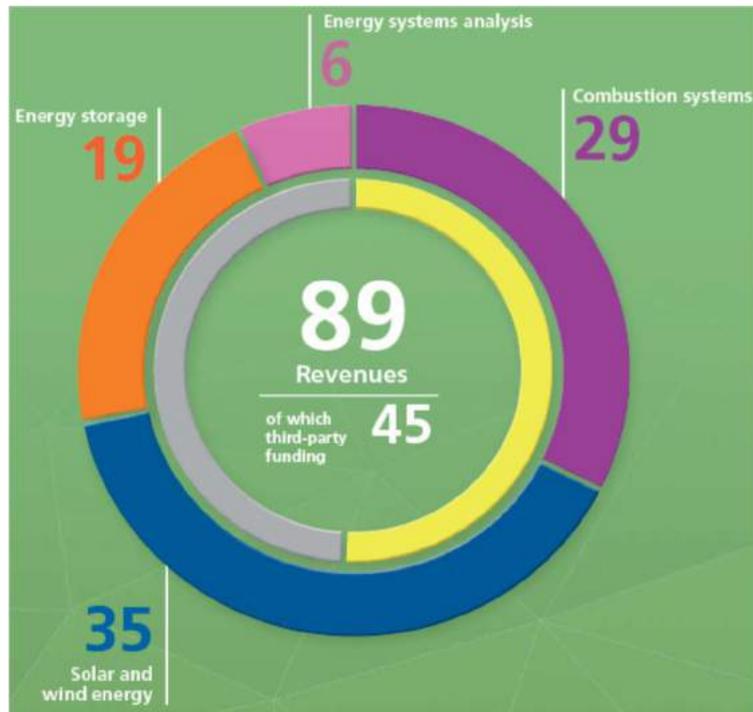
Space research has penetrated many areas of our daily lives. DLR space research activities focus on climate change, digitalisation, as well as new communications and navigation technologies. It covers the entire system chain – from launcher engines to payloads on Mars, and from the development of scientific and technological fundamentals through to their application in space and on Earth. Research is focused on addressing various societal challenges and aims to achieve the maximum benefits for society.



*Including the cross-sectoral field of security research

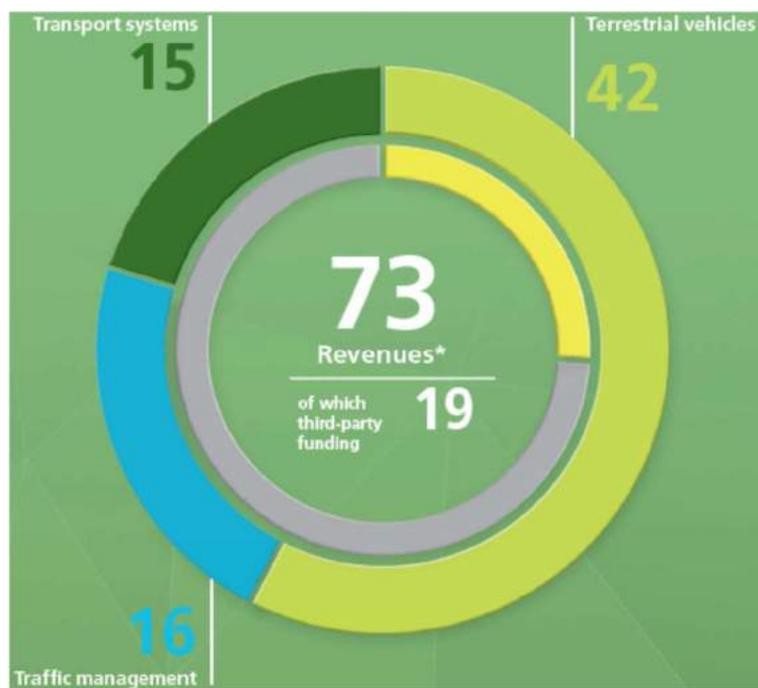
Energy

In Germany and the world over, work is being carried out on converting energy systems into climate-friendly, low-risk energy sources, alongside the development of highly efficient exploitation technologies. For this, DLR's energy research provides technological possibilities and contextual knowledge through systems analysis. The work mainly targets sustainable and controllable power generation along two paths. On the one hand, through the use of fluctuating renewable energy sources in conjunction with storage systems, and on the other hand, through the use of low-carbon-dioxide or carbon-dioxide-free fuels in efficient energy converters.



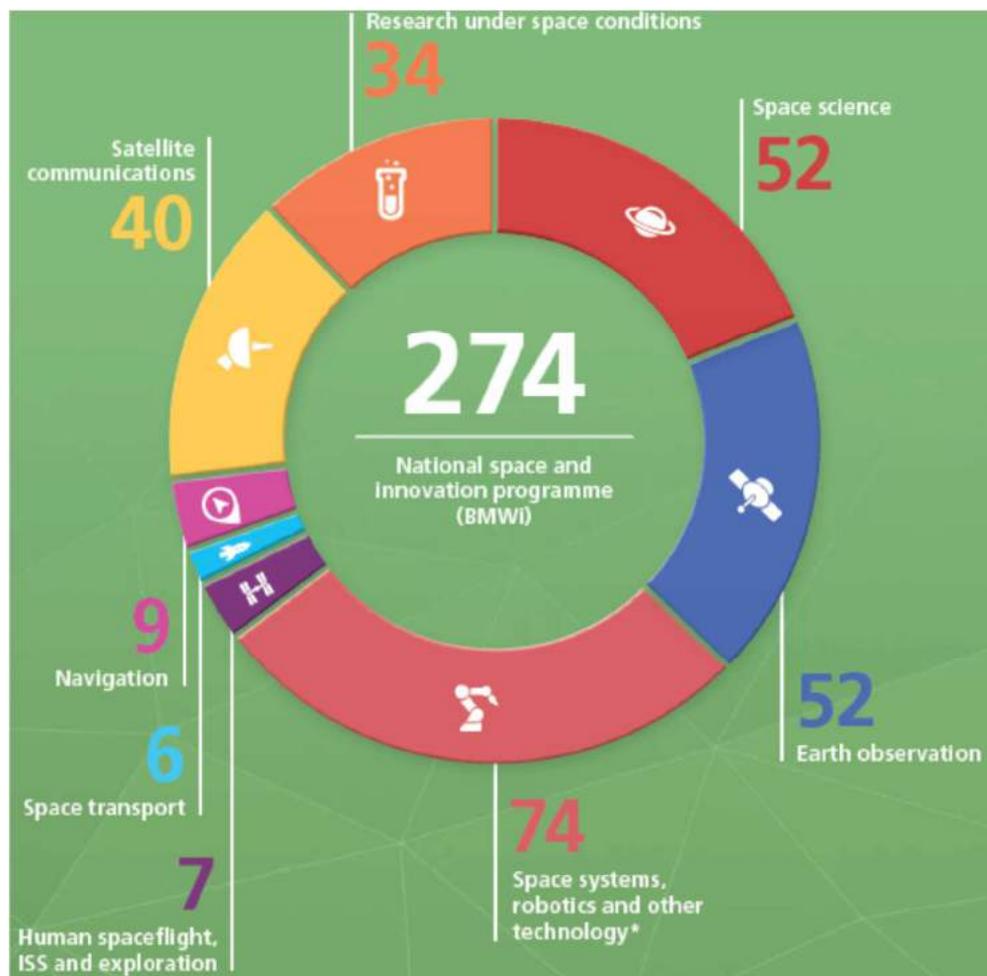
Transport

Realising sustainable mobility in a balance of interests between the economy, society and the environment is the driving force behind DLR's transport research. It addresses the key challenges facing future mobility on the ground: efficiency, emissions and safety. In particular, the possibilities afforded by digitalisation are being harnessed to devise solutions that will allow greater automation, the targeted development and use of new data sources, intensive networking of transport modes, and a comprehensive approach to transport interdependencies.



Space Administration

On behalf of the Federal Government, the Space Administration implements all sovereign space tasks in a national and international context. These include the national space programme, DLR's space research and development programme, and German contributions to the European Space Agency (ESA) and the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT). The principal client of the Space Administration is the German Federal Ministry for Economic Affairs and Energy; other clients include the Federal Ministry of Transport and Digital Infrastructure and the Federal Ministry of Defence.



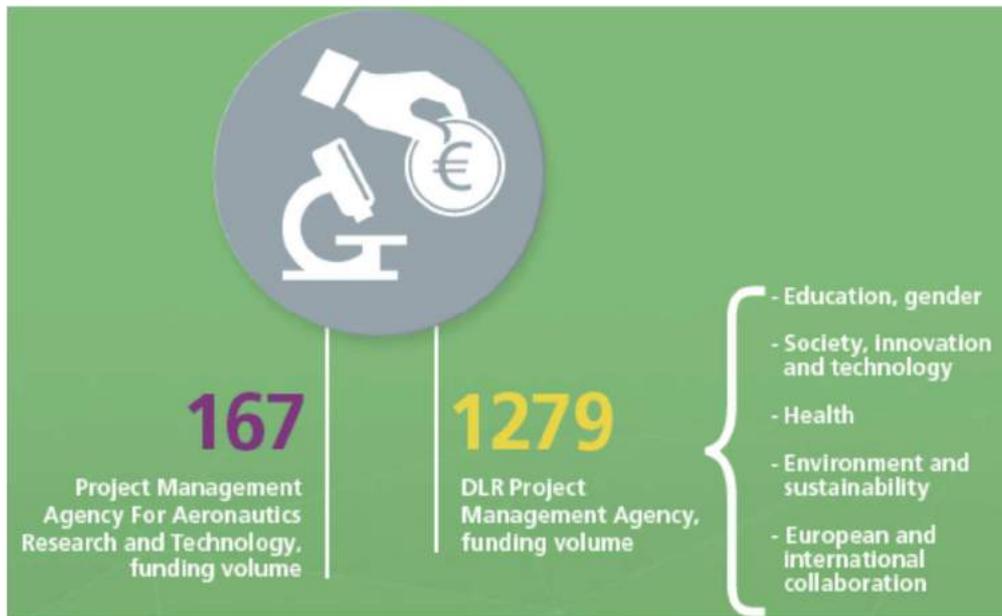


Project management agencies

Project management agencies provide vital services for German research, innovation and education. They support their clients with analyses and expertise, as well as in the planning, implementation and communication of funding programmes and other measures.

The DLR Project Management Agency offers a wide range of consulting and support services, including European and international cooperation. Its principal clients are the German Federal Government, together with federal state authorities, but it also services educational institutions, foundations and associations, as well as the European Commission. It is one of the largest project management agencies in Germany.

The Project Management Agency for Aeronautics Research and Technology assists the German Federal Ministry for Economic Affairs and Energy and the German states of Bavaria, Brandenburg, Hamburg and Lower Saxony in implementing their aeronautics research programmes. It also serves as the national point of contact for aeronautics research within the Horizon 2020 EU Research and Innovation framework programme.



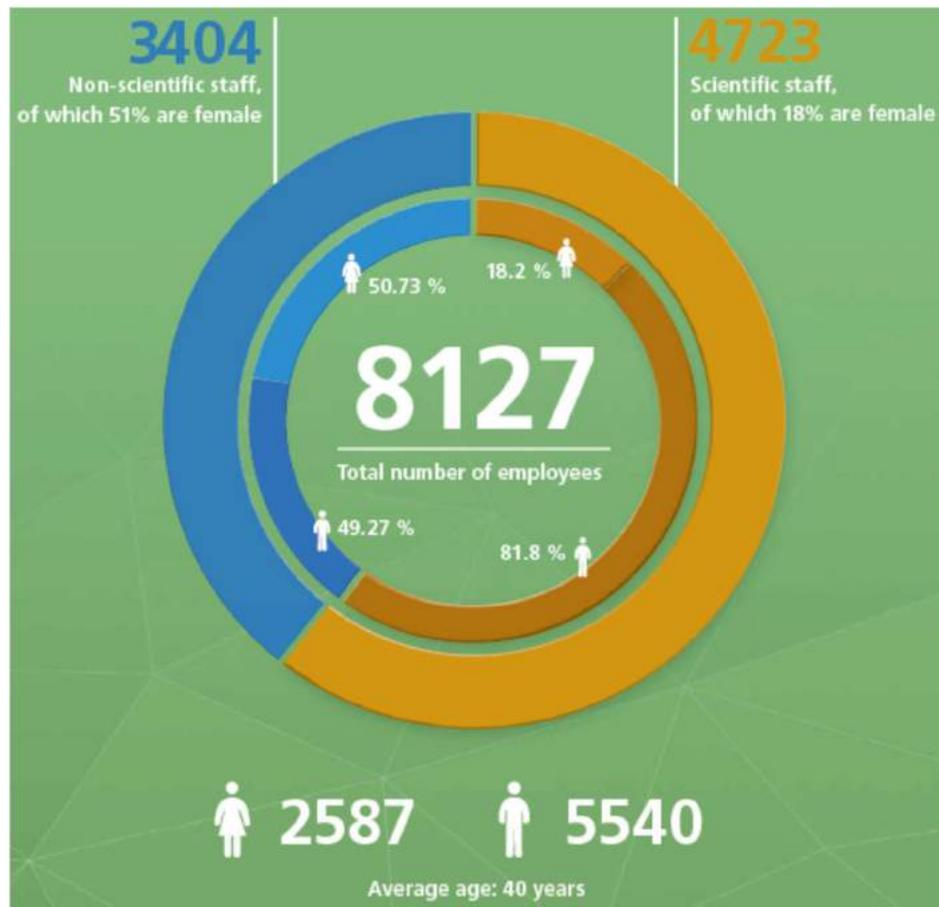
International cooperation in research

In order to overcome global challenges, solutions must be developed at an international level. DLR institutes work with universities, research institutions, public authorities, industry partners and stakeholders worldwide to address future-oriented topics and to develop adequate innovative solutions. In addition, DLR has been involved in research and exchange projects for many years.



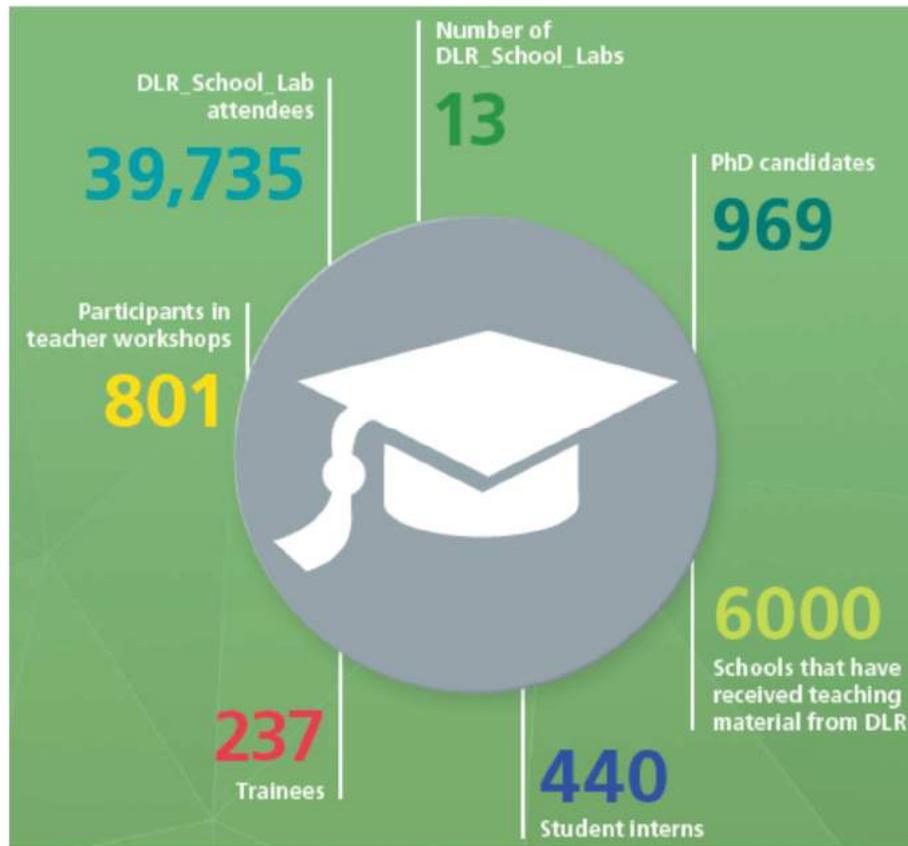
Personnel

DLR's outstanding performance is made possible by its extremely qualified and highly motivated employees, who are all given the opportunity to develop themselves further at DLR. Equal opportunities are a primary concern. By maintaining flexible working hours, part-time arrangements and special support measures, we ensure that our employees can achieve a positive work-life balance.



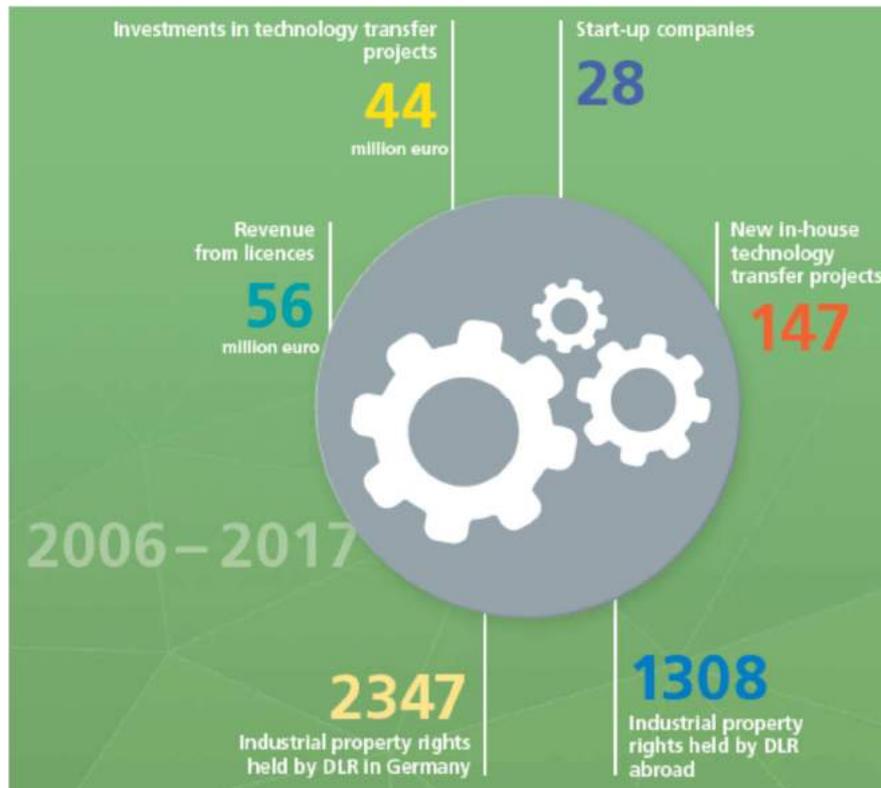
Promoting young scientists

DLR promotes young scientists through its integrated concept called DLR_Campus. It ranges from activities for schools to degree-related initiatives that go all the way to the doctorate level. For instance, sometimes in tandem with partner universities, DLR runs 12 student laboratories in which young people are invited to experience the 'fascination of research'. There are also school competitions, an online youth portal and much more. Students can take part in summer schools or flight campaigns, and complete internships at DLR. A first-class qualification programme is available to doctoral students.



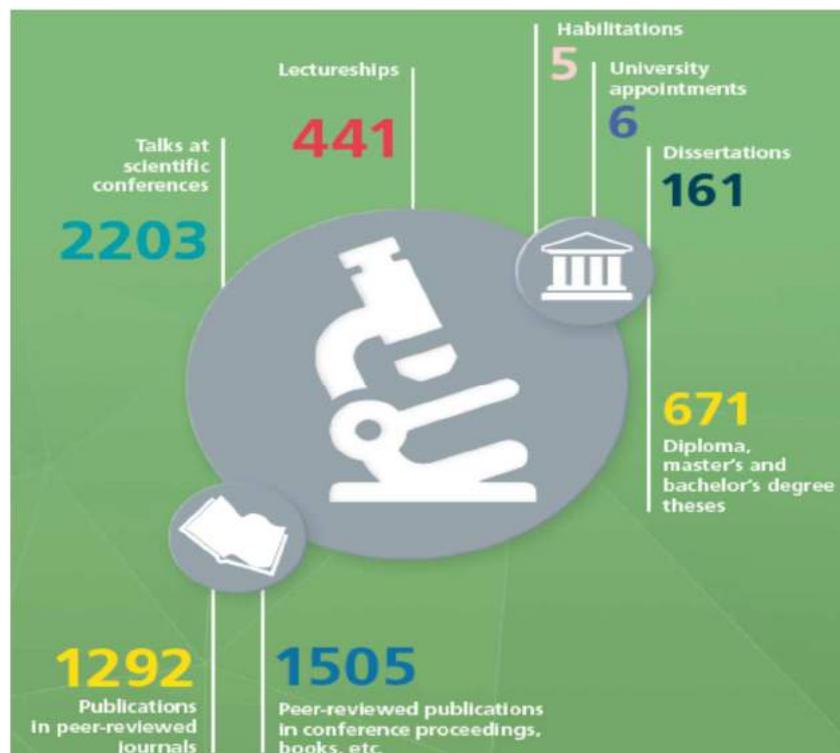
Innovation and technology transfer

DLR supports cross-industry and demand-oriented knowledge and technology transfer in order to promote the exploitation of research and development results in industrial applications. DLR Technology Marketing represents the interface between research and industry, between the product idea and the market. It is a point of contact for innovation-oriented companies and creates an uninterrupted innovation chain – from the idea through to the final product. Innovation ecosystems – in terms of successful innovation networks – foster the development of new products, services and processes in the economic market.



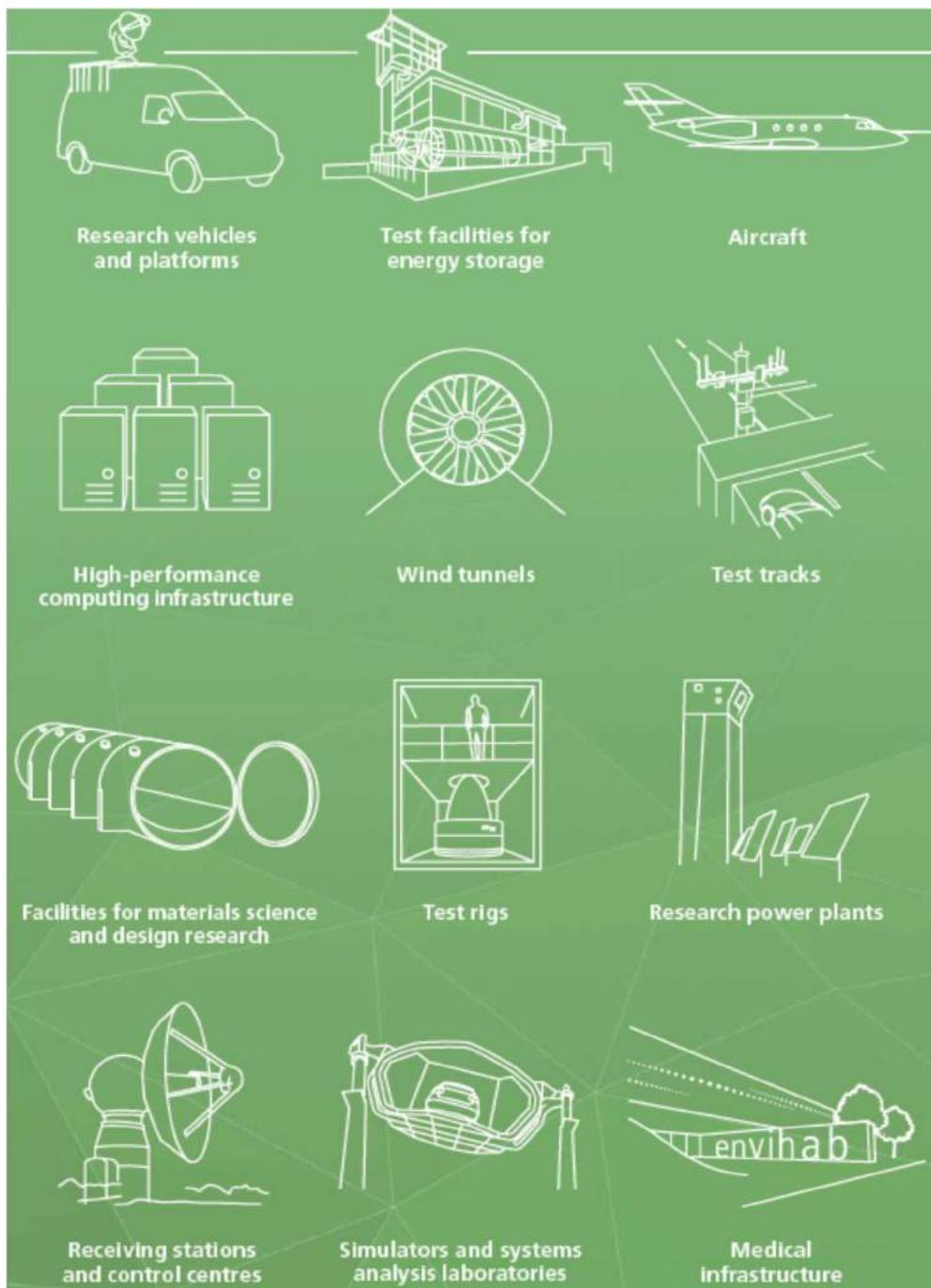
Scientific indicators

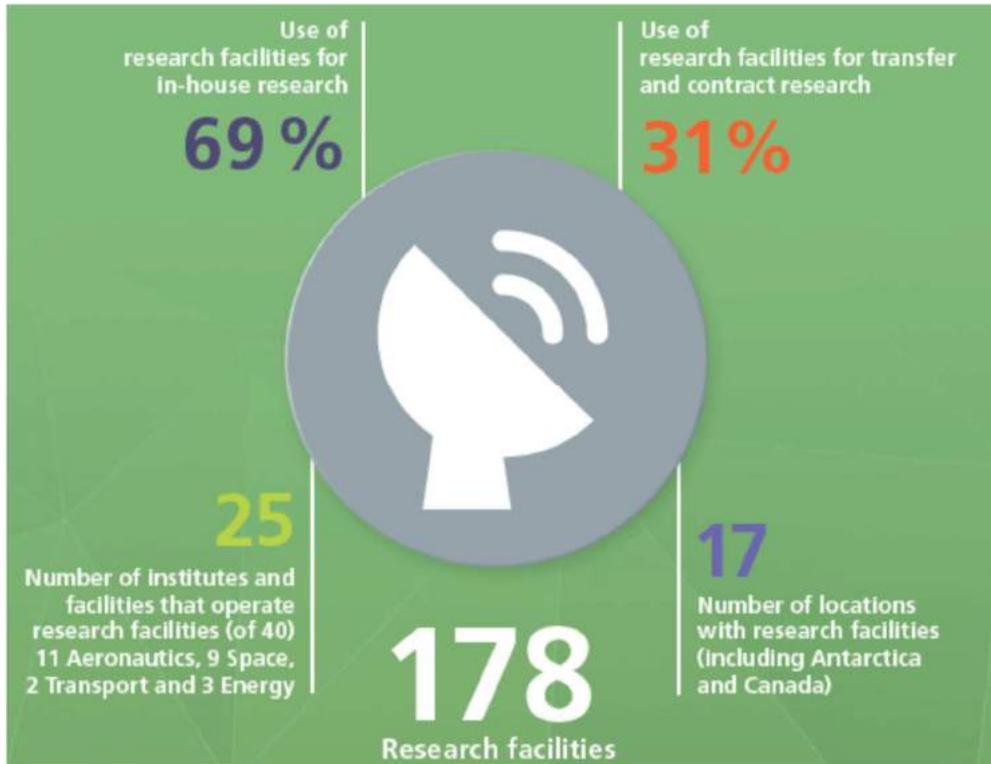
The number of scientific results reported in publications, talks or lectures is an indicator of research performance. Over the last five years, DLR scientists have more than doubled their number of peer-reviewed publications. The number of university teaching positions also rose to a new record level in 2017.



Large-scale research facilities

DLR operates a large number of major research facilities in order to tackle the challenges faced by aeronautics, space, energy and transport, as well as the cross-sectoral fields of security and digitalisation. With this research infrastructure, DLR is able to address overlapping topics such as mobility, energy efficiency and storage, as well as materials science and noise reduction in a unique way, which can also be applied to industry. With its processing and data storage systems – and in future the facilities of the seven new institutes – DLR is taking into account the topics of the future, such as the virtual product, Big Data and simulation.

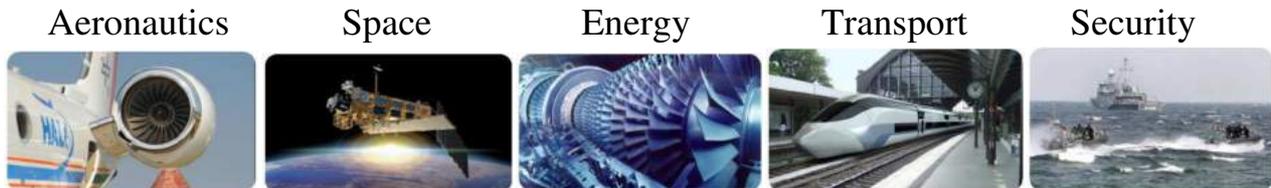




Technology Marketing in DLR. Innovation2gether

German Aerospace Center (DLR)

- Research Institution
- Space Administration (*Space Agency role*)



Sites and Employees:

- Approx. 8,000 employees
- 40 research institutes at 20 locations
- Offices in Brussels, Paris, Washington und Tokyo
- 7x regional office Technology Marketing



DLR-Innovations

Transfer Competences and Technologies from Aeronautics, Space, Transportation, Energy, Security into new Products and Services.

DLR's Innovation Goals

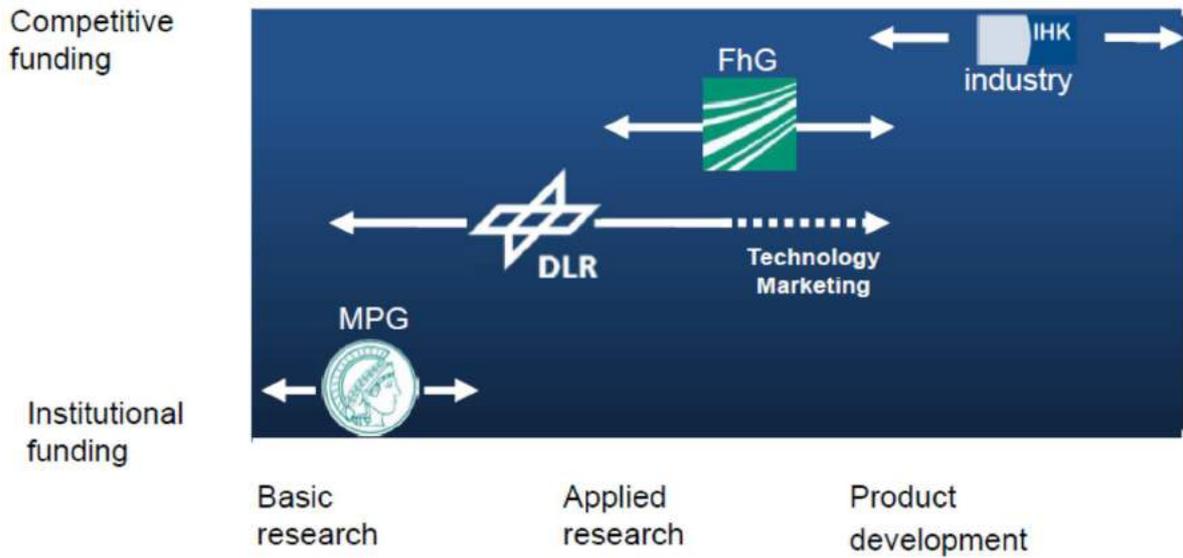
- Safeguarding the future (growth, wealth and jobs)
- Transfer of research outcomes and technologies into economy
- Increase of innovations
- Strategic partnership of science, economy and politics
- Visible benefit of research for industry and society

Technology Marketing – Innovation Driver for Economy and Society



Cycle of technological progress

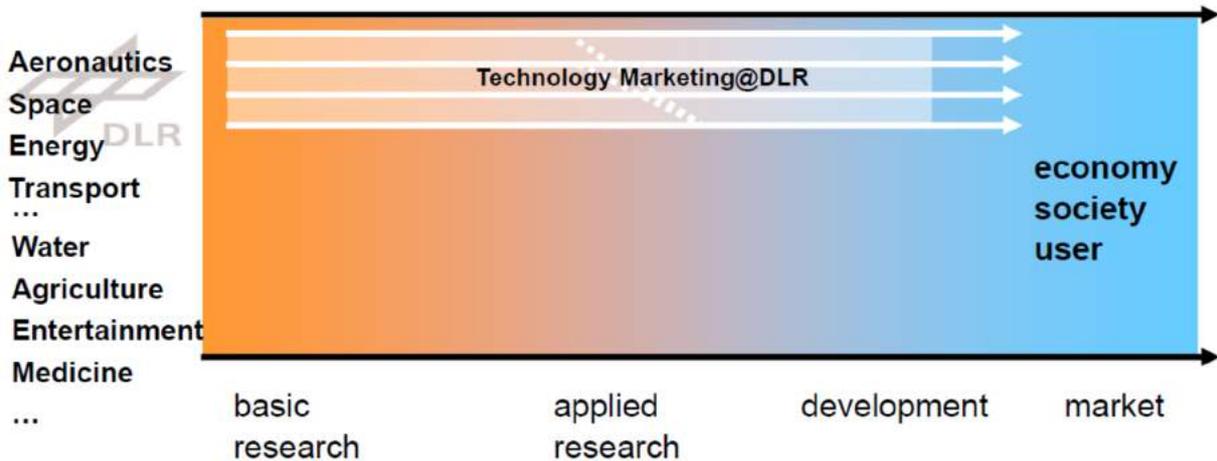
Research and Innovation-oriented Institutions in Germany



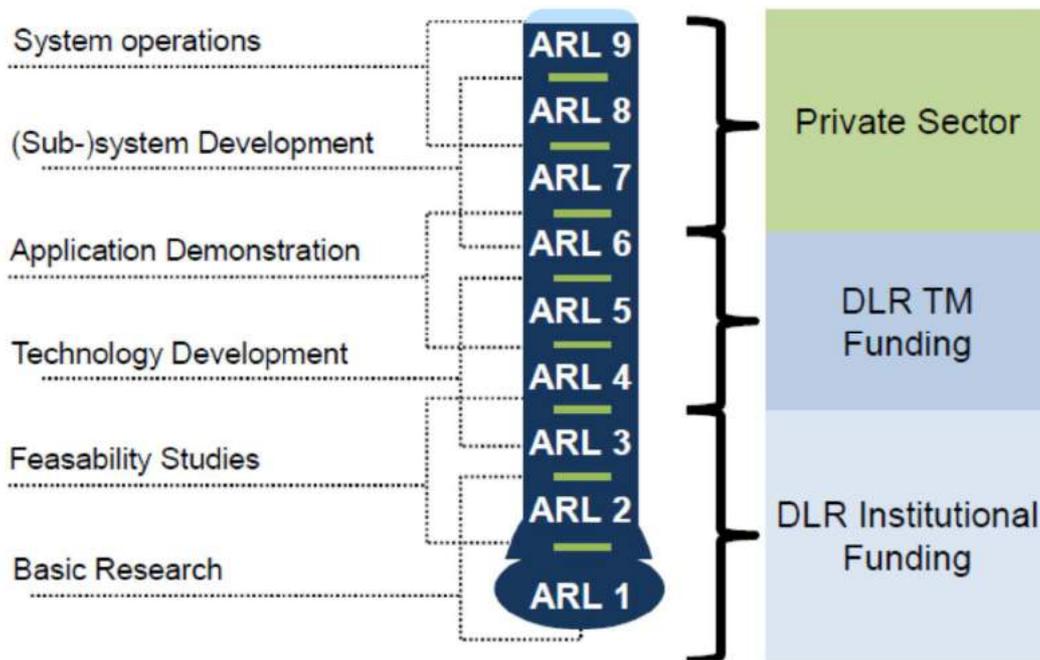
Linking of Research and Innovation Process



Invention → Innovation



Application or Technology Readiness Level

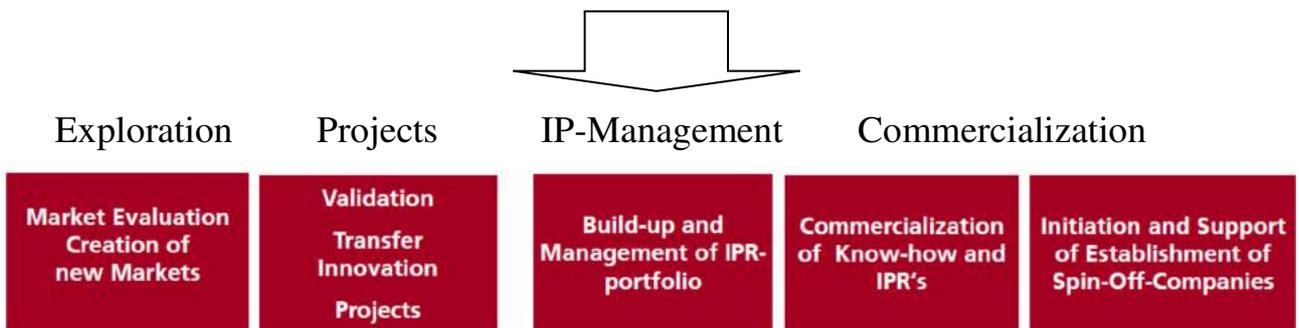


Bridging the Gap



Tasks of Technology Marketing (*research*)

→ DLR-Institutes (space, aeronautics, energy, transport, security, digitalisation)



Innovation2gether. Spin-offs

- Example of Success: High Performance Brake Systems ... from space into road traffic



- From space to industry



- The new DLR hyperspectral sensor DESIS on the multi-payload platform MUSES installed on the ISS. Commercialization of data through Teledyne Brown Engineering:

- Installation of DESIS end of August 2018
- First images very promising
- Commissioning phase 2 month



- Very successful Spinoff from DLR Mynaric. Communication for Skies & Beyond:

- Ultra-high data rates, power efficiency and 100% secure communication across vast distances
- Stock market launch 2018
- Space Foundation Hall of Fame Award
- for DLR und Mynaric



- From space to medicine. Surgery robot

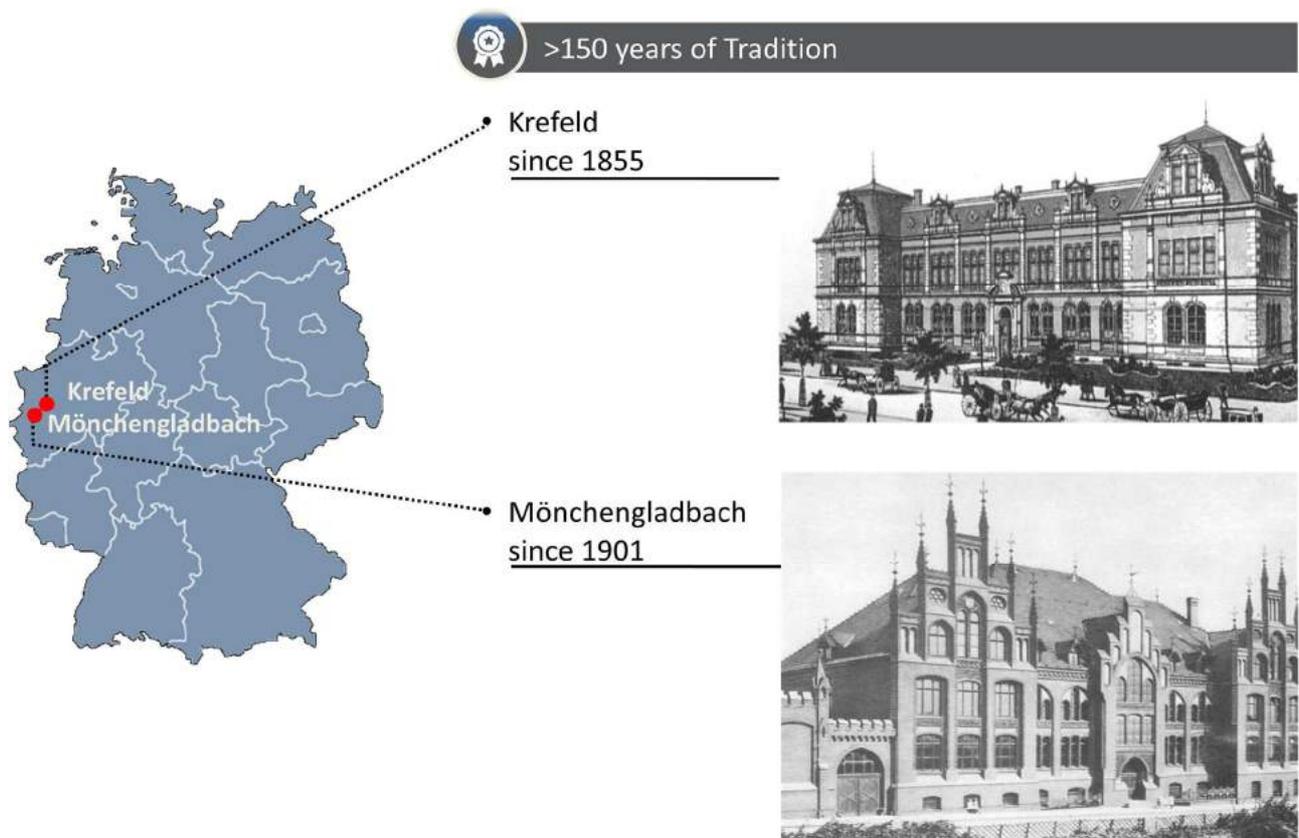
- New space. Start und Landing Falcon Heavy 6. Feb. 2018.



Studying International Management at the Faculty of Business Administration and Economics, Niederrhein University of Applied Sciences

1. The Niederrhein University of Applied Sciences

The Location of the University. Located in Federal State of North-Rhine Westphalia, western part of Lower-Rhine region. The University has locations in Krefeld and Mönchengladbach



Data & Facts about the University:

- One of the largest University of Applied Sciences in Germany, the second largest in North-Rhine Westphalia
- More than 14,000 students
- About 250 professors
- 130 expert lecturers from business and the academic world

Ten Faculties in Krefeld and Mönchengladbach:

- Chemistry
- Design
- Electrical Engineering and Computer Science
- Mechanical and Process Engineering

- Business Engineering
- Health Care
- Nutritional Science
- Social Science
- Textile and Clothing Technology
- Business Administration and Economics

Niederrhein University - Linked to the world:

- Many research and development activities
- Excellent international cooperation and academic links throughout the world
- More than 100 partner universities worldwide
- More than 10% of our 14,000 students come from abroad and complete at the Hochschule Niederrhein

The Mönchengladbach Campus

- The leafy and pleasant site provides students with all the necessary facilities:
 - student dorm
 - a cafeteria
 - a library
 - computer labs
- Bars and cafés nearby, esp. in the Old Town of MG

2. The Faculty of Business Administration & Economics

Mönchengladbach Campus: W-Building – our main building



Mönchengladbach Campus: Our new facilities

The new Z-Building finished in 2014:



The Blue Building finished in 2015:



Where do you learn? Interactive provided lecture rooms, computer rooms, modern learning environment.

The faculty in facts. As the university's biggest faculty, we have...

- More than 3,000 students
- Over 40 professors and a large number of lecturers from business and the academic world
- 23 study programmes (6 Master, 17 Bachelors)
- Numerous of research centers
- About 28 partner universities in 19 countries

As the university's biggest faculty, we have...

The essence of the faculty's work

Theoretical, science based knowledge combined with practical experience

Applied to the structure of studying

Bachelor

(usually 3 years/full-time)

Master

(usually 2 years/full-time)

Our Bachelor and Master programmes:

Bachelor

- **Bachelor in Business Administration**
(Bachelor of Arts)
- **Bachelor in Information Systems**
(Bachelor of Science)
- **Bachelor in Taxation and Auditing**
(Bachelor of Arts)
- **Bachelor in International Business**
(German-Finnish Program in English, German and Finnish Bachelor of Arts)
- **Bachelor in International Marketing**
(German-French Program, Bachelor of Arts & Licence Gestion)

Master

- **Master in Business Management**
(Master of Arts)
- **Master in Information Systems**
(Master of Science)
- **Master in International Marketing**
(German-French Program, Master of Arts & Master sciences du Management)
- **Master in International Management**
(Master of Arts, taught in English)

In Addition the Niederrhein University offers a wide range of program in a dual-system.

Master in International Management. Today's business environment is characterized by

- rapid economic change
- innovative technological advances
- expanding internationalization and globalization

- fundamental changes in society and its ideals and values

Combination of theoretical and practical content will

- enable students to gain the knowledge and skills to analyse the operations and problems of business practice

- to develop solutions and in doing so to reach beyond their own professional fields.

Master of Arts in International Management aims at preparing students for a future leading position in international project groups.

Graduates will also learn to develop

- an interdisciplinary and comprehensive management approach

- examining the various aspects and perspectives of concepts of sustainable development

- moral and ethical issues of economic activity

Particular attention is directed to the continual development of professional, methodical and social skills to produce highly skilled managers and enhance career opportunities.

Why International Management?



Master in International Management in facts

- The MA International Management is a modular degree programme.
- Each module is completed by an exam (types: written, oral, presentation, paper) for which ECTS points are awarded.
- The regular duration of the programme is 4 semesters.
- Students must study a total of 6 modules in each of the first two semesters.

First study year in Mönchengladbach

- Taught in English
- Core competences in International Management related fields

Second study year abroad

- Internship abroad
- or Study abroad

The first two semesters of the programme can be divided into three parts:

Part I: „International Management Core Competences”

1. Semester:

- International Management I
- International Marketing
- Organization in a Global Society
- Applied Econometrics or Digital Business

2. Semester:

- International Management II
- International Procurement
- International HR-Management
- Management Accounting

Part II „International Economic Framework“

1. Semester:

- Business Economics

2. Semester:

- International Economics

Part III „Intercultural and Ethical Aspects of International Management“

1. Semester:

- Intercultural Communication and Cooperation

2. Semester:

- Ethics and Corporate Responsibility

Students individually can plan the second phase of their studies:

Students can study abroad:

- to broaden their knowledge of international management practices from a different perspective
- to deepen the knowledge of the home university courses regarding additional aspects

or

- Students can participate in a work placement with regard to international business applications
- In this case, it is essential that skills acquired during the first stage can be applied during the work placement

Study Plan



Work placements, practice oriented final thesis:

- 3M is a global science company. The inventions have improved daily life for hundreds of millions of people all over the world. With \$30 billion in sales and 90,000 employees connect with customers all around the world.
- ALDI is the common brand of two leading global discount supermarket chains with over 10,000 stores in 18 countries, and an estimated combined turnover of more than €50 billion.
- Mönchengladbach is a German football club in Mönchengladbach, North Rhine-Westphalia. Founded in 1900, Borussia Mönchengladbach play in the Bundesliga, the top tier of the German football league system.
- The IHK represents business interests in the region to politicians and the authorities. They work to achieve business-friendly conditions for free enterprise. The IHK stands for a free market economy and less state bureaucracy.
- SMS group is a globally leading partner for the metal industry. As a family-owned business headquartered in Germany
- Founded in 1999, LucaNet AG has now been providing software and consulting to support its customers with financial consolidation, planning, reporting and analysis for more than 15 years
- NEW is a municipal utility company with roots at the Niederrhein. The group comprises several subsidiaries The NEW supplies around 400,000 customers with electricity, 157,000 with gas and 102,000 with water.

- The Rheinische Post is a international media company which publishes numerous of printed and digital media. Furthermore it offers services and is steadily expanding its commitment.
- Banco Santander is a private and business bank headquartered in Spain. It is the largest bank in the Eurozone. Santander has more than 125 million customers worldwide, 12,200 branches and round about 190,000 employees. It is the largest financial group in Spain and Latin America and is a leader in the UK, Portugal, Germany, Poland and the North East of the USA.

Overview of content (selected)

Modul: *International Management I, Lecturer Prof. Dr. Winnewisser*

- Essentials of foreign trade
- Relevance and concept of internationalization
- Understanding international economic developments
- and their impact on the enterprise
- Global organization
- Culture 2.0: The fine print of doing business abroad
- Short- and long term financing in international trade

Recommended reading: Jahrmann, F.-U.: Außenhandel, 13. Auflage, Kiehl Verlag, 2010. Kutschker, M., Schmid, S.: Internationales Management, 7. Auflage, Oldenbourg, 2010

Modul: *Organization in a Global Society, Lecturer Prof. Dr. Hahn*

- Specifics of a global society
- Characteristics of international organization
- The responsible organization and its stakeholders
- Organizations and international civil society/NGOs
- The impact of international consumerism on organizations
- Integration into international value chains
- Organizational learning and change management in an
- international context

Recommended reading: All relevant literature will be announced in class

Modul: *International Marketing, Lecturer Prof. Dr. Vergossen*

- Specifics and challenges in international marketing
- International marketing environment
- International market research
- Strategies in international marketing
- International marketing-mix

- Implementation
- Trends in international marketing
- Case studies

Recommended reading: Keegan, W.J.; Green, M.C.: Global Marketing, 9th edition (global edition), Pearson, 2017.

Modul: *Business Ethics, Lecturer Prof. Dr. Wenke*

- Business ethics and corporate ethics
 - Opposite views: fortunately there is corporate ethics!
 - The „moral point of view“ and the moral power of judgement
 - Empirical conditions: companies and coordination schemes in competitive markets
 - Corporate ethics and corporate responsibility
 - Ethics management
 - Ethics audits
- Concept of Sustainable Development (SD)
 - Historical backgrounds and the current status of ecological, economic and social systems
 - Triple Ps, social management rules and fundamental strategies towards sustainability
 - Frameworks for selected aspects of business related SD – examples
- Management of corporate responsibility
 - CSR in practice: overview
 - Applied CSR management
 - CSR and risk management
 - CSR and the business case discussion
- Elements to implement corporate responsible management
 - Management: Mission and corporate responsibility
 - CSR, responsibility of management and employees
 - CSR management in in the supply chain
 - CSR and stakeholder communication
- Case studies

Recommended reading: Barnett, M. L; Salomon, R. M. (2012): Does It Pay to Be Really Good? Addressing the Shape of the Relationship between Social and Financial Performance. In: Strategic Management Journal, 33, S. 1304-1320

Admission. Eligible candidates must:

- hold a subject-relevant bachelor degree, or equivalent qualification with the grade ‘good’ (Final grade equivalent to 2.5). Qualifications gained abroad must have an equivalent grade or alternatively A or B according to the ECTS Grading system
- provide proof of English language qualification, equivalent to B2 Level of CEFR

- English Language Certificates e.g. TOEFL, TOEIC etc. will be accepted
- A stay abroad does not qualify as a language qualification

Costs.

The Hochschule Niederrhein does not charge Tuition fees.

All students - including exchange students - are required to pay a compulsory semester fee (of 285 euros at present) on registering or re-registering for the next semester. The fee includes a contribution to the Student Welfare organization and the semester ticket (free travel on all public transport in North Rhine Westphalia)

Health Insurance.

All students must have health insurance cover. If your health insurance policy from home is not recognised in Germany you will have to take out health insurance here. Insurance coverage is available for students for about 85 euros per month.

Cost of living

Compared to most of Europe, the cost of living in Germany is not very expensive. For example, the cost of food, accommodation, cultural activities, etc., is equivalent to the EU average.

Please allow for around 700 euros per month to cover accommodation and other living expenses.

This means that you have to budget for around 5,000 euros per semester.

3. Globus – the international student group



4. Experiencing Mönchengladbach

Mönchengladbach and its surroundings

- Located in the Rhineland (population: ~7.3 m.)
- Close to the metropolitan areas around the Rhine, Düsseldorf 30 km, Cologne 60 km.
- Close to the Dutch and Belgian borders
- Easy access to Europe's greatest cities by train, plane or car, Amsterdam 210 km, Brussels 180 km, Paris 470 km.

Specifics:

- Close to national and international metropolitans
- Cheap living space
- Close to regional companies projects
- Contacts to regional companies cooperation for bachelor or master thesis
- Study in small groups (tutorial)
- „Open door policy“, i. e. direct contact to lecturer and staff
- Study projects due to close business contacts
- 9 in 10 thesis are written in cooperation with partners of the economy

Mönchengladbach attaches importance to sport

- Numerous sports facilities
- The local football club is well known throughout Germany and beyond

One of the greenest towns in the Rhineland

- 60% of the town is parkland

5. Do you want to apply?

Admission requirements for international students:

- Just check: www.hs-nierrhein.de/international/incomings/bewerbung

Application documents, for example:

- Proof of Language skills
- possibly internships
- ...

Application deadlines:

- Winter semester: 15.07.
- Summer semester: 15.01.

Admission requirements for Erasmus students:

Application via uni-assist (online)

International Office → Choose: Exchange/Erasmus → Applying Online

Further Information: www.hs-nierrhein.de/international-office/exchangeerasmus

Application deadlines:

- Winter semester: 01.05.
- Summer semester: 01.11

Information for incoming Erasmus/Exchange students

Language requirements: for courses taught in English: at least B2.
The language level needs to be confirmed by an official of your university's language centre or by a language teacher.

Nomination deadlines: (by home university): 15th May for the winter semester, 15th October for the summer semester.

Application deadlines: (by student): 1th June for the winter semester, 1th November for the summer semester.

Application procedure:

1) Students will have to be officially nominated for an exchange semester (or for two exchange semesters) by your home university. The coordinator at home university has to send an Email to laura.foerster@hs-niederrhein.de with the following information:

- full name
- study programme
- duration and study period abroad
- Email address

2) After we received your nomination we will forward a link of our online application portal (Mobility-Online) to the student. We kindly ask the student to apply to this online portal and to enter his/her data and upload the requested application documents:

- Learning Agreement
- Transcript of Records
- proof of language level
- CV
- only for design students: portfolio

Please note that the application can only be processed if the student follows all of the steps in the online portal.

3) Our international coordinator will check and approve the application documents.

4) After acceptance we will send you further information and the acceptance letter.

Do you need some further information? Don't hesitate to contact the International Office: www.hs-niederrhein.de/international-office .

How to communicate with the Germans

If you intend to go abroad, you should know what you can expect there.

I can well imagine that one or the other of you comes to Germany soon or later – as tourist or in business - so I want to give you a short report of our country.

If you understand: “How to communicate with the Germans” than you’ll understand how to communicate with other people, cultures and nations!

Should I achieve with my short presentation that you come to the conclusion it would be worth to come to Germany – so I had achieved my goal.

That`s the way how foreigners see Germany: carnival in Cologne, knuckle of pork with sauerkraut, Oktoberfest and Autobahn.

They satisfy all prejudices.

Let`s see what`s true.

The Germany List

The Views of Others

The truth always lies in the eye of the beholder: here´s what Germans can learn about themselves from their neighbors' perspective. (Eckhard Fuhr, die Welt)

The Goethe-Institut has conducted a survey of 18 other European countries to find out how they see us.

- 13.000 people from across Europe took part in the online-questionnaire “The German List”.
- It isn´t the traits commonly ascribed to the Germans, such as arrogance, pedantry or lack of spontaneity, that cut us to quick. We can live with it.
- What is liable to cause an uproar is to see German cuisine crowning the inventory of aversions. The German cuisine and its reputation are now worlds apart.

Most original answers regarding Germany

Best book: BMW Service Manual (Hungary)

Most beautiful piece of music: “Hänschen Klein” (Great Britain)

Most important building: The Autobahn (Slovenia)

Most important invention: Currywurst! (Greece)

Most important historical event: Oktoberfest (Hungary)

Most important athlete: FIFA World Cup 2010: Paul the Octopus (Belgium)

Really dislike: Birkenstocks, nudism and sausages for breakfast, Krefeld (France)

Like best: Feierabend (i.e. time to knock off work- the word itself is terrific (Finland)

That cars stop at zebra crossing (Poland)

Germans like local heroes:

- Charlemagne (742 – 814)
- Friedrich II the great (1740 – 1786)
- Emperor Wilhelm I (1797 – 1888)
- Martin Luther (1483 – 1546)
- Otto von Bismarck (1815 – 1898) “The iron chancellor”

German Spiked Helmet – originally Anatolia or Russia. Friedrich Wilhelm IV saw 1842 during his visit a model on the desk of the Zar and he was so excited that he introduced it 1846.

1. German society

Introduction

- The concept of Germany as a distinct region in Central Europe can be traced to Roman commander Julius Caesar.
- When the Frankish Empire after Charlemagne was divided in 843, the eastern part became East Francia.
- In 962, Otto I became the first emperor of the Holy Roman Empire.
- During the Middle Age Germany was divided in numerous independent states
- 1871 formation of the German Empire

A region called Germania inhabited by several Germanic peoples (around 200 BC). Julius Caesar gave distinction with his *Commentarii de Bello Gallico* using the river Rhine as border between Gaul and Germania. German territories formed a central part of the Holy Roman Empire of the German Nation. Deutschland was used first time in 15th century. Between 12th century and 1648 Germany was a confederation. Unification of the most German states 1871, with the inception of the Prussian-dominated German Empire.

Compartmentalization

- Basic to any understanding of German behavior is the role played by decentralization and compartmentalization (walling-off)
- Schools are compartmentalized - only academic subjects are taught
- The country has no real center like Paris, New York or Moscow
- Power is not centralized anywhere
- The result is a society of multiple and independent units

Germany is a federal parliamentary republic in Europe. The Federal Republic of Germany consists of 16 states. The power of the state are divided between government as the whole, the Federal Government, and the states. The latter have independent, if limited government authority. Decentralization is a high value in Germany, obsolete, redundant and cost a hell of a money. Although we've Berlin as

capital, Bonn is still alive. There is a long tradition of the welfare state in Germany. In 1883, the Bill on Health Insurance was enacted, followed in 1884 by that on accident insurance and in 1889 by that on invalidity and old-age insurance. At that time only 10% of population was protected – today 90%.

The states in the Federal Republic of Germany



- Only a rich country is able to pay for 16 states.
- Member of parliament: Bundestag 709, states: more than 2.000
- 357.000 qkm
- 82 mio people

Possessions

- The German attitude is that things have an immanent value
- They have an value as symbol of permanence in an unstable, fast-moving world

- Things have to look and feel solid and last a long time
- Another aspect of German`s character is the appreciation of quality

Products have an immanent value (opposite: things are meant to be **used**). Solid means: reliability and character; people who are upstanding and dependable are solid. The Germans appreciate – in fact, demand – fine workmanship, excellent design and high quality materials. Don`t damage a car in Germany and drive away – it will cost your license.

Value & Quality

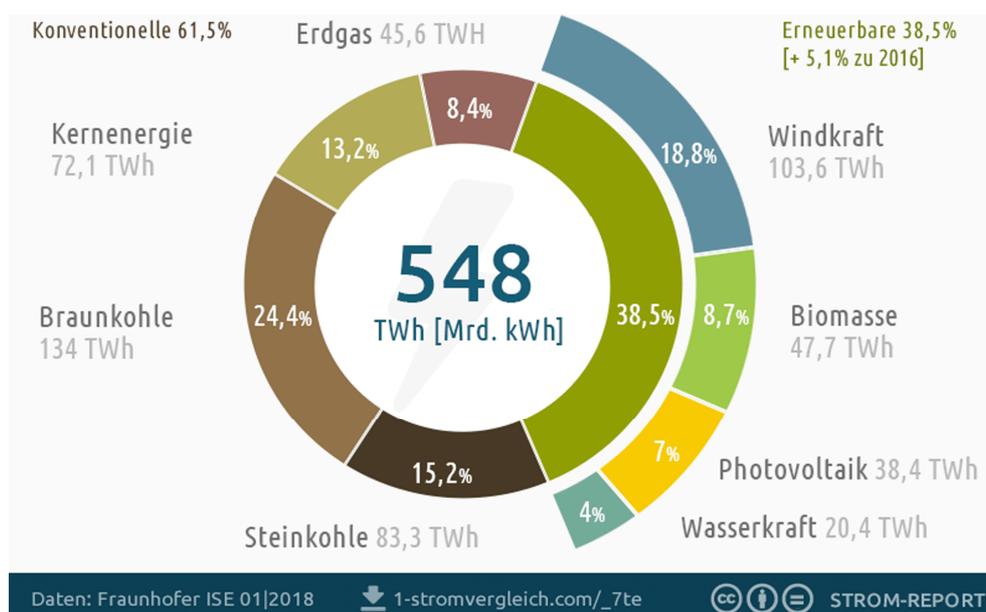
Mercedes-Benz and Leica are typical examples for German state of the art products.

Environment protection

- Waste of energy by heating, cooling and lighting
- Champion in waste separation
 - 50% recycled
 - 0% end-up in landfill
 - 80% reuse
- Expansion of renewable energy
 - exit from coal energy until 2038 decided
 - exit from nuclear power until 2022 decided

Waste of energy by heating, cooling and lighting (even during night). 2015 share of renewable energy 33% - target 40-45% in 2025. Champion in waste separation: 50% recycled, 0% end up in a landfill.

The power mix in Germany 2017. Share of energy sources in net electricity generation in Germany



Formality

- Habit of calling by first name makes most Germans uncomfortable
- Very conscious of their status and insist on proper forms of address
- There is much more greeting, much more handshaking, and much more distance – symbolic and actual – between people

Educated, responsible people are expected to display good manners at all time. In the German language there are two forms of address for “you”, the familiar “Du”, and the formal “Sie”. There is an old custom called “Brüderschaft trinken” (drink to the brotherhood) – they hook the arms and each sips from his glass. Calling by first name is getting more and more – the boss will be “Herr Müller” for the duration of most of the employee`s life. In Germany there is much more greeting, much more handshaking, and much more distance.

Work Ethic

- An important component of character is the very high value placed on work
- Germans generally work hard and long
- Supervisors do their job well, they show concern for their subordinates and create an atmosphere of cooperation
- **Germans are perfectionists**

However times are changing, even German people have meanwhile other priorities. Young people seem much less interested in working hard than their parents. But generally spoken work German people hard and efficient. Germans expect perfection in themselves and in others. They rarely compliment someone on a job well done because they take it for granted that people will perform well. A typical case for German perfectionism: gap size (Spaltmaß) at cars; the correct distance e.g. between the doors of a car and the car body. Between the door and body, it must be 3.5 mm at VW. There is a so-called Fugenrad. With this all quality inspectors test the gap size.

Burocracy

- Germany is addicted to documents
- Example: “Now we have a safety and fire prevention officer, a data protection officer, an export control officer, a safety adviser, a water pollution control officer, a gauge management, a quality management representative, a representative for machinery directive/ risk analysis, a specialist in occupational safety and a radiation protection officer.” (Mr. Hupfer, head of Enviro-Chemie, a company with 150 people)

A normal road crossing in Frankfurt: street paintings has no limits



2. Social structure

Educational system

- Sovereignty of the regional countries
- Targets: knowledge transfer and preparation for the job
- Trend towards private schools (12%)

In a world, where everybody must be flexible and people have to move from one city to another and from one state to another the different school-systems are a big burden for the kids. Problems with immigration, especially in big cities like Berlin, parents tend more and more to private schools. But most of the people are well educated and prepared for the job and life.

German educational system:

- Kindergartens
- Primary schools
- Orientation stage
- Secondary general schools
- Intermediate schools
- Grammar schools
- Comprehensive schools
- Specialized grammar schools
- Special schools
- Evening classes and full-time adult education colleges

- Basic vocational training year
- Dual vocational training
- Fachoberschulen
- Full-time vocational schools
- Vocational extension schools
- Schools for nurses, midwives, etc.
- Trade and technical schools
- Universities incl. technical universities
- Colleges of art and music, colleges of theology and colleges of education
- Comprehensive universities
- Fachhochschulen and colleges of public administration
- Continuing education

System differs state by state in Germany. Traditionally we had a three class system: elementary school (4/8 years), secondary/junior high school (6 years), grammar school (7 years), school for children with learning difficulties. Job with 15, university with 19 years.

Two-track vocational training

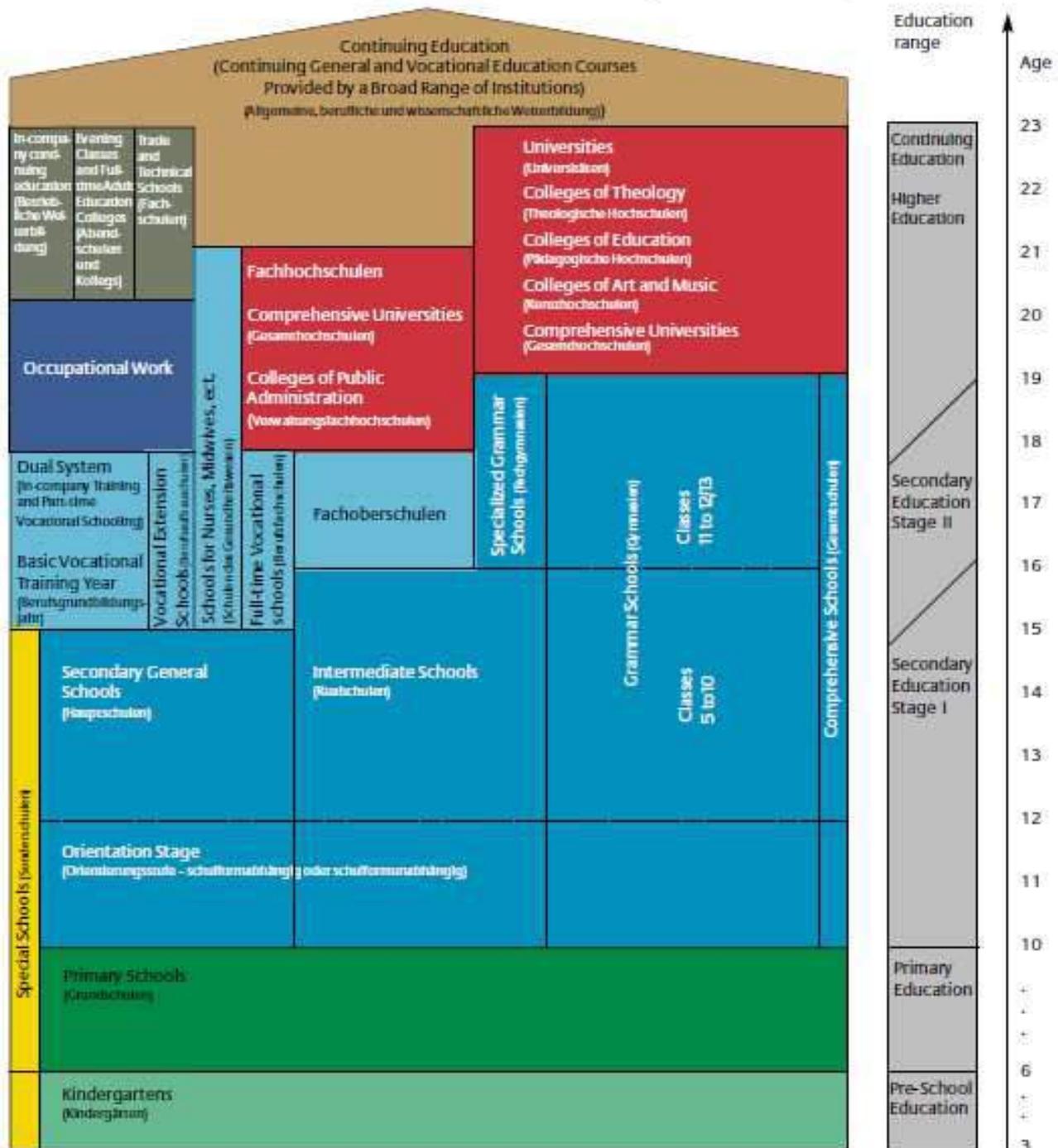
- Combines apprenticeships in a company and vocational education at a vocational school (Berufsschule) in one course
- Precise skills and theory taught are strictly regulated and defined by national standards
- Exams are organized by chamber of commerce.

Examination for trained artisans are traditionally known as journeyman`s tests (Gesellenprüfung)

- Career chain from apprenticeship to journeyman can be finished with master craftsman or master tradesman (Meister)

A dual education system combines apprenticeships in a company and vocational education at a vocational school in one course. 2018: 326 different apprenticeship occupations (Ausbildungsberufe). Dual education system is state of the art and platform and basis for so many excellent products “Made in Germany”. Job starts in most cases with apprenticeships ore a trainee-program. Each company must have so called “Meister” to get the official approval to prepare young people for the job and the examines. 2011: 33.181 applications to the European Patent Office (2x F, 4x I, 5x UK, 18x E).

Basic structure of the Education System of the Federal Republic of Germany



- Diagrammatic representation of the typical structure of the education system of the Federal Republic of Germany. In individual Länder there are variations from the above pattern.
- The age given for attendance at the various educational institutions refers to the earliest possible typical entry.

Master craftsman's diploma

Here you see an example of so-called “Meisterbrief”. Master in home economics. A master craftsman or master tradesman (sometimes called only master or grandmaster, German: Meister) was a member of a guild. In the European guild system, only master were allowed to be member of the guild. An aspiring master would have to pass through the career chain from apprentice to journeyman before he could be elected to become a master craftsman. He would then have to produce a sum of

money and a masterpiece before he could actually join the guild. Very popular to show it in the office or shop



3. Ratio of the Germans at time

- Time lies at the core of German culture
- Germans are very high on the monochronic scale: **doing one thing at time !**
- Changing plans after things are in place may strike them as arbitrary and irresponsible
- Promptness in fact, it's almost an obsession
- Past is an important part of the German context

It is difficult for polychronic people like the French to imagine what it means to have schedules be as important as they are to Germans and events so thoroughly compartmentalized. But Japanese exceed the Germans. Sir Peter Ustinov gave a good example: Ustinov had to give a speech. After arriving in Tokyo he received from a Japanese delegate conduct. You must be at 8 in the lobby. When you consider the distance from the lift to the exit take the lift to arrive at 7:47 in the hall. So you need to enter the lift at 7:39. The road from your room is very long. Leave the room at 7:29. We will call around 7:24 to let you know that they stand for 5 minutes. Promptness in fact, it's almost an obsession. If there is a chance that you will be late for an appointment, telephone ahead. When Germans explain something, they often find it necessary to lay a proper foundation and as a result are apt to "go back to

Charlemagne” – boring for French!!! Germans are not preoccupied with immediate results. It's important for German`s to complete action chains.

4. Ratio of the Germans at space

- Germany is neither a melting pot society nor is it mobile
- Many Germans stay often where they were born and raised
- Homes are protected from outsiders by a variety of barriers
- The German`s home is his castle
- Neighbors do not visit back and forth habitually
- Privacy is protected by keeping doors closed

Some Germans have remained in the same geographic region for centuries and had little interaction with foreigners. Due to guest workers/ migrants, working and travelling around the world situation changed. Front yards are beautiful maintained but rarely used, outside activities are restricted to the backyard. Any invitation to visit a German home is an honor. The importance of the door cannot be overemphasized, usually they are thick and solid – they symbolize the German`s desire for privacy and his need to screen out the world.

- Executives have sometimes office with double doors and sound-proof walls
- When a office door is closed, knock before entering
- They feel noise very distracting and cannot concentrate
- They also feel that moving the chairs or the furniture in someone else`s office is intrusive and officious
- German`s are very formal when entering someone else`s space
- Germans are unaccustomed to close physical contact

German`s are careful not to touch accidentally or to encourage any sign of intimacy. In the office, knock, give a verbal greeting and then wait to be invited to enter. Good to know is the concept of visual intrusion: if you are looking into a room from outside, it is considered that you have entered. In public visual intrusion is to be avoided. Germans consider it rude to look at others in public. Become familiar with the most common German signs: Geschlossen (closed), Kein Zutritt (no entry), Ruhe (silence). And take them seriously!

5. German mentality

- In Germany, there is as much variation in character, temperament and personality as one would expect to find anywhere else
- Germans want to be understood and appreciated, and they want to be treated as individuals – not as „those Germans“

- Germans as a whole are quite serious and take themselves very seriously
- Germans hate to make mistakes and become upset when they do
- They place high value on frankness and directness
- German feeling runs deep – friendship go very deep

But hard to identify because of the strong overlay of culturally patterned behaviour. Don't expect to have fun at work – work is serious business. Directness: they want to get behind the surface to see the truth. Until they do, they do not feel secure. German's do not “make conversation” at social gatherings. They are serious and dislike small talk. Friendship go very deep in Germany – deeper than anything most foreigners have ever known.

„those Germans“

From the mountains to seaside. From Bavaria to Friesland. “Fingerhakeln” means to take someone by the middle-finger to the cleaners.

Typical German

- 3.238 different variations of bread (world champion)
- 1.500 different variations of sausages
- 5.000 – 6.000 different variations of beer* (27 different Kölsch)

*according to the German Beer Purity Law only four ingredients are allowed in beer brewed in Germany: hop, water, barley malt, yeast



6. German style of communication

- In communicating to Germans you must **repeat your main point at the end or your listener may miss it.**
- You may not be able to identify the main point until they reach the end of their comments
- The German who speaks most softly is the one to pay attention, not the one who makes the most noise

- The Germans really appreciate a foreigner`s making an effort to speak the language

Language is a direct reflection of culture and Germany is no exception. With the verb at the end of a sentence it takes awhile for Germans to get to the point. They will get there, it takes just longer. The German language is much more literal than English. As a foreigner you must not be perfect with the language (unlike the French).

7. German business

13 reasons:

1. Historical scattered regionalism

Each company who wanted to grow had to internationalize drive to internationalize is “second nature”.

2. Traditional skills

Germany is using a technology base that goes back to the Middle Ages.

3. Outstanding innovation power

Number of patents: 2x France, 4x Italy, 5x UK, 18x Spain. Swiss and Sweden are best in Europe.

4. Strong manufacturing base

Germany kept opposite to USA and UK its production facilities – this might be old-fashioned.

5. Development of labor costs

Increase since 2002 only 6% (Europe 22%, France 26%).

6. Strong competition

1/3 see their toughest competitors in Germany – very often in the same region.

7. Made in Germany

First class seal of quality.

8. Industrial cluster

Cluster gather the highest competence worldwide in a region – they promote maximum performance.

9. Entrepreneur cluster

Close proximity of H.Ch. Which are not operating in same industry social contagion process, social network delivers inspirations.

10. Regional spreading

Only few countries are so decentralized structured like Germany – regional spreading has enormous benefits.

11. Two-track vocational system

A unique system in the world – one main reason for Germany`s power.

12. Geostrategic central location

Central place within Europe – travelling distances worldwide positive.

13. Mental internationalization

International business requests a cultural broadening of horizons – together with Swiss and Sweden leading in this field.

General aspects:

- No country worldwide has more global market leader than Germany
- Germany is export world champion
why?
- Strength of the German middle class. SME's are the backbone of the economy
“heart of the economic and social order “ (Merkel)
- More precise the elite of the middle class, the so-called “Hidden Champions”

So-called German Model. German economy is characterized first and foremost by around 3.6 mio small and medium-sized enterprises as well as the self-employed and the independent professions. Around 95% of German companies are family-owned. Every 3rd company has a woman at its head.

Some important facts and figures:

- Growth-rate GNP
2017 2,2%, 2018 1,5%
- Unemployment rate
2017 5,7%, 2018 5,4%
- Export value
2017 1.279,0 bn €, 2018 1.317,9 bn €
- Export surplus
2016 249 bn €, 2017 245 bn €

Definition Hidden Champions

Zentrum für Europäische Wirtschaftsforschung (ZEW) 2015

- 1.600
- Less than 300 employees
- Less than 100 mio. turnover

HBM Unternehmerschule der Universität St. Gallen 2018

- 461
- Identify the highest or second highest market share in its segment
- Turnover more than 50 mio
- Of which at least 50% abroad
- Be active on at least three continents

Success factors of Hidden Champions (ZEW)

- Global growth as a strategic business goal

- Innovative and active in research
- Excellent process management
- Systematic knowledge management
- Research partnerships
- Know-how protection through speed

Hidden Champions

Company	City	Profession
Herrenknecht	Schwanau	tunnel boring machines
Putzmeister	Aichtal	truck-mounted concrete pumps
Peri	Weissenhorn	formwork & scaffolding systems
Lürssen	Bremen	mega yachts
Duravit	Hornberg	bathroom equipment
Karcher	Winnenden	cleaning devices
Würth	Künzelsau	screws
Trumpf	Ditzingen	laser cutting equipment
Adco (Dixie)	Ratingen	mobile toilets
Recaro	Schwäb.Hall	airplane seats
Gerriets	Umkirsch	stage curtains
Dr. Hein (Pustefix)	Tübingen	soap bubble products
Wanzl	Leipheim	shopping trolleys
Hauni	Hamburg	cigarette machines
Flexi	Bargteheide	dog leashes
Friwo	Ostbevern	power supply
Fuchs	Dissen	herbs & spicery
Kalle	Wiesbaden	artificial sausage casing
Ottobock	Duderstadt	artificial arm and leg prosthesis
Pöschl	Geisenhausen	snuff

Katz GmbH & Co. KG in Weisenbach in Baden: 248 employees, 300 years old, absolutely world class, 7 out of 10 beer mats on the planet are produced there, 3.5 billion pieces per year.

Giesecke & Devrient in Munich: 11.600 employees in 32 countries, founded 1852 in Leipzig, 2,14 bn turnover, banknote design and production, cash mgmt. services, cash processing solutions, passports, security papers.

Political measures. “Agenda 2010”

- Is a series of reforms planned and executes by German Government und Chancellor Gerhard Schröder 2003
- Aimed at reforming the German social and labor market (demand and promote)

- Target: to improve economic growth and thus reduce unemployment (Hartz-reforms)

Peter Hartz (born 9 August 1941 in Sankt Ingbert), was the human resources executive at the German public company Volkswagen AG (VW). Twenty percent of Volkswagen's shares are owned by the state of Lower Saxony. Hartz became notable as adviser to German chancellor and former Prime Minister of Lower Saxony, Gerhard Schröder, with whom Hartz developed the so-called Hartz-reforms of the German labour market and job agencies - the German welfare benefit, 'Hartz IV', is named after the fourth stage of his reforms.

“Agenda 2010”:

- Economy: promotion of middle class, easing of employment protection, reducing non-wage labor costs
- Training: special offers for employees
- Taxes: reducing the entry rate from 26% to 16% and top tax rate from 53% to 45%
- Education: investments 4 bn. €, student loan reform
- Labor market: Me Inc. (Ich-AG), Mini Jobs
- Health: measures to prevent the social insurance contributions to rise from 45% to 50%
- Pension: keep the contributions constant at a level of 19.5% of gross wages
- Family: increase child benefit to 154 €

Hartz I: more temporary work (contract work) – Leiharbeit. Hartz II: Mini-Jobs and Me Inc. (Ich AG). Hartz III: Conversion from the old employment office to the modern employment agency. Hartz IV: Merging of unemployment assistance and social assistance (assistance to living) for the unemployed to the unemployable II (ALG II) partly to a level below the previous social assistance.

Germany's most beautiful curves



And the winner is Angela Merkel. Unemployment rate fell from 12% to 5%. Number of employees increased to meanwhile close to 45 mio. And now the SPD wants to

overcome its Trauma Hartz IV and promises the population more social services. In the meantime, social benefits in Germany correspond to 50% of economic benefits.

- Almost all German companies are AGs (public limited companies) or GmbHs (private limited companies)
- AG has a minimum share capital of 50.000 €. The minimum share capital of a GmbH is 25.000 €
- Both, AG and GmbH are managed by one or two directors
 - directors of an AG meet as board, take decisions collectively
 - directors of a GmbH meet informally and take decisions collectively or on sole responsibility
- Where the employees regularly exceed 2.000 a second director as “labour director” must be appointed
- Any company with more than 500 employees must appoint a supervisory board

All quoted companies must follow the German Code of Corporate Governance. German company law also provides for a partnership limited by shares: KGaA. There are two German partnership forms in common use: the general partnership oHG and the limited partnership: KG. The major difference between AG and GmbH: AG maybe publicly traded on a stock exchange, whereas those of a GmbH may not. Signing rights of directors may be sole or joint. The labour director has special responsibility for all employment matters. The supervisory board is responsible for the supervision of the executive board, monitoring financial reporting and the appointment of directors and auditors on behalf of the shareholders.

- Availability of labour:
 - labour force is well-trained and well-educated
- Employment relations:
 - the overall climate of labour relations can be described as good
- Workers councils and unions:
 - workers council elected for each shop by its employees
 - external level of employee representation through the trade union
- Wages and salary levels:
 - the average monthly gross earnings of full time employees is 3.771€ (2017)

Specialists and executives earn including holiday and Christmas bonuses and bonuses 67.651 p.a. (MM 07.05.18). Labour force is used to high standards of efficiency and of organization. Partly as a result of this history of repeated compromise. Workers council: employing five or more persons must allow it. Traditionally only one union was active in respect of each employer. German corporate Government Code: making the system transparent and understandable. Its purpose is to promote the trust of

international and national investors, customers and employees. The code clarifies the obligation of the MGMT Board and the Supervisory Board.

- Fringe benefits:
getting more and more important to make the work place attractive
 - Working hours and holidays:
mostly within the range of 37 to 40 hours per week, the legal min. paid holiday is 20 working days; average 25 to 30 days
 - Health and safety:
all employers are subject to health and safety regulations
 - Termination of employment:
in principle at any time by giving four weeks ´notice to the 15th or end of any month
 - Social security:
four main elements: retirement insurance, unemployment insurance, invalidity insurance and health insurance
- Pension schemes, canteen meals, provide child care and similar support for young mothers, company cars, insurance policies, future bonus etc. Legally employers must continue to pay employees at least their average net pay for the first six weeks of thickness. Overtime is often payable on premium rates; legal restrictions on the max. amounts of overtime; trend to more flexible models. 10 to 15 days public holidays. The Act on Protection against Termination provides for longer min. notice periods for long-service employees. Monthly premiums in 2014: 18,9%, 3,0%, 2,05%, and 15,5% of gross sales - cost is split equally between employer and employee.

Works Council

Generally speaking are works council in Germany open-minded, well trained, tough but fair and able to see both sides of a coin. Think in the long term. Most German workers tend to be conservative and feel it's better to than to strike. But they have excellent working conditions and generous benefits. The restraint in wage demands together are together with "short-work" (Kurzarbeit) the reasons for the momentary economic success in Germany. Safety on job – an important basis for economic success!!!

How are the Germans in reality?

Prof. Christopher Clark, Australia, Hör Zu 48/2014: "It is especially the variety of Germany, which impressed me."

- The land of poets and thinkers, tinkerers and hobbyists
- The land of castles and places of forest and allotment gardens where everything is regulated

- The land of 1.500 types of sausage, 3.238 types of bread, 1.200 breweries
 - The land of 170.000 football teams with more than 6 mio. members in 26.000 clubs
 - Virtues: reliable, hardworking, punctual, disciplined
 - Handicraft: is a more important industry than in other countries
 - Humourless: the German has the wit in the fingers
 - Nature: invented 1836 with Drachenfels – first official and state-protected nature reserve
- “Germany has constantly reinvented – with influences from the outside.”

Welcome in Germany!

Strategies for Manager

You like to work in an international company? You like to do global business? You want to make a career? Then perk up your ears and follow me!

1. Foreword

too big for one's boots - Why bosses have to be a megalomaniac

- Without a healthy up to a overreaching self-confidence, optimism and very ambitious goals, a company cannot be establish or lead.
- Who still has the guts to be the man who signs the paycheck of thousands of employees, or to juggle a million budget, has more than just a healthy self-confidence. Without the correct spark of madness no development takes place.
- Global companies are led by a bunch of loonies
- A study shows that psychopaths in the executive suite have success.

Psychopaths are people who are severely disturbed and continually violate societal rules.

Handelsblatt 22.07.2015

„Anyone who is travelling to distant countries, tries to look at things only from the perspective of his own environment. An attitude that can easily make you blind towards strange, different developments.

It is inevitable that we will be ready to retune our eyes and ears into the direction of different approaches, novel viewpoints and unusual conclusions.“

Akio Morita, Founder and CEO of Sony, Book „Nippon“

I found this statement in an excellent book about Japan. it confirms the scientific statements 100%. Akio Morita founder of Sony was an ingenious, brilliant PR-man and somebody, who was very close to his people. Question is whether we can manage this? Are we able to see as men the world with the eyes of women? Or as people from Western Europe with the eyes of a Moslem? We have to accept that our culture is one of many!

2. Globalization

The worldwide movement towards economic, financial, trade, and communication integration.

Globalization is an elimination of barriers to trade, communication, and cultural exchange. The theory behind globalization is that worldwide openness will promote the inherent wealth of all nations.

Examples of my own business-life:

- Belgium: no Boss in the canteen

- Netherlands: who the hell is the boss
- Sony France: secretary was no longer allowed to speak German
- French Top-Manager Berlin: no view direction victory monument
- Order two beer in China with your fingers
- Japan: no clear no
- Different meaning of colors: black in Germany for funerals, white in Japan

He does not understand the world anymore



I hope very much that you and I will never come in such a situation. The fact that you are studying and that you are here gives me the confidence that you want to understand the world.

"Hip to be square?"

How do Germans tick? What do other cultures think of Germans in international business situations? Test your own cultural attitudes and perceptions with Carl Duisberg Center's intercultural quiz. This test was developed by Carl Duisberg Centren. Visit www.cdc.de.

17 questions around the world. "Other cultures have their own logic".

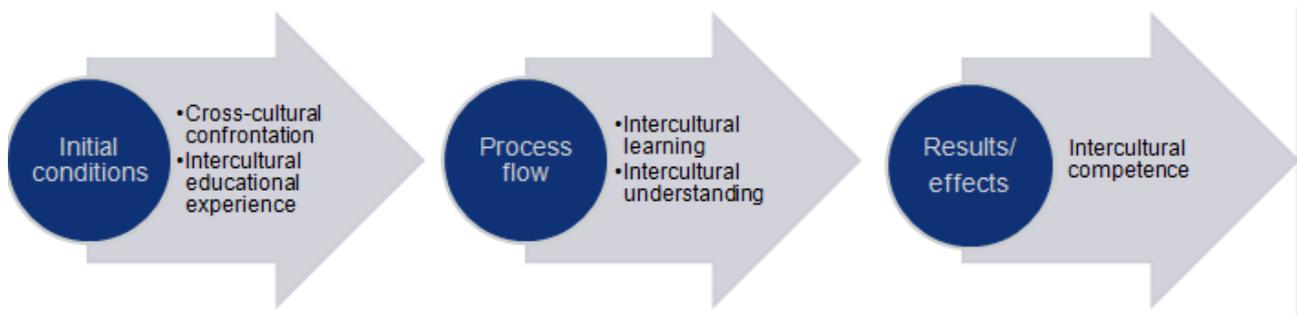
Intercultural management is required when an organization expands its activities across national boundaries.

Internationalization and Globalization are unstoppable. For the people involved in this process it results in a variety of conditions with which they have grown more or less. The specific cultural determinism of human behaviour and experience needs to be investigated. (Determiniertheit: die Bestimmtheit oder Abhängigkeit des (unfreien) Willens von inneren und äußeren Ursachen). Many Managers assume that management etc. is the same everywhere in the world – regardless of cultures. It's called "Third-Culture-Mentality".

In the global village



3. Development of intercultural competence



Steps to achieve intercultural competence. According to Prof. Dr. Alexander Thomas, Uni Regensburg, intercultural learning, understanding and acting form a power series. They build on each other.

3.1. Intercultural learning

- Starts when a person is reflecting and recognizing in dealing with people of other cultures, that the own cultural orientation system is one of many possible systems in the world. (relativism)
- Is successful if it opens a true and accurate self-respected cultural orientation system for foreign cultural orientation systems in order to recognize these as valuable and to treat them with respect. (qualification)

We differentiate between “relativism” and “qualification”. Statements are very clear and meaningful. Is the culture of the Mafia valuable? Does they deserve respect? What is with the Islamic terror? Does he deserve respect? Problem of relativity. Solution: human rights apply to all people regardless of culture.

Levels of intercultural learning:

1. In terms of the acquisition of contextual knowledge about the foreign culture (cultural- and regional studies).
2. As the acquisition of foreign cultural orientation systems (norms, attitudes, beliefs, values etc.) so as central standard.
3. As the ability to coordinate divergent cultural patterns of action, e.g. successful management of cultural overlap situation is possible.
4. As a general capacity for cultural learning and understanding, e.g. it indicates that someone has a highly generalized knowledge of action, which puts him in a position to get along in any different culture quickly and effectively.

3.2. Intercultural understanding

- Is given, if knowledge of controlling human behaviour and its effects on foreign cultural standards are available
- Is given, if it is possible to incorporate foreign cultural orientation systems in the own thinking, judging and acting

Understanding does not make a person able to do the next proper steps. Further learning is necessary

3.3 Intercultural learning

Intercultural acting:

- Takes place in cultural overlapping situations in which the actor uses his own culture-specific orientation system for behaviour management in a culturally alien structured field of action

The main problem of intercultural behaviour is that the actor/agent is unable to control the behaviour of the partner as long as he does not understand the conduct of its foreign culturally socialized counterpart

Meet unusual behaviours with tolerance

Cheng Mang, Chinese travel agency Caissa, KStA 17.08.15

3.4 Cross cultural aspects

Security in judging:

- It is striking to note that in spite of diversified cultural experiences, the certainty to judge is not increasing, but rather diminishing.
- What was rather clear at the beginning and enabled a relatively confident judgment, is in the end getting more and more differentiated and by this increasingly doubtful.

Prof. Dr. Alexander Thomas/ Uni Regensburg, Interkulturelles Management

Please save in your mind: judge is not increasing on the contrary it is final decreasing

Example "Akio Morita" from Sony:

- Co-Founder of Sony and Business leader
- became Japans unofficial ambassador of its business community in the world
- a tireless traveler who moved his family to NY in 1963 for a year to learn

American ways

- he was truly a statesman par excellence in a business sense
- he was the face of Japan

but:

- never comfortable in West's business world
- he was a Japanese traditionalist at home
- he had to act as the most international-understanding businessman in Japan.

But "It was never real" (Hideo Morita, eldest son)

4. Employability

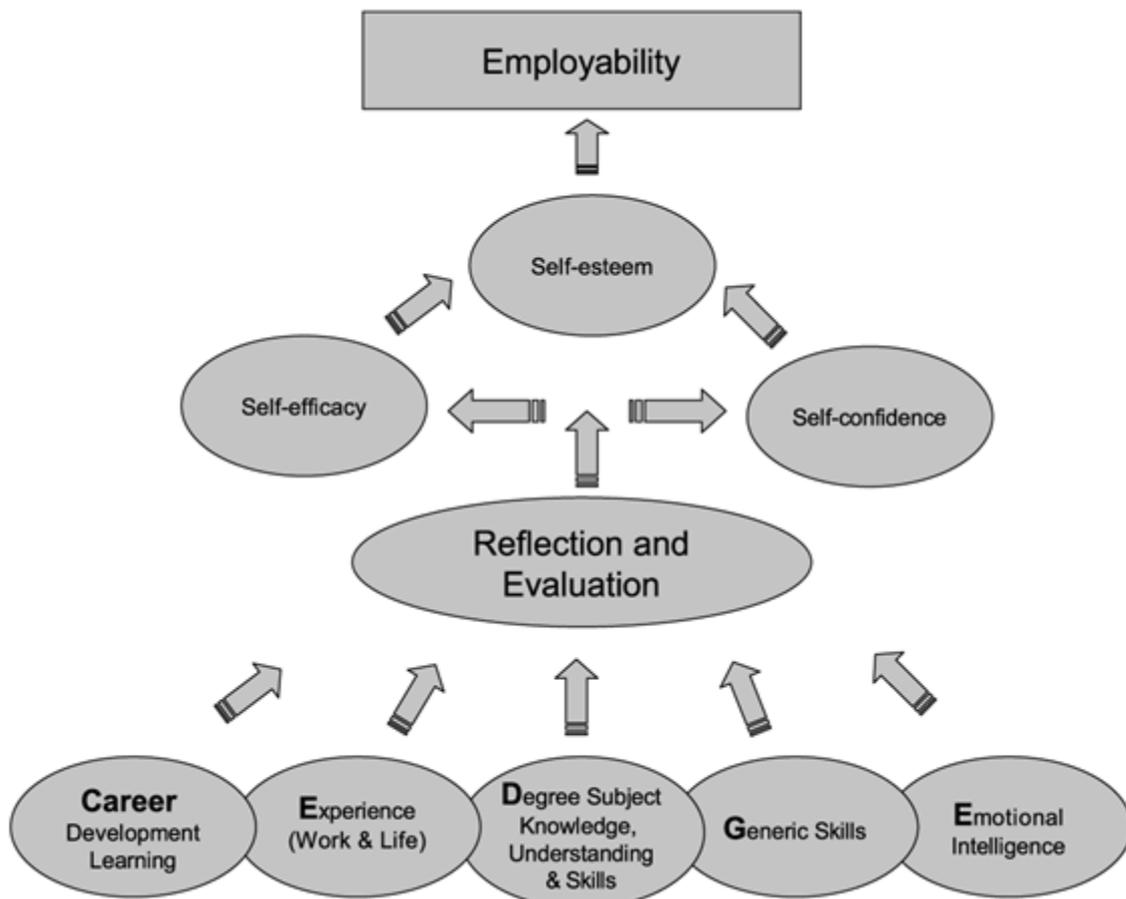
Personal marketability”:

- Consequence: Employability gets down with the often quoted sentence, in future no one could expect a job for life.

The “labor value” of the people must be made portable.

Job opportunities are more important than place of work.

A demand for universal salable, “portable” key skills.



emeraldinsight.com

Strictly necessary Skills

- Strong organizational skills
- Good time management
- Analytical thinking
- Critical awareness and judgment

- Leadership skills
- Toughness and stress tolerance
- Assertiveness
- Team spirit

Don't forget your body language! Effect of a Message: 55% body language, 38% voice sound, 7% content.

Desirable Soft Skills

- Character traits that enable the individual to use personal intelligence as part of the activity useful and friendly: respectful and loyal working with people
- The correct handling within teams or on projects: motivate high performance and eliminate differences

Are more and more important in the progressing internationalization of companies. It is necessary to move safely and confidently in the intercultural environment. There are some basic key skills desirable in order to distinguish itself as a junior manager professionally and socially. Respect and discipline (secondary virtue).

“The best quality one can acquire is the ability to force oneself to do things that have to be done – regardless one likes it or not.”

Thomas Huxley

Better I cannot describe the demands of the job – or even the life!

5. Experiences of my professional life

- Surround yourself with the best possible and loyal staff
- Delegate authority and do not intervene, as long as the default policy is not affected
- Translate your visions in a simple way
- Speak in the language of your audience
- Communicate in the same manner with customers, employees and supervisors

During my time at Sony, I have written the lessons that I have noticed in my daily work. Best possible staff: first-class people try to get first-class employees. Second-class people pick up third-class people. I always kept with JFK. An intelligent man must be so clever to hire people who are much smarter than he.

- Not lose contact with the base
- Determine the direction of the organization, not the implementation of measures
- Do not lose your time with trivialities
- Listen in silence the opinions of your employees and then decide
- Remember, humor is a management-tool

- Formulate the budget, based on goals, always “upside-down”
- Make your decisions and live with them
- Make the right ones, not the popular things
- Control the correct timing
- Remain always credible (if necessary correct and stand by your mistakes)

May I draw your attention especially to the last point. Things might be right or wrong – you must be always credible! A key finding of my professional life was that I’ve been face with quotations of my speeches even after years. Unbelievable but true. And I was measured by that. Ex. Negotiations re conditions; merger of companies etc.

“Regard the enterprise as your own”

- The main characteristics of our management are entrepreneurial thinking and acting
- The working style is impressed by self initiative and team orientation, risk awareness and responsibility, far-sight and decision
- Consequent customer orientation and the permanent strain after quality are in the foreground for all considerations and activities

In 1993, the managers of Sony’s CPG developed the rules written down here. Then we have worked, lived and traded based on it

“Practise what you say”

- Enterprise has to be practiced and to be set as an example in every day life
- The common device is: exemplary and ideal management
- The arising trustworthiness build up confidence
- This confidence is the basis of our cooperation

“All Business is People”

- Concerning our employees this means: Manager actively support the performance and abilities of their colleagues
- They offer their employees the most far-reaching possibilities for self-organization and self-deployment
- Open communication and far-reaching information are essential prerequisites for a successful cooperation

Has become the motto of my professional life.

“Targets show us the way”

- Entrepreneurial thinking and handling have to be transferred to all levels
- Through jointly concerted targets the managers guarantee the alignment of all activities with the superior targets of the enterprise

3. Set a course	show competence
4. Communication intern	target: winning trust
5. Communication extern	only head of PR
6. Company culture	adapt oneself
7. Integration	key people incl. works-council
8. Retrospect	never, no comparison
9. Dress code	what is normal?
10. Advisory board	secure necessary action space
11. Crisis situation	get in close cooperation with controller
12. Correction of decisions	yes, if necessary

Good old days the first thing I prepared was my personal “Fact Book”:

- Annual Report Head Office (normally includes page with board members)
- Facts and Organization about company: LRP, MRP, P&L, Budget, Monthly Figures, Flash, Own reporting, Monthly reporting biz groups, Organization charts, Meeting reports, Salaries, Company rules etc.

7. Ten mistakes that kill your career

1. False modesty. Good effort and be silent is wrong.
2. Rapid “you”: be on first-name basis. The clever man poses questions and seeks collegial contact.
3. Express abandonment . You should always have a plan B (When a door closes, a window opens!).
4. Orphaned private life. Those who cannot laze properly cannot work properly (Sicily).
5. Lack of contacts. Good networking is the best unemployment insurance.
6. Lack of teamwork. Team work is the magic word for project work.
7. Swallowing too much (swallow the bitter pill). 70% of all conflicts in a company have nothing to do with the contents.
8. Poor self-promotion. About strangers a judgment passes in seconds. Good clothing is an energy saving model.
9. Hasty action. The calmness lies strength. Practice patience.
10. Exorbitant effort. Professional success is a matter of timing. (Duck and cover strategy).



Conversations in Social Media - Version 2.0 - 04.2010 by ethority | <http://social-media-prisma.ethority.de> | <http://www.twitter.com/ethority> | Contact us for updates: prisma@ethority.de



Finally one more issue: be very careful what you put in internet!!!

8. Peter Principle

Following Napoleon and his statement:

“Everyone has a marshal`s baton in his knapsack”

Everyone can work up to the highest responsibilities and authorities.

The contrary, modern science (Laurence J. Peter):

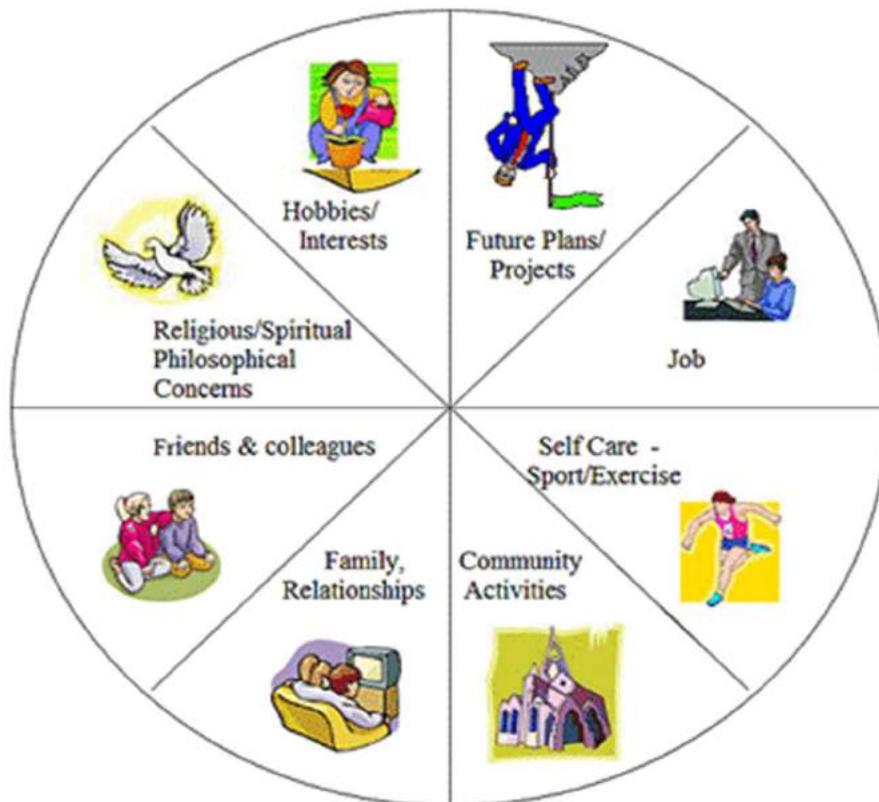
“In a hierarchy every employee tends to rise to his level of incompetence.”

It is therefore advisable to set yourself limits. Learn to say no!

The most difficult thing for a man is to say “no” when a promotion is in prospect. What helps is sleep one night on it and be true to yourself. With a wrong decision there is no return to old job. Or with considerable loss of face.

9. Work-life-balance

To be successful requires much more than a good education. What you need is a good work-life-balance. If you want to be successful over decades until the end of working life. If you never want to have a burn-out. Then realize that life needs breaks – rest periods. Each battery must be recharged at some point of time.



Nobody needs you 7 – 24 – 365. Only if you are President, emergency doctor or investment banker. Computers and mobile phones have an off switch. If your future boss wants to reach you around the clock, look for another job. Nobody is irreplaceable. The cemetery is full of people who believed to be irreplaceable.

Study of Stanford-University: the performance of an employee who works 70 hours does not differ from the performance of one who works 56 hours!

3 important measures to reduce stress and build stress resilience:

1. Sleep (increases productivity)
2. Meditation
3. Sport

A delicate balance: Work versus personal time.

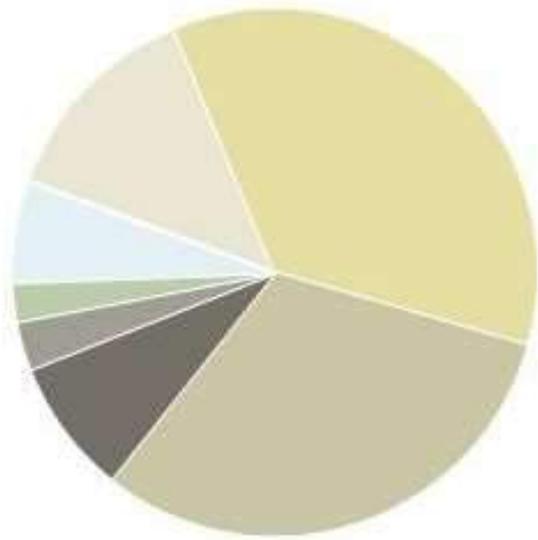
Work commitments often compete for time with friends and family – as well as sleep, meals and chores. Use this calculator to strike a balance that works best for you.

There are 168 hours in a week. Select the number of hours per day and days per week you spend on each activity.

	HOURS	DAYS	
Work	12	5	60 hours 36%
Sleep	7.5	7	52.5 hours 31%
Meals	2	7	14 hours 8%
Commute	1	5	5 hours 3%
Leisure	1	4	4 hours 2%
Chores	1.5	7	10.5 hours 6%

Total: **146 hours | 87%**

Unplanned: 22 hours



“All business is people”

17 questions around the world

“Other cultures have their own logic”

FAZ 10/11.03.2012

Africa

A South African business partner you met recently raised his hand in salute and says “Howzit”.

What does it mean?

- a) I remember you – how are you?
- b) Hello again – my house is your house!
- c) Do you remember me? How do you like the weather?

Arabic Peninsula

After an opulent dinner and an overnight stay in a 5-star-hotel in Dubai, you wonder whether the Arabs as your future partners deal responsible with your future investment.

Why do they not behave more modest?

- a) They believe they can buy your goodwill
- b) They want to show from the beginning how they want to push everything for you
- c) They are happy that they have now money and that they are now in a better position than competitors

Australia

You have an Australian colleague with whom you have met often in the evening. Even at her home. You told each other a lot about life, and you liked her very much. Now she has moved to another office in the same city, and you heard nothing more from her.

Has she only been currying favour as long as she was your colleague?

- a) Yes, she knows how to manipulate people
- b) Maybe she is waiting for some sign of life from you
- c) This is normal, cooperative behaviour in Australia

China

Your Chinese business partners have arrived and are enjoying the small talk, the welcome drinks and snacks. You feel that it is time to show the conference room and get them to sit down.

What do you say?

- a) Come in and have a seat anywhere you like. Perhaps opposite to the window?
- b) We would like the Chinese delegation to sit on this side of the table, please

c) Director Wang, please sit here at the head of the table, and I will be sitting beside you

China

In a meeting with Chinese colleagues the moderator asks a question. A Chinese colleague commented. You contradict their view and describe your view. Suddenly there is a awkward silence. The moderator ignores and goes on with the topic.

Why is there no discussion and why is your conclusion not commented?

- a) You are only a foreign colleague and you should not bring in so committed
- b) They probably do not understand your reasoning, and would not ask rude
- c) You have exposed your colleague. The moderator wanted to bypass the embarrassing situation

Great Britain

At a major event in London the audience applauded enthusiastic your British previous speaker, even though he – opposite to you, a postdoctoral engineer – had little tangible to say.

Why was the audience in London not impressed by your expertise?

- a) They have not understand your accent
- b) They were expecting a medical doctor and not a PhD engineer
- c) They found your presentation uninspiring and boring

Great Britain

When you call your English colleagues why do you have always pass the switchboard? You are at the same eye level and an equal partner.

Why can't you take the extension line?

- a) British prefer E-mails because your English is not good enough
- b) In most companies all telephone calls running through the switchboard
- c) They want to filter through the switchboard who is calling

India

You have been talking for ten minutes with your Indian business partner. Meanwhile, the subjects like weather and hotel get scare.

What to do next?

- a) I'm terribly sorry. I'm not good at small talk. Shall we get started with the meeting?
- b) Well, enough chit-chat. Let's get down to the business!
- c) I am very happy having you here. I hope we can find some time to show you around

Japan

With a lot of trouble you had selected a gift for the Japanese guest. Now he does not open it.

Why?

- a) He does not want to show us by mistake that the gift does not please him or it was too expensive
- b) The Japanese etiquette dictates, to admire the packaging of the gift, but to open it private
- c) It is unpleasant to him, because he brought no present

Korea

You have a Korean group of investors at your guests visiting your factory. Because they stay for a week you have planned an extensive cultural program. But on the third day, the Koreans - of course in a roundabout way - let you know, that they want to go shopping at the remaining afternoons.

Are they not interested in German culture?

- a) Maybe the program in a foreign language in addition to jet lag was too exhausting for the guests
- b) They want to take home German branded goods
- c) They are more interested in the German shopping streets as in arts and monuments

United States

The meeting in Atlanta is just one hour covered. The American project manager asks whether the participants could come to terms with the last possible solution. Four of the present persons are nodding one after the other. My colleague is responding "No", and you respond more thoughtfully with the words "I do not know if I can justify that". A few days later you get the message: The first step is already successfully implemented.

How can that be?

- a) Since the Americans often hear objections from the Germans, they dismiss the answers
- b) There was a vote, and you were overruled
- c) In the US the supervisor makes the decision, no matter what view the team has

United States

Why does your American partner always want to make sure to see the positive side, even in a moment when everything goes wrong?

- a) He is an optimist
- b) He will not admit to himself that he is to blame for the problems
- c) He wants to demonstrate his good will towards his boss

Russia

At lunch, your Russian business partner has shown you pictures of his family and he invited you to St. Petersburg. Now he bangs on the table and shouts because you do not want to give some points.

What signifies this unprofessional behaviour?

- a) All tactics, beating until soft, then the stab
- b) He likes you, so he allowed himself to show you his emotions
- c) This is typical Russian moodiness you must take it when it comes to business

Brazil

A Brazilian business partner had firmly agreed to call you at 1 pm German time for a clarifying discussion. She called after closing time and put a message on the answering machine. Her mother was sick, she will call you day after tomorrow at 5 o'clock Brazilian time.

Why?

- a) Her mother is more important than your call
- b) She has forgotten it and invented the story to be not noticeable negative
- c) She had no desire to be so early in the office

Chile

At a meeting with your sales people from all over the world you want to show your interest and you informed yourself about actual events in some countries.

Which sentence is in the beginning not suitable to start a conversation with your colleagues from Chile?

- a) "Is it true that in Chile ..."
- b) „I've never been to Chile, but I heard that ..."
- c) "Tell me something about Chile ..."

Spain

You have temporarily a junior manager of the branch from Valencia in your team. Although you have asked him kindly to turn off his phone, he answered every call. Especially when he said „Oh, this is Spain", it looks excusatory.

- a) He is young and he has many friends who do not know that he is in Germany
- b) He must be always available for his boss
- c) He demonstrated diplomatically which important status he enjoys in Spain already

Italy

On the way back from toilet your Italian business partner paid the bill, although you have indicated in the beginning that's your turn.

- a) He did not understand

- b) He wants to leave and is afraid, you could order something else
- c) You are customer and thus always be a guest

Higher education and research between Germany and Russia

1. Higher education and research between Germany and Russia

1.1. Cooperation

- Joint Declaration on a German-Russian Strategic Partnership in Education, Research and Innovation - April 2005.
- The Agreement on Scientific and Technological Cooperation - July 2009.

Aims:

- The development of collaborative relations between university/non-university research institutions and science organizations.
- The intensification of cooperation in the area of innovation-oriented research.
- Cooperation in vocational education and training.

1.2. Examples

- ERA.Net RUS Plus strategic initiative “Further linking Russia to the European Research Area: Coordination of EU Member State/Associated Country Science and Technology Programmes towards and with Russia” – 2017.

Aim – strengthening the coordination of national research funding programmes between partners in the EU and in Russia.

Research proposals in the:

1. Nanotechnologies
2. Environment/Climate change
3. Health
4. Social Sciences and Humanities
5. Robotics



➤ DRA:

- Student Exchange
- Study Trips
- Voluntary Service



➤ DAAD:

- Support for international students and scientists
- Assisting developing countries in establishing effective universities

- Advisin decision makers on matters of cultural, education and development policy



➤ Russian-German cooperation roadmap 2018-2020

2. Important players and the associated collaboration

2.1. What is Skolkovo?

Skolkovo - general information:

- Modern scientific and technological innovation complex operating in Moscow
- Largest technopark in Europe – total area 96, 228m²
- Marvel of engineering - developing and commercialization new technologies
- High technology business
- Provides special economic conditions for companies operating in the priority sectors
- Aim: economy modernization, get a leverage in the world, decrease the unemployment rate, collaborations all over the world, high recommend and well known scientist/graduates etc.

Skolkovo technopark is the core of the Skolkovo Innovation Center.



Educational project of the Skolkovo. Skolkovo Institute of Science and Technology:

- Now study about 650 students, 17% of them are foreign students
- There are more than 700 experts, 30% of them are foreign specialists
- Institute has 1600 start-ups and 40% of them get the revenue from their commercial activities



Skoltech

Skolkovo Institute of Science and Technology was created on October 25, 2011 with the assistance of nine Russian universities and organizations:



Skolkovo Institute of Science and Technology:

- Education in English
- Classes are conducted by world-famous scientists
- Teachers and students participate in international scientific events

The international cooperation:



The most important collaboration of the Skolkovo Foundation - with ESMT Berlin



2.2. What is ESMT?

ESMT Berlin – general information:

- ESMT – European School of Management and Technology (ESMT Ltd.)
- Founded in 2002 by 25 leading companies and institutions
- Has two location in Berlin and a branch in Shanghai
- Private university
- Offers a full-time MBA program, an Executive MBA, a Master's in Management, open programs and tailor-made continuing education programs
- 6 months internship, 6 weeks social impact project, 4 months in research in partner companies
- Member in Global Network for Advanced Management
- Member in European Foundation for Management Development
- Triple Crown

ESMT BERLIN – Founder & Supporter:



ESMT BERLIN – Facts & Figures:

- Supported by 25 biggest German Companies
- Around 230 students from 65 countries
- 36 Full time teacher from different countries
- 3500 Managers of companies in continuing education program
- Full Time Master costs 43500€ per year (3,15 Mio Rpl)
- The ESMT's foundation assets amount to 124.5 million euros in 2017
- ESMT generated revenues of EUR 31.4 million in 2017

3. Cooperation between Germany and Russia

3.1. Cooperation is the basic for knowledge



490.000 graduates
39% in economic & social sciences



1,9 Mio. graduates
32,4% in economic & social sciences

- Russia in Europe: Yesterday, Today, Tomorrow
- Imagine you can build the world to a better place...
- The Skolkovo Innovation Centre is more than a science or technology park...

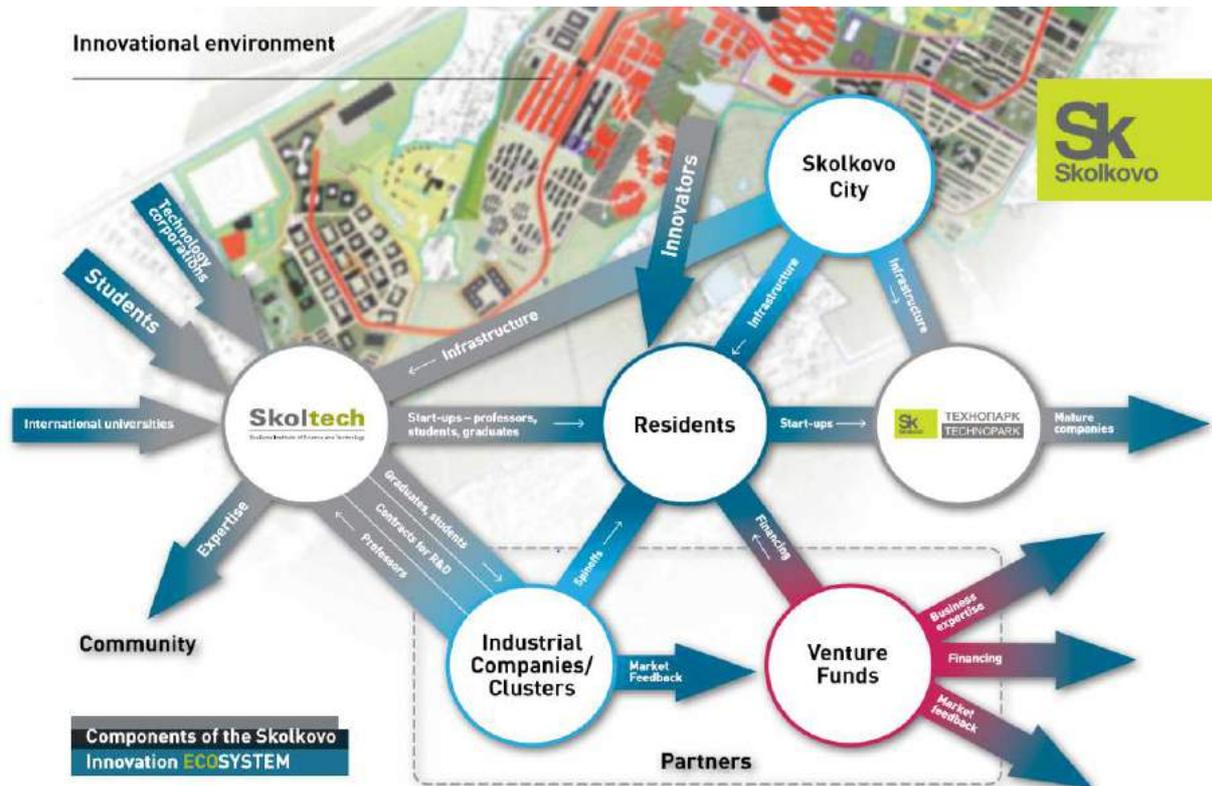
3.2. Mission and how to achieve the mission

- To have educational, scholar and economic impact (around the world!)
- Address key challenges in science, technology, engineering and innovation by educating leading graduate students and conducting research programs
- Using a fusion of exceptional talent, and building the programs to a important part in the world



Skolkovo and ESMT Berlin have signed a memorandum.





4. Summary and conclusion

4.1. Projects in other Universities and Institutes

NanoBRIDGE

Germany - Russia

- Bundesministerium für Bildung und Forschung
- St. Petersburg State Institute of Technology
- Universität Kassel
- Kazan National Research Technological University
- University of Information Technologies, Mechanics and Optics
- Tomsk Polytechnic University

Joint scientific events:

- Visits of experts and researchers
- Exchange programs for experts, young scientists and students
- Educational courses
- Internships for students at the University of Kassel
- Internships in industrial plants in Germany

The application of nanotechnology in the fields of medicine such as:

- Diagnostics
- Nanoanalytics
- Medication delivery
- Laser surgery

Light4life - bio photonics

The main direction of cooperation within the framework of this project is the use of biophotons in medicine and applied research in the field of optical technologies.



THORLABS



- Facility for Antiproton and Ion Research

It is located in Darmstadt in Germany and is expected to begin experiments from 2025.

The project cost is estimated at 1.6 billion euros.

The share of participation in the Russian Federation is 15% of the total project cost.

4.2. Critical assessment/view

Disadvantages:

- Expensive education/ hard to get in there
- Bigger companies in Russia will do not invest in research and prefer to get the higher technology/know how and talented scientists abroad
- Low research salary in Russia
- High corruption in Skolkovo

Advantages:

- Cooperation is necessary for improvement/ know-how
- Decrease the unemployment rate (in Germany 3,1% 2019, 5,2% in Russia 2018)
- Have access to a wide range of tools to support access to International markets
- Government support for talented students

➤ Building a better economy/ world

Sources

<https://wissenschaftspartner.de/uber-das-themenjahr/>

<https://wissenschaftspartner.de/themen/>

<https://www.daad.ru/en/university-cooperation/university-landscape-general-advice-for-cooperation/>

<https://www.daad.de/hochschulen/ausschreibungen/projekte/de/11342-foerderprogramme-findern/?zland%5B0%5D=38&s=1>

<https://www.austausch.org/russia/>

<https://m.esmt.org/skolkovo>

<https://press.esmt.org/alle-pressemitteilungen/esmt-berlin-and-skolkovo-business-school-cooperate-business-education>

https://en.wikipedia.org/wiki/Skolkovo_Institute_of_Science_and_Technology

<https://www.kooperation-international.de/laender/hightech-regionen/skolkovo-selenograd-moskau/>

<https://www.skoltech.ru/en/2016/06/skoltech-and-the-german-aerospace-center-signed-a-cooperation-agreement/>

<https://esmt.berlin/de/ueber-uns#facts>

<https://press.esmt.org/de>

https://de.wikipedia.org/wiki/European_School_of_Management_and_Technology

DMG MORI

1. German location

- World's leading manufacturer of machine tools
- Turnover of more than € 2,6 Billion
- 7,500 employees worldwide
- 14 manufacturing plants
- 157 sales and service locations
- Headquarters in Bielefeld and Tokyo

1.1. History of the company



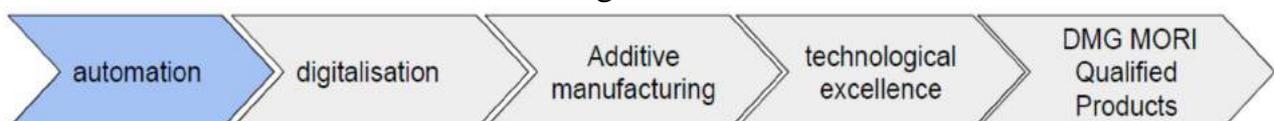
- “Russian manufacturer” for the first international tool manufacturer
- Easier access to the Russian market

Customers benefits:

- Fixed ruble prices
- Shorter delivery times

1.2. Digitalisation and product

Five strategic future fields



- Advanced technologies: automation and integrated technology solutions
- Quality seal: holistic manufacturing solutions

1.3. Why did Germany decide to produce in Russia?

To meet the needs of the local market in Russia

- Short delivery time
- Payments in rubles
- Low transport costs
- Elimination of customs duties
- Fast technical support
- Promoting the structural change of the Russian economy

1.4. DMG MORI Academy

- CNC (Computer Numerical Control) know - how = competitiveness
- DMG MORI as an International leader in passing CNC knowledge – in industry and in educational sectors (largest CNC Academy)
- DMG MORI Academy is working closely together with schools, educational providers, and customers → International training standards & CNC technology



1.5. Research and Development (R&D) of DMG MORI

Purpose: sustainably increase the value of their products for their customer

- Innovation and technology leader
- Focus of their work: automation, digitalization, additive manufacturing, technological excellence and DMG Mori qualified products
- A wide range of innovations and world premieres:
 - ~ 60 million € expenses for R&D
 - ~ 600 employees working on developing their products
 - > 600 million € industrial property rights

1.6. International Business and Key Financial Indicators

Global economy: stable, but characterized by world-wide uncertainties (Brexit, Trump Administration, Italian politics)

- World consumption: +8,5%
- Global consumption of machine tools: +5,2%

Germany: GDP growth + 1,5 %, lower than the previous year (+2,2%)

- 2019 Forecast + 0,5 % GDP Growth

Business development of DMG MORI in million €

	Total 2018	1.Quarter 2018	1. Quarter 2019	% Change
Order intake	2,975.6	821.8	708.3	-14%
Sales revenues	2655.1	581.8	629.2	+8%
EBIT	217.1		50.4	+23%
Free cash flow	154.2	13.0	31.5	+142%

2. Russian location

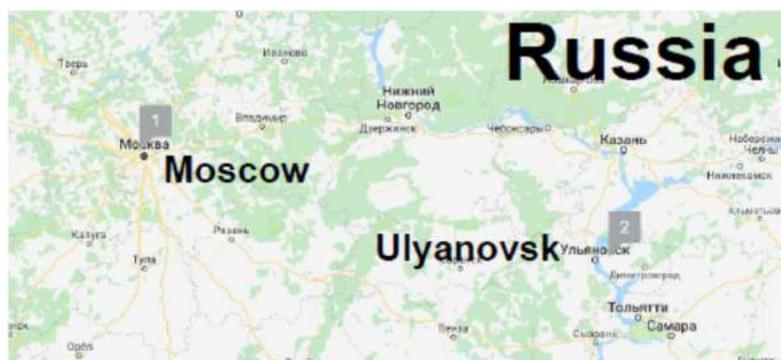
- The world leader in the production of DMG MORI machines built the most modern plant in the world in the industrial zone in Ulyanovsk
- The official opening was September 29, 2015

2.1. What do Russians benefit from a German company?

- The opening of this machine-tool plant is a significant event for both Russia and Germany, this is a new step in the development of relations between our countries
- The project is aimed at expanding the most important state tasks: the tasks of import substitution of innovative imported products

2.2. Education and research

For more than 25 years, DMG MORI Academy has been teaching production know-how in 13 training centers around the world, including Russia.



The set of services of the DMG MORI Academy:

Supporting young talent

Professional qualification and cooperation with educational institutions

Modular training courses for customers and service professionals

DMG MORI Academy is a partner for:

- Since 2013 - official partner of WorldSkills Russia in the areas of "CNC Turning" and "CNC Milling"
- WorldSkills Kazan, from August 29 to September 3, 2019 - supplier of CNC lathes and milling machines and will provide technical support



Training programs of the DMG MORI Academy include:

Training on CNC machines (programmed numerical control)

Training on maintenance of DMG MORI products

2.3. Ulyanovsk State technical University

On February 14, 2019 - Ulyanovsk State Technical University signed an order to open the basic Department of UISTU at the Ulyanovsk machine-tool plant DMG MORI.

On October 15, 2018 - opening of the Regional center for industrial Internet in mechanical engineering at the Ulyanovsk State Technical University

The center is equipped:

- Multi-purpose DMG MORI machines
- KUKA robots
- A training class for computer-aided design and development of CNC programs



3. Cooperation in details

Believing the corporate motto "**collaboration supports innovation**", the DMG MORI affiliate program has been designed to make its global network available to a number of selected partners.

It creates win-win situations for an exceptional number of partners who collaborate in business, technology and marketing.

3.1. Schaeffler



Last year, DMG MORI presented the "*Industry 4.0 project*", developed in collaboration with technology partners. Was demonstrated of metal cutting machine tools *DMC 80 FD duoBLOCK*.

3.2. Siemens Technology



The companies have jointly developed leading solutions in the field of modern control and programming systems based on *SINUMERIK Operate*, which have successfully established themselves in the market.

3.3. Kaiser Werkzeugbau



Two years Kaiser Werkzeugbau produces parts for the Porsche 919 Hybrid. In 2014, DMG MORI is the exclusive premium partner of the Porsche team. DMG MORI provides Porsche with support in two directions:

- Supplies machines to enterprises producing important parts for racing cars of the team
- In the 2014 season, DECKEL MAHO Seebach opened its own production of Porsche components created a specialized "CNC machining Center Porsche Motorsport".

4. Plans for the Future

- 20th anniversary Metalworking exhibition
- From 27 to 31 may 2019, Moscow
- Modern production site in Ulyanovsk

Training young professionals at the world level:

- World championship of professional skills 2019 in Kazan, Russia
- Competitions in reverse engineering and 3D prototyping

- To improve skills and abilities in the framework of the new competence “Digital factory” - Robo2Go

“Vendée Globe”

- Since 1989
- Every 4 years
- November 2020



5. Summary

The DMG MORI confirms its commitment to implement the most advanced machine tool technologies in Russia, develop local production and supply innovative technologies, such as automation solutions and additive manufacturing.



Sources

- <http://ccc.ulstu.ru/news/novosti-ulgtu/7061/>
- <http://integral-russia.ru/2018/09/07/yaponsko-nemetskij-kontsern-dmg-mori-otkryl-v-rossii-sborochnoe-proizvodstvo-stankov-s-chpu/>
- <https://boersengefluester.de/wp-content/uploads/assets/annuals/2016/587800.pdf>
- <https://de.dmgmori.com/produkte>
- <https://de.dmgmori.com/resource/blob/343606/bdb537eb6addb43205f95b7d07236b96/j191de-data.pdf>
- <https://de.dmgmori-ag.com/resource/blob/354664/5eed9528e4f5a506fa1924df9d8a8439/dmgmori18d-data.pdf>
- <https://de.dmgmori-ag.com/unternehmen/historie>
- <https://de.dmgmori-ag.com/unternehmen/konzern>
- <https://en.dmgmori.com/service-and-training/academy/education>

<https://en.dmgmori-ag.com/resource/blob/362774/f846aaafbdd797fa2b1a5684d3974e66/dmgmori119e-data.pdf>

<https://en.dmgmori-career.com/your-entry/secondary-school-and-university-students>

<https://owc.de/2015/10/02/claas-und-dmg-mori-eroeffnen-neue-werke-in-russland/>

<https://ru.dmgmori.com/company/locations?category=7232>

<https://ru.dmgmori.com/news-and-media/magazine/technology-excellence-02-2018/dmg-mori-academy>

<https://ru.dmgmori.com/service-and-training/academy>

<https://www.dmgmori.co.jp/en/support/training/msu/>

<https://www.maschinenmarkt.vogel.de/dmg-mori-eroeffnet-werk-im-russischen-ulyanovsk-a-506523/>

https://www.rbth.com/business/2017/04/13/russian-industry-to-be-boosted-by-leading-machine-manufacturer_741765

<https://www.zerspanungstechnik.de/2018/08/14/dmg-mori-setzt-fokus-auf-strategische-zukunftsfelder/>

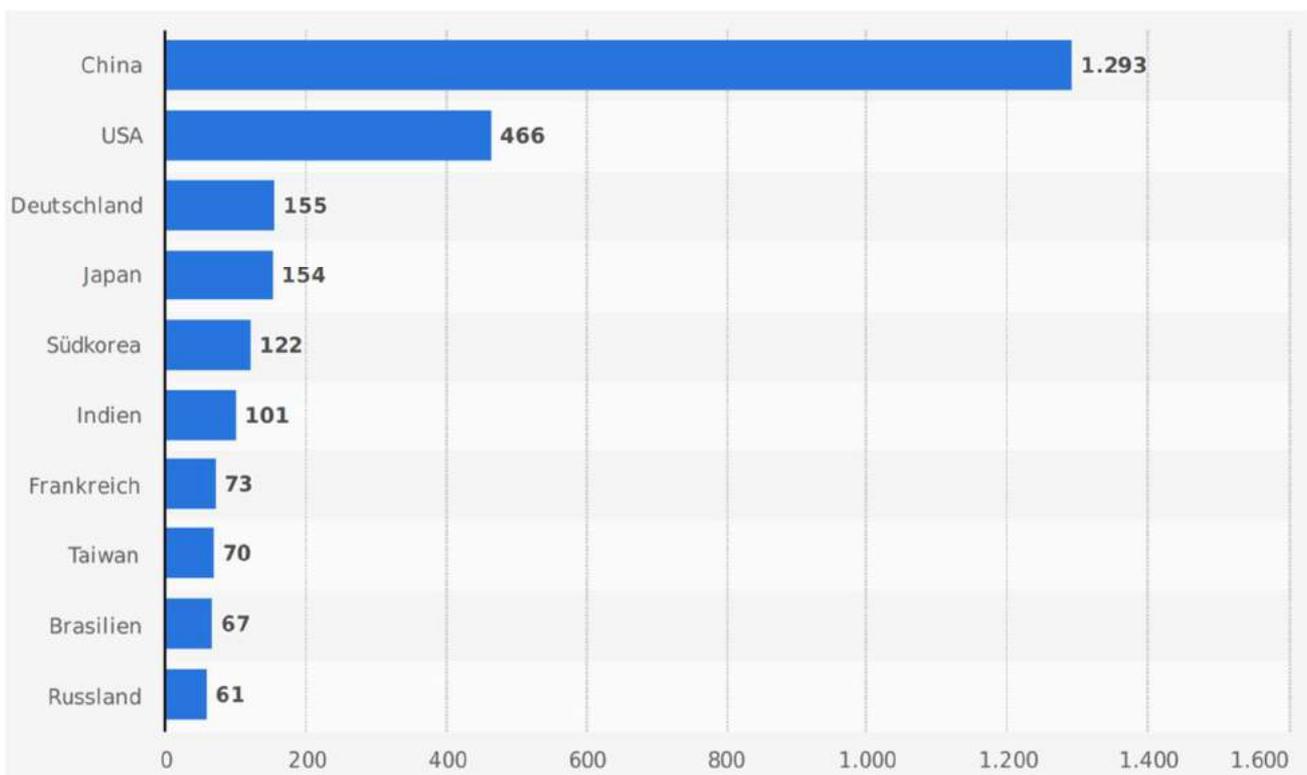
Higher education and research - status and prospects of Russian-European cooperation in chemical sector

1. Economic key figures of chemical branch

1.1. Chemical markets

- Worldwide sales of chemicals amount to almost EUR 4.8 trillion
- Asia is the largest producer of chemical and pharmaceutical products
- Europe is the second largest producer of chemicals after Asia
- Growth centers of global chemical sales continue to shift to Asia

Worldwide ranking of countries by revenue in chemical industry (billion euro) 2017



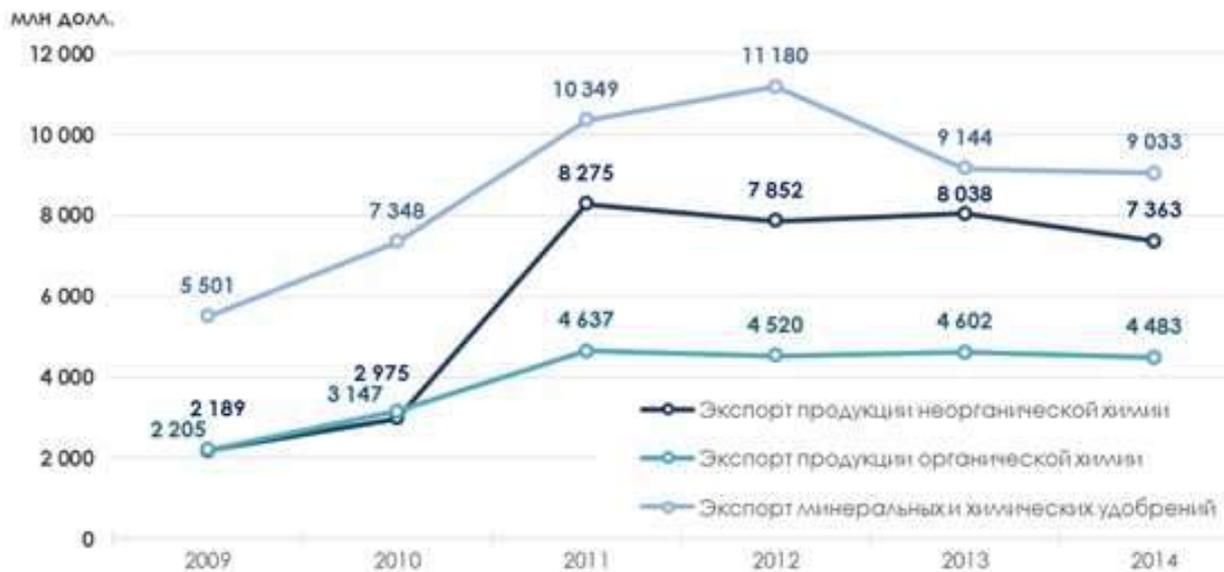
Quelle: statista.de id288751

1.2 Current situation in Russia

Export of Russian chemical products in weight terms in 2009-2014, million tons



Export of Russian chemical products in value terms in 2009-2014, million dollars



Quelle: Rosstat

1.3 Current situation in Germany

- Germany's chemical industry is the largest supplier of products for areas such as engineering, medicine, pharmaceuticals, construction and private consumption
- At the moment, the chemical industry in Germany is on the 2nd position among all industries
- The key region in terms of the number of chemical plants is the Rhine-Westphalia

➤ BASF is the biggest chemical producing company in the world with annual sales reaching \$61.68 billion in 2017. The German company, headquartered in Ludwigshafen

Germany is focused on industry grade chemicals used in the automotive, construction, and pharmaceutical industries. The chemical industry provides an important contribution to economic growth and employment.

Companies/ firms (2016)	1645
Employees in the chemical industry (2016)	331401
Revenue in bn.€ (2017)	155
Export (2016)	59%
Investments in bn.€ (2016)	7.6

Quelle: Statistisches Bundesamt, Jahresbericht für Betriebe 2016. – Berechnungen des CWS

2. Important players

2.1. The Solvay Chemicals Group



- Headquartered in Brussels
- Employees: around 27,000 people in 62 countries
- In 2018 it achieved a turnover of 10.3 billion euros
- In Germany, around 1,900 employees work at 12 locations.
- The main products:
 - fluorine
 - barium and strontium specialties
 - high-performance plastics
 - soda, sodium bicarbonate and hydrogen peroxide

<https://www.solvay.de/de/company/ueber-solvay/solvay-in-deutschland/index.html>

2.2. Sibur



- Sibur is the largest integrated petrochemicals company in Russia
- The Company serves more than 1,400 large customers in the automotive industry, construction, consumer goods, healthcare, food, energy, chemical and other industries

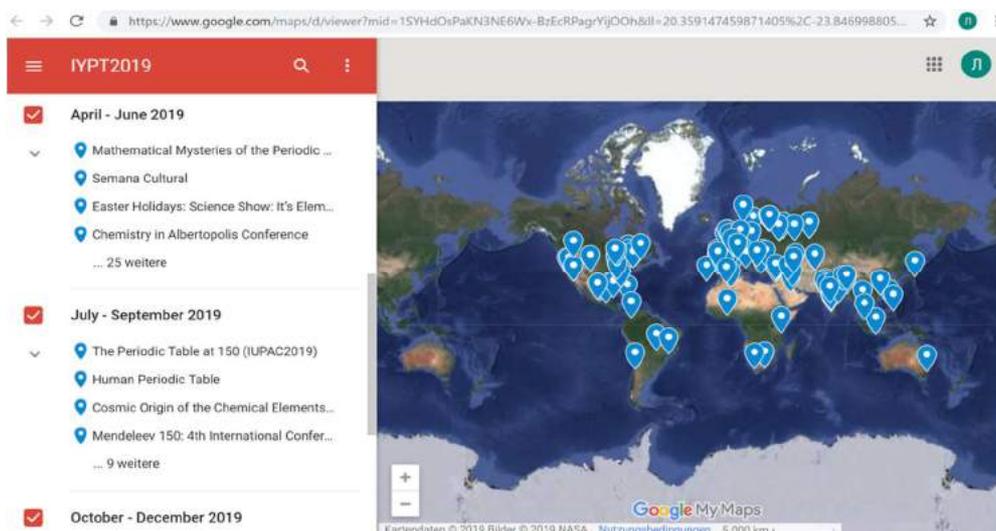
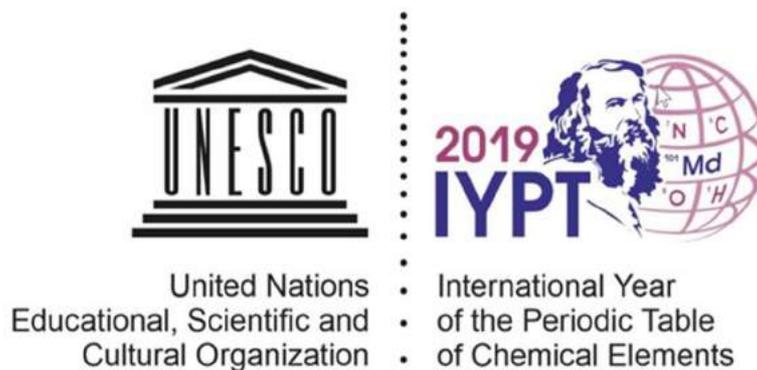
- SIBUR International ships products to a total of 80 countries
- The share of SIBUR's export sales stands at approximately 42%
- In 2018, SIBUR reported revenue of USD 9.1 billion and adjusted EBITDA of USD 3.3 billion
- More than 26,000 employees working in SIBUR
- All plants of SIBUR meet international standards for environmental safety SIBUR aims to retain its competitive edge at global polyolefin and PVC markets

<https://sibur-int.com/>

3. Cooperaton in details: selected projects

3.1. Global Cooperation in Chemical Sector: IYPT 2019

- One of the biggest cooperations
- Organizations and associations from >50 countries
- The main aim: to recognize the importance of The Table
- Scientific conferences, exhibitions, open competitions for young scientist worldwide



3.2. Joint Venture: Rusvinyl



Reasons to create a JV:

- To access skills and capabilities
- To access a new market
- To gain scale efficiencies
- To share risk



- Shareholders: Sibur and Solvay (thr. Solvin)
- Operates since 2014
- Located near Kstovo (Nizhny Novgorod Region)
- Investment: € 1.4 bn

Capacities of RusVinyl's plants:

- 300 kT of PVC-suspension
- 30 kT of PVC-emulsion
- 225 kT of caustic soda

3.3. Prospects of chemical sector. Chemistry Can

The UN's global Sustainable Development Goals (SDGs), part of Agenda 2030:

- Framework of goals and targets to safeguard the environment, to end poverty and to deliver prosperity
- Since 2015 for everyone worldwide
- Also for the industry.

The European Chemical Industry Council or Cefic is providing together with UN a global framework for action: "Chemistry Can".



The chemical industry

- Has a significant contribution to make on SDG 7, 12 and 13 aligned with the four focus areas of the charter
- Is actively contributing (directly or indirectly) in all 17 goals, with major contributions to SDG 2, 3 and 6



ChemistryCAN helps to make the UN Sustainable Development Goals a reality by facilitating the transition to a resource efficient, low-carbon and circular economy while at the same time caring for people and planet.

4. Summary and conclusions

Germany and Russia are in the top 10 chemical industry.

Revenue in chemical industry in Germany came EUR 1.3 billions in 2017. Germany is focused on industry grade chemicals used in the automotive, construction and pharmaceutical industries.

In Russia in that same year, the revenue amounted to some EUR 61 billions. The main consumers of chemical products are engineering, agriculture and the transport sector.

- 2 important players. There are the Solvay Chemicals Group, a Belgian chemical company, and SIBUR, the petrochemical company in Russia
- The international Year of the Periodic Table of Chemical Elements
- RusVinyl
- «ChemistryCAN»

Sources

<https://www.vci.de/ergaenzende-downloads/chemiemaerkte-weltweit-folien-teil-1.pdf>

<https://www.vci.de/die-branche/chemie-40/chemie-4-punkt-0.jsp>

<https://chemical.report/news-article.aspx?ID=2556>

Statistisches Bundesamt, Jahresbericht für Betriebe 2016. – Berechnungen des CWS

https://www.google.de/search?biw=1600&bih=783&tbm=isch&sa=1&ei=4hXkXNfTI5HNwALG24rQCA&q=basf+ludwigshafen&oq=basf+&gs_l=img.1.1.0i10.39057.44685..47512...0.0..0.102.462.3j2.....2....1..gws-wiz-img.....0..0i67.K-

[iLekU5KEI#imgrc=iOz_CFz-Z1pNQM:](https://www.google.de/search?biw=1600&bih=783&tbm=isch&sa=1&ei=4hXkXNfTI5HNwALG24rQCA&q=basf+ludwigshafen&oq=basf+&gs_l=img.1.1.0i10.39057.44685..47512...0.0..0.102.462.3j2.....2....1..gws-wiz-img.....0..0i67.K-iLekU5KEI#imgrc=iOz_CFz-Z1pNQM:)

<https://www.solvay.de/de/company/ueber-solvay/solvay-in-deutschland/index.html>

<https://sibur-int.com/>

chemiepark-marl.de

corporate.evonik.de

Space travel. The cooperation between ROSCOSMOS and DLR/ESA

Roscosmos



ROSCOSMOS – general information:

- Roscosmos State Corporation for Space Activities
- Responsible for: space flights and cosmonautics programs
- Formation: 25 February 1992
- Part of the Russian Aviation and Space Agency
- Budget: 186.5 billion rubles (\$2.85 billion)
- Main Mission Control space center: nearby city of Korolev
- Headquarters and Cosmonaut Training Center: Moscow
- 2015: the Russian government merged Roscosmos with the United Rocket and Space Corporation to create the Roscosmos State Corporation
- Director since May 2018: Dmitry Rogozin
- The launch facilities used: Baikonur Cosmodrome in Kazakhstan and Vostochny Cosmodrome

ROSCOSMOS – Problems:

- In the early years, the agency suffered from lack of authority
- 1990: serious financial problems because of decreased cash flow, which encouraged Roscosmos to improvise and seek other ways to keep space programs running

German Aerospace Center: DLR



- Stands for «Deutsches Zentrum für Luft- und Raumfahrt»
- National center for aerospace, energy and transportation research of Germany
- Headquarters are located in Cologne
- Is engaged in a wide range of research and development projects in national and international partnerships
- Acts as the German space agency
- Is responsible for planning and implementing the German space
- Coordinates and answers the technical and organisational implementation of projects

DLR names and parts

Years	Name
1907–1969	Aerodynamische Versuchsanstalt (AVA) "Aerodynamic Experimental Station"
1927	Verein für Raumschiffahrt e.V. (VfR) "Association of Space-Flight Reg. Assoc."
1947–1948	Arbeitsgemeinschaft Weltraumfahrt "Consortium on Space Flight"
1948–1972	Gesellschaft für Weltraumforschung (GfW) "Society for Space Research"
1969–1989	Deutsche Forschungs- und Versuchsanstalt für Luft- und Raumfahrt (DFVLR) "German Test and Research Institute for Aviation and Space Flight"
1989–1997	Deutsche Agentur für Raumfahrtangelegenheiten (DARA) German Aerospace Agency
1989–1997	Deutsche Forschungsanstalt für Luft- und Raumfahrt (DLR) "German Research Institute for Aviation and Space Flight"
1997–present	Deutsches Zentrum für Luft- und Raumfahrt (DLR) "German Center for Aviation and Space Flight" German Aerospace Center
1970–present	Institut für Raumfahrtssysteme (IRS) Institute for Space systems

DLR – general information:

- 8000 employees at 20 locations in Germany
- Its institutes and facilities are spread over 13 sites
- 670 million euro to cover its own research, development and operations

DLR`s mission:

DLR`s mission comprises the exploration of Earth and the Solar System and research for protecting the environment. Including the development of environment-friendly technologies for energy supply and future mobility, as well as for communications and security. DLR`s research portfolio ranges from fundamental research to the development of products for tomorrow.

European Space Agency: ESA



ESA – general information:

- Intergovernmental organisation of 22 member states
- Established in 1975
- Headquartered in Paris
- Worldwide staff of about 2,200
- Annual budget of about €5.72 billion in 2019

ESA's space flight programme includes:

- Human spaceflight
- The launch and operation of unmanned exploration missions to other planets and the Moon
- Earth observation
- Science and telecommunication
- Designing launch vehicles
- Maintaining a major spaceport, the Guiana Space Centre

International Space Station: ISS



Habitable artificial satellite

The largest human-made body on earth

Duration of operation until 2030

ISS Programme:

- Nasa (United States)
- Roscosmos (Russia)
- Jaxa (Japan)
- Esa (Europe)
- Csa (Kanada)

Aims of ISS:

- Conducting material research to benefit Earth
- Supporting Ex-Soviet aerospace institutions
- Learning how to operate in space
- Serving as a construction platform for Lunar and Mars missions
- Conduction biological research to benefit biology and medicine on Earth

Exobiology on Mars: EXOMARS



Mission objectives

The scientific objectives	The technological objectives
Search for possible biosignatures	Landing of large payloads on Mars
Characterise the water and geochemical distribution	Exploit solar electric power
Study the surface environment and identify hazards	To access the subsurface to collect samples
Investigate the planet's subsurface and deep interior	

First launch in 2016

Second launch in 2020

VENUS-D



The study of Venus as a planet of the Earth Group is fundamental interest from the point of view of comparative planetology.

The most important targets of the mission:

- The nature of the greenhouse effect
- The origin and evolution of the atmosphere
- Surface and its interaction with the atmosphere
- The mission plans to study the composition of the atmosphere, the surface of Venus and the elucidation of the causes of the disappearance of water from this planet

Time & Project financing 2026-2027

Development. The Venus-Glob concept will be developed in international cooperation, primarily with the European project EVE-2 (estimated launch date 2022).

Economic aspects

- Improving relationships and creating an efficient national innovation system
- Open an integrated market and a constant partnerships
- Encourage trade and Investment
- Strengthening of the mutual trust and incentive for more collaborations
- Budget and net profit of the Roscosmos

Sources

<http://venera-d.cosmos.ru/index.php?id=658>
<p://www.iki.rssi.ru/annual/2018/R-Venera-D-2018.pdf>
<https://3dnews.ru/984614>

<http://exploration.esa.int/mars/>

<http://en.roscosmos.ru/>

<http://russianspaceweb.com/roskosmos.html>

<https://deacademic.com/dic.nsf/dewiki/1452453>

Brexit. The whole story and it's impact on Europe





Please stay

- ... because Maggie Thatcher never died. Her political style has inspired an entry in the Oxford English Dictionary for the verb to „handbag“, which means to treat someone ruthless or intensively.
- ... because, in addition to using common Germanisms like „kindergarten“, the British also show a poetic inclination with their use of words like „ahnentafel“, „bildungsroman“, „graupel“, „weltschmerz“, „zugzwang“ and „zeitgeist“.
- ... because the English always end-up in a penalty shoot-out with us.
- ... because with every Jaguar built, the British prove that the best cars come from Germany.

Brexit

In a nationwide referendum held in June 2016, a majority of British citizens voted for the United Kingdom to leave the European Union.

In the wake of the controversial Brexit vote, financial markets nosedived and Prime Minister David Cameron, who led the campaign to stay in the EU, resigned. Though the Brexit vote signalled a new low in the relationship between the UK and the EU, the conflict stretches back nearly a century. As the two-year countdown to Britain's official departure begins with the invoking of Article 50 of the EU treaty, explore the long road to Brexit.

The UK's EU rebate

- In 1980, to cover the increasing costs faced by the EU, member states were asked to provide a fraction of their annual VAT receipts to the budget
- As a result, the UK soon became a large net contributor to the EU budget despite being the third poorest member that time
- Marget Thatcher started a four-year battle to reduce Britain's payment to the EC „I want my money back“ she said
- In June 1984, at Fontainebleau Margret Thatcher negotiated what is known as the UK rebate
- The UK rebate was ratified and then implemented in May 1985
- And is still existing!!!

How David Cameron lost his battle for Britain

Cameron was armed with a fresh five-year mandate.

Why did he promise the EU referendum?

Why did he negotiate a better deal for Britain?

- Cameron claimed he had a little choice because Europe was „beginning to Poison British politics“
- Cameron embarked on an effort to secure new terms for Britain from the EU
- Three years of „renegotiation“ of Britain's terms of membership of the EU culminated at a meeting of the European Council 18-19 February 2016

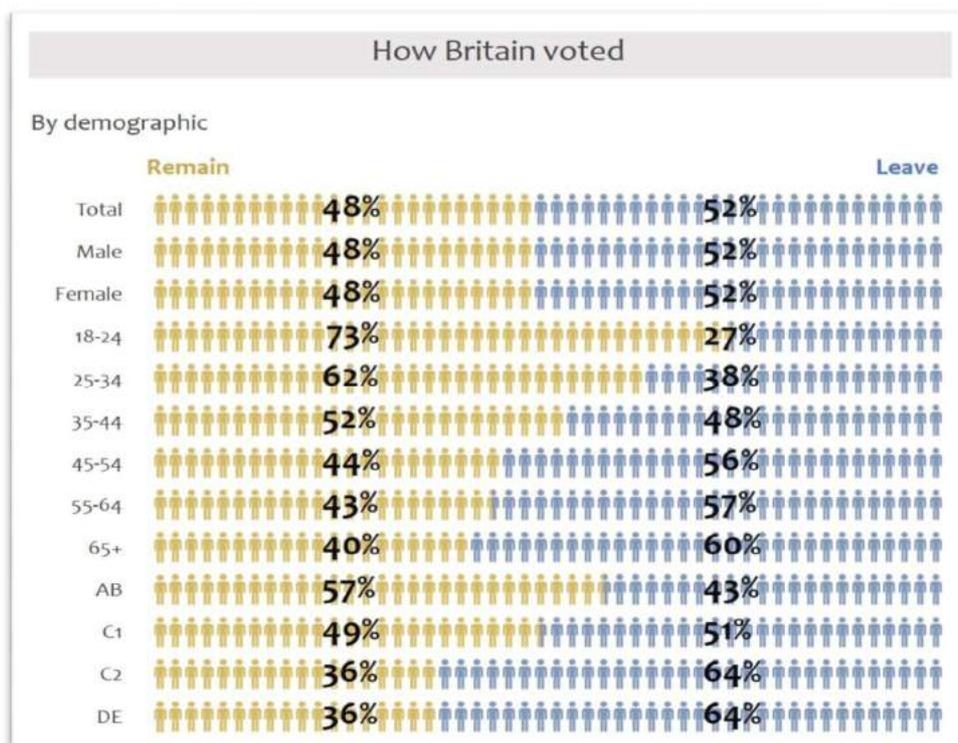
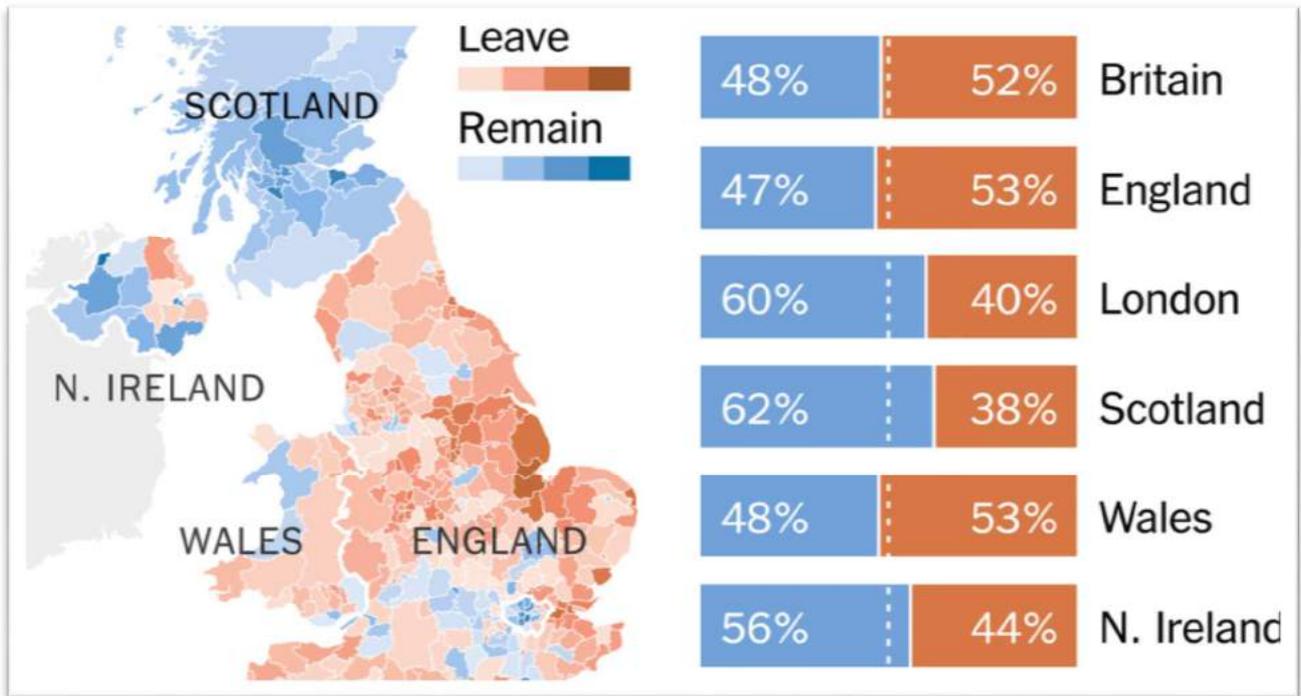
A set of arrangements was set, covering

- Sovereignty
References to „ever closer union“ do not apply to the UK
- Economic governance (Euro out)
It would cement the idea that the EU is a multi-currency union
- Competitiveness
e.g. financial services and special treatment for the UK
- Mobility

find a legal basis for migration without discrimination. Needs support of the European Parliament

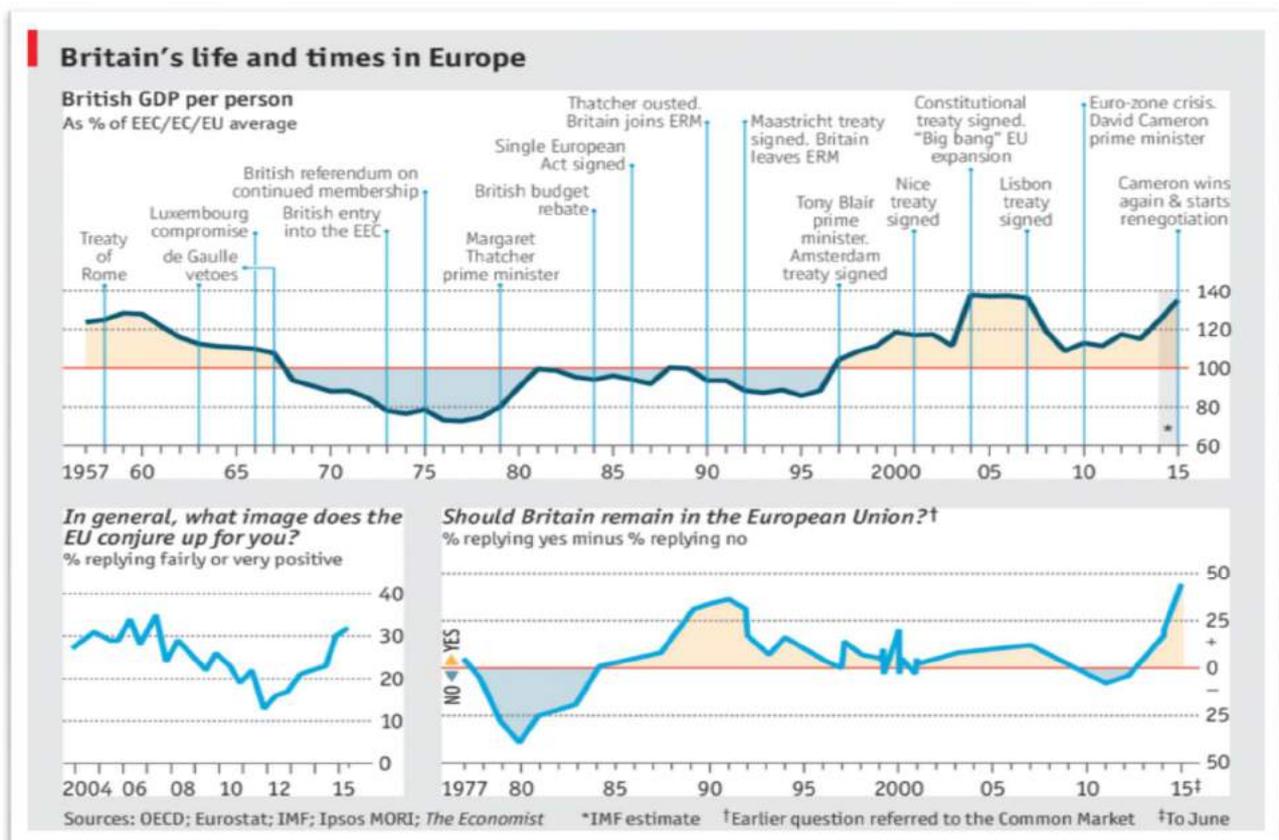
The new „special status“ of the IK will become legally binding if and when the British people vote to remain in the EU at the referendum on June 23.

Breakdown of the election across the UK



Timeline from the Referendum to Article 50

- 01.2013 David Cameron conceded referendum
- 02.2016 a new settlement for the U.K. – Cameron has committed for a referendum
- 20.02.2016 Cameron set June 23 as the day for a referendum
- 23.06. U.K. holds a referendum
- 24.06. the referendum result is announced (52% leave)
- 28.06. Angela Merkel „that can be no „cherry picking“ ...
- 30.06. Theresa May: „Brexit means Brexit“
- 13.07. May becomes Prime Minister
- 02.10. May will trigger Brexit talks by end of March 2017
- 03.11. High Court rules U.K. must hold a vote in Parliament
- 15.11. The FT reports that EU is seeking 60 bn €
- 07.12. House of Commons votes 448 to 75 in favor of May’s plan to trigger Brexit by end of March
- 01.02.2017 House of Commons approved May’s bill 498 to 114
- 14.02 House of Lords will make changes to Article 50 bill
- 13.03. May will trigger Brexit in the final week of March
- 29.03. at around 1:20 p.m. in Brussels, Barrow hands Tusk the letter which begins two years of talk





10 DOWNING STREET
LONDON SW1A 2AA

THE PRIME MINISTER

29 March 2017

Dear President Tusk

On 23 June last year, the people of the United Kingdom voted to leave the European Union. As I have said before, that decision was no rejection of the values we share as fellow Europeans. Nor was it an attempt to do harm to the European Union or any of the remaining member states. On the contrary, the United Kingdom wants the European Union to succeed and prosper. Instead, the referendum was a vote to restore, as we see it, our national self-determination. We are leaving the European Union, but we are not leaving Europe – and we want to remain committed partners and allies to our friends across the continent.

Brexit letter content

- I hereby notify the European Council in accordance with Article 50(2) of the Treaty of European Union of the United Kingdom's intention to withdraw from the European Union.
- The process in the United Kingdom
- Negotiations between the United Kingdom and the European Union
- Proposed principles for our discussion
- The task before us

European Council (Art. 50) guidelines for Brexit negotiations

- Core principles
wish to have the UK as a close partner in future – any agreement will have a balance of rights and obligations – the four freedoms of the Single Market are indivisible – there can be no „cherry picking“

- A phased approach to negotiations
ensure the UK's orderly withdrawal so as to reduce uncertainty and, to the extent possible, minimize disruption caused by this abrupt change
- Agreement on arrangements for an orderly withdrawal
the right for every EU citizen to live, to work or to study in any EU Member State
- businesses trading – a single financial settlement - goal of peace and reconciliation – Cyprus – future location of the seats of EU agencies and facilities – etc.
- Preliminary and preparatory discussions on the framework for the Union – United Kingdom future relationship
close partnership – free trade agreement – financial stability in the Union – Gibraltar
- Principle of sincere cooperation
until it leaves the UK remains a full Member of the EU – UK to recognize the need of 27 to meet and discuss matters related to the situation – all ongoing EU business must continue
- Procedural arrangements for negotiations under Article 50

State of play of Article 50

- March 29 the UK notified the European Council
- April 29 the European Council at EU27 adopted a set of guidelines
- May 3 the European Commission sent a recommendation
- May 22 the Council authorized the opening of Article 50

European Commission issued detailed position papers

Each paper is subject to an exchange of views between Michel Barnier, the Commission Chief Negotiator and the Council Working Group, as well as the Brexit steering group of the European Parliament.

Position papers published so far:

1. Citizen's rights
2. The financial settlement
3. Nuclear materials and safeguard equipment (EURATOM)
4. Issues relating the functioning of the Union institutions, agencies and bodies
5. Governance of the Article 50 agreement
6. Goods placed on the market under Union law before the withdrawal
7. Judicial cooperation in civil and commercial matters
8. Ongoing judicial and administrative procedures
9. Ongoing police and judicial cooperation in criminal matters

First negotiation round

Took place on 19 June.

Both parties agreed to create working groups on:

- the citizens' rights (rights of EU citizens left in the UK after Brexit)
- the financial settlement
- and other separation issues
- issues pertaining the Northern Ireland

Second negotiation round

The Guardian wrote on 31 August 2017:

„No one expected a breakthrough in talks on Britain's EU separation during a few muggy afternoons in late August. And predictably, the latest round of Brexit talks lived up to its limited billing.

But the gulf between the two sides has become sharper, with neither prepared to budge on what both see as a trump card: money. For the UK, writing a multi-million euro cheque to cover their „survivable obligations“ to the EU is vital leverage to secure a future trade deal. But the EU continues to insist the UK must recognize its debts before talks can move on future. Brussels officials fear leaving money until the last minute will lead to a total collapse in negotiations.”

The Guardian wrote on 31 August 2017:

1. A deal in October is even less likely
2. The UK thinks it has „moral“ obligations to pay a Brexit bill
3. There is slow but real progress on citizens' rights
4. The UK thinks it is more flexible
5. But the EU thinks it is more serious
6. And Brexit will run on PowerPoint

EU divorce bill

The European Commission expects the UK will pay an exit bill when it leaves the EU. The EU is an organization with assets and liabilities. The EU has been clear that when the UK leaves, it is expected to pay off its share of liabilities.

Calculations are based on what we owe, and what we can offset. The quoted figures have a large range due to varying methodologies of calculating the bill.

The lower bad €25 billion represents minimal obligations to the EU and maximum UK receipts, while the top-end €75 billion comes from maximizing the UK's obligations and minimizing the receipts.

Some pointed to an estimated gross bill of about €100bn, including: €86,4bn to honor commitments the UK made, €11,5bn of contingent liabilities (like Ukraine, Ireland), €1,7bn in development funding (e.g. Africa) can be categorized under various headings:

1. Outstanding budget commitments
 - e.g. cohesion fund payments
2. EU officials' pensions
3. Contingent liabilities
 - payments due to specific circumstances (Ukraine) or outstanding loans to Hungary, Ireland, Portugal and Ukraine
4. Other costs of withdrawal
 - budget receipts – rebate credits – assets sharing

Brexit and the Northern Irish Border



The question of what happens to the border between Northern Ireland and the Republic of Ireland after Brexit is so difficult to solve that it could ultimately derail Brexit.

Even more than the rights of EU citizens and the size of the UK's Brexit divorce bill, the Northern Irish border is so contentious, and so politically dangerous to tackle, that there may, in the end, be no viable solution.

If Theresa May's Brexit vision is destined to fail, then this could be the one issue that triggers it.

Why does the Irish border matter so much?

- The border is currently more or less invisible – no controls
- With Brexit Republic of Ireland will remain EU member
- Need to be some form of new border controls
- Deeply important to the UK economy
- Good Friday Agreement of 1998 with free movement a key part of it
- Brexit will upset this delicate balance of power

What are the options for the border after Brexit?

- May's government has pushed for a technological solution to the border – vehicles should be monitored remotely: impossible!
- Irish sea to become the border – allowing the island of Ireland to become one custom zone: push both parts of Ireland together – impossible!
- Continue the Common Travel Area – possible if May's government decides to change course on the customs union
- If they do not find a solution return to a hard border – would interrupt trade, but also communities and people's everyday lives: as goods and people are checked as they cross the border (it would require 10.000 guards)

Latest news:

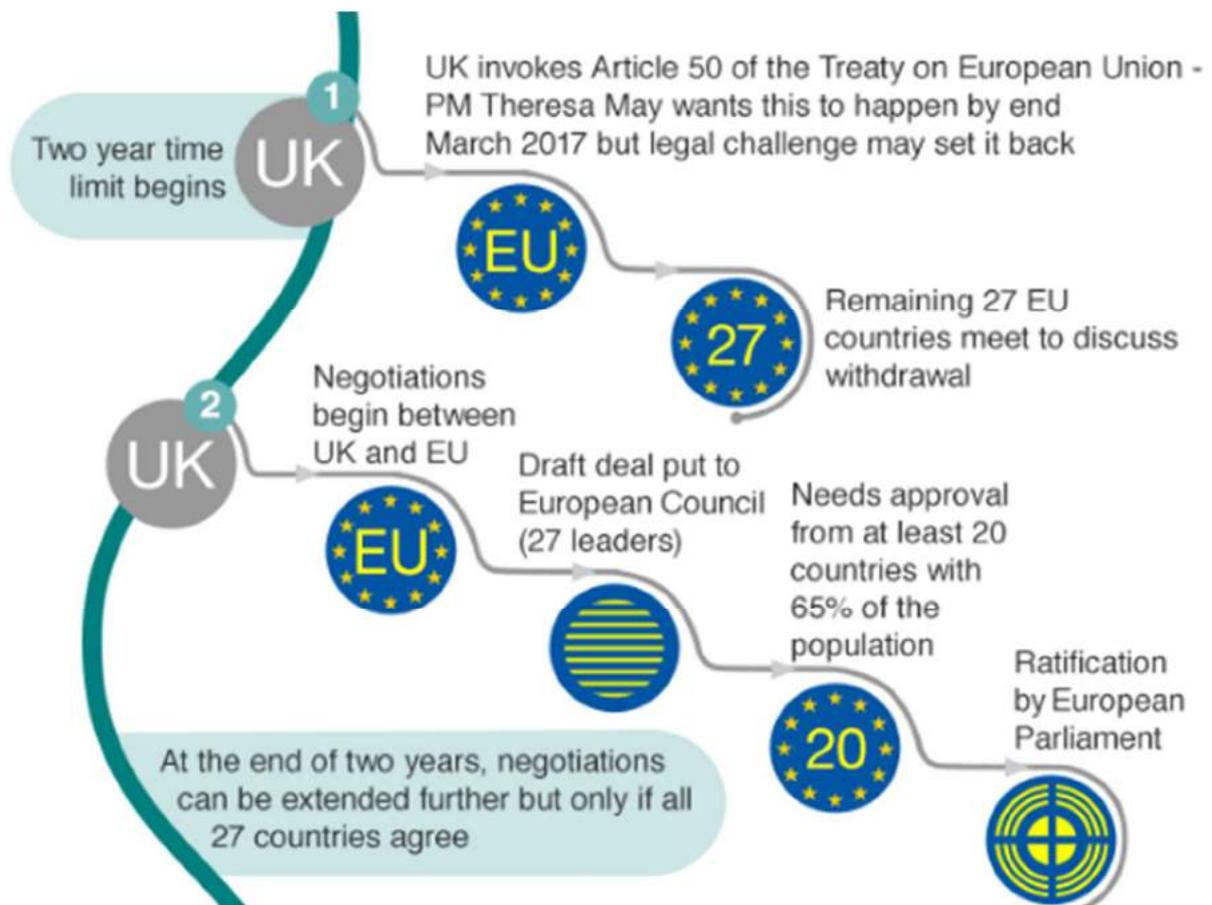
- The Labour party has just announced that it wants an “extended transition” toward Brexit, whereby the country would stay in the customs union and single market for a substantial period, and perhaps remain in the customs union indefinitely, depending on negotiations.

Customs union

In essence, a customs union is an agreement between countries not to impose tariffs on imports from within the club, and at the same time impose common tariffs on goods coming in from outsiders.

In other words, the countries decide to trade collectively with each other, and bargain collectively with everyone else.

Next steps to be done



Next steps to be done in detail:

- The negotiations must be completed within a period of two years
- The European Parliament must give its consent – simply majority
- The Council will conclude the agreement – as well the UK
- Negotiations themselves will last approx. 18 months (June 2017-Oct/Nov.2018)
- Michael Barnier is the Commission's Chief Negotiator – report to Council
- English and French are the two official languages
- Negotiations will take place in Brussels
- If no agreement: The EU Treaties simply cease to apply to the UK
- Can UK rejoin? It would be required to go through the accession procedure
- Can Art. 50 be revoked? It cannot be unilaterally reversed

What happens if there is no deal with the EU?

- Prime Minister Theresa May says leaving the EU with no deal whatsoever would be better than signing the UK up to a bad one.

- Without an agreement on trade, the UK would have to operate under World Trade Organization rules, which could mean customs checks and tariffs on goods as well as longer border check for travellers

Options for Britain leaving the EU



There are five models:

1. Join the European Economic Area (EEA)
now consists of just small country, Norway, and two tiddlers, Iceland and Liechtenstein
2. Try to emulate Switzerland, the remaining EFTA country (SM)
it is not in the EEA but instead has a string of over 20 major and 100 minor bilateral agreements with the EU
3. Seek to establish a customs union with the EU, as Turkey (CU)
or at least to strike a deep and comprehensive free-trade agreement
4. Is simply to rely on normal (WTO) rules for access to the EU market
5. Is to negotiate a special deal for Britain alone that retains free trade
but avoids the disadvantages of the other models, but it would be extremely hard or even impossible to negotiate (preferred by most Eurosceptics)

Possible EU-UK post-Brexit agreements and red lines from both negotiating perspectives

FTA = Free Trade Agreement CU = Customs Union SM = Single Market membership EEA = European Economic Area WTO = World Trade Organisation

Color coding of acceptability of outcomes for each Brexit strategic option and individual objective (comparing both charts shows the differences between the UK's and the EU's preferences):

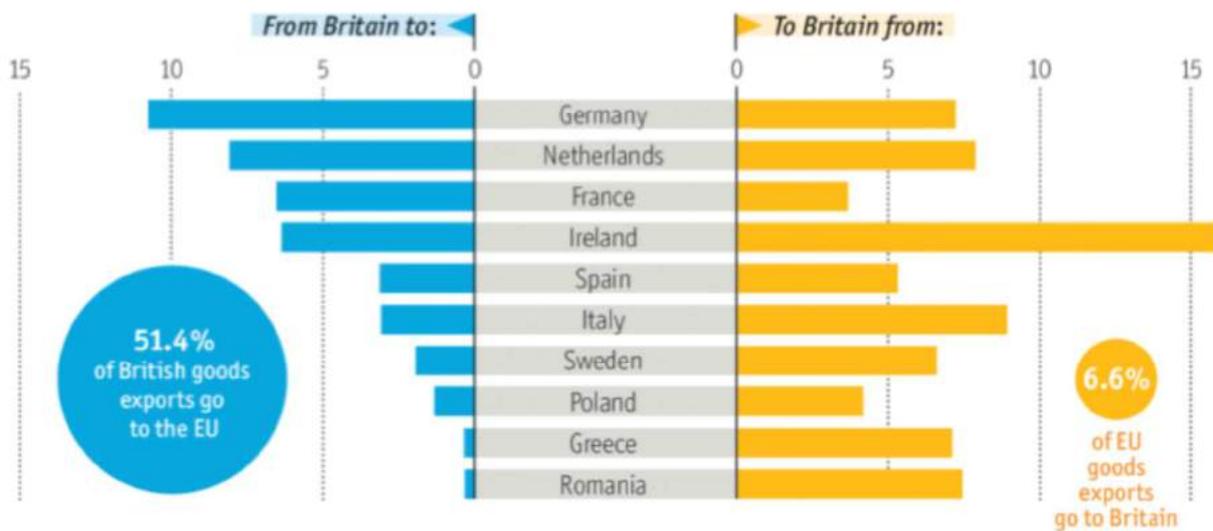
Optimal	<input checked="" type="checkbox"/> = Red Lines for UK Government
Sub-Optimal	<input type="checkbox"/> = Likely Red Lines for UK Parliament
Extreme Economic Risk	<input checked="" type="checkbox"/> = 'Red Lines' for EU States and Institutions
No Preferential Treatment	

Brexit objectives and red lines from the UK's Perspective	Brexit Strategic Options						EU membership		Main strategic interests and 'red lines' for the UK	
	'Hard Brexit'	'Soft Brexit'				Current UK EU membership	Full EU membership			
	WTO Rules	FTA (Canada Option)	CU (Turkey CU+FTA Option)	SM (Swiss Option)	SM (EEA Option)	CU+SM				
No Free Movement of Labour	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	x	x	x	x	x	Limiting EU immigration vs Open border Gibraltar / Spain Free movement Northern Ireland / Southern Ireland Industrial Supply Chains Price sensitivity of UK imports Limited relevance with CU Access to Public procurement... UK GDP composed of 78% services (insignificant in FTAs) Ending direct ECJ jurisdiction Widespread acceptance that Brexit leads to loss of voting rights and continued budgetary contributions for poorer regions Decline in exports of goods and services, increased price of imports
No Hard Borders	x	x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	x	x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
No Rules of Origin	x	x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	x	x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
No Tariffs on Goods	x	<input checked="" type="checkbox"/>								
Independent Free Trade Policy (no CET)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	x*	x*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	x	x	x	
No Non-Tariff Barriers on Goods	x	<input checked="" type="checkbox"/>	x*	<input checked="" type="checkbox"/>						
No Non-Tariff Barriers on Services	x	x	x	x	<input checked="" type="checkbox"/>					
No Non-Tariff Barriers on Financial Services	x	x	x	x	<input checked="" type="checkbox"/>					
Opt-in Possibility to CAP	x	x	x	x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	x	x	
Opt-in Possibility to Education and Research	x	x	<input checked="" type="checkbox"/>	x	x					
Opt-in Possibility to Police and Home Affairs	x	x	x	x	x	x	x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Opt-in Possibility to Foreign and Security Policy	x	x	x	x	x	x	x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
No Eurozone membership (opt-out)	<input checked="" type="checkbox"/>	x***								
No Schengen area membership (opt-out)	<input checked="" type="checkbox"/>	x****								
International Court (separate from ECJ oversight)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	x	x	
Voting Rights in EU Institutions	x	x	x	x	x	x	x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
No Budgetary Contribution to EU regional funds	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	x	x	x	x	x	
No 'Economic cliff edge' between EU membership and future EU-UK agreement	x	x	x	x	✓*****	✓*****	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Impact of Brexit

They need each other

Exports of goods between Britain and EU, 2014, % of national totals



Source: IMF Direction of Trade Statistics

Impact of Brexit: basic data

Trade

- €306 bn of exports by the EU27 to the UK, vs €184 bn of imports
- In shares of GDP: EU 2,5% vs UK 7,5%

Services

- €94 bn of exports by the EU27 to the UK, vs 122 bn of imports

Foreign direct investments (FDI)

- EU27's stock is estimated €985 bn, or 8,3% of ist GDP
- UK's investment €683 bn, or 26,6% of ist GDP

Citizens

- 3.35 mio EU27 citizens living in the UK
- 1.22 mio UK citizens living in the EU27

EU budget

- The UK's withdrawal si likely to leave a „hole“ of about 9 bn annually

Impact of Brexit: consequences for the EU's political system

UK contribution

- Fifth largest economy in the world, second largest in the EU
- Third most populous member state, comprising 12,76%
- UK has global clout and spends more on defense than any other country
- UK has played a key role in creating and deepening the single market

Affect the political system

- UK's commissioner responsible for financial stability, financial services
- 1,126 British nationals are employed in the European Commission (3,8% of total)
- 73 British MEPs sit in the Parliament (out of 751 total)
- 3 EP committees ha British shares: Development, Internal Markets and Consumer Protection and Civil Liberties, Justice and Home Affairs
- The UK is due to hold the EU's rotating presidency from July to December 2017

British officials in the EU

- Mid-level on permanent contracts would probably be able to continue in their roles
- Director-generals and officials in top management would likely have to leave

Membership

- Until its official withdrawal, the UK would remain a fully-fledged member state
- However, UK involvement in EU decision-making would quickly become marginal

Impact of Brexit: Long-term impact of Brexit on the EU

Brexit will change how EU institutions operate, it will affect the balance of power among the member states and therefore the policies, it will also change the resources, it could increase protectionism

Council voting patterns (current qualified majority voting system)

- The Southern protectionist bloc (incl. France, Italy, Spain, Greece, Portugal and Cyprus) and the Northern liberal bloc (incl. the UK, Germany, Sweden, Denmark, the Netherlands, Finland and the Baltic's) hold a blocking minority without the UK, the collective weight of the liberal block would decline
- Brexit will also alter the European Parliament's landscape and ideological composition lead to a more social democratic Union

Expected policy implications

- An increased regulatory burden on EU businesses
- Weaker copyright protection in the EU
- A smaller EU budget as a whole, with increased member-state contributions
- A stronger push for tax harmonization and higher taxation of financial transactions
- Less support for nuclear and unconventional energy sources

Impact of Brexit: further effects

Brexit will change the EU's balance of power

- It could strengthen Germany's position, shift alliances, and potentially either strengthen or weaken smaller states
- It will strengthen the Eurozone, which may well replace the single market as the EU's core and driving force
- It will significantly weaken EU's global role

Britain is the foremost military power and also brings to the EU its significant diplomatic network, intelligence capabilities and soft power

„Breakthrough“ deal paves way for future talks

PM Theresa May has struck a last-minute deal with the EU in a bid to move Brexit talks on the next phase.

- there will be no „hard border“ with Ireland;
- and the rights of EU citizens in the UK and UK citizens in the EU will be protected
- the so-called „divorce bill“ will amount to between 35bn and 39bn pound, Downing Street sources say

The Irish border - the devil in the detail

- The UK government and the EU want to maintain the free flow of goods, without border checks
- Any future deal must protect „North-South co-operation“ and hold to the UK's „guarantee of avoiding a hard border“
- „No new regulatory barriers“ will be allowed between Northern Ireland and the

rest of the UK

But it also sets out a fallback position if the UK fails to agree a trade deal.

Citizens' rights - same for everyone?

- EU citizens living in the UK would be allowed to continue living and working there freedom of movement could continue for two years after March 2019
- UK citizens living in an EU country would get the same rights
- For eight years after Brexit, UK courts will be able to refer cases involving EU nationals to the European Court of Justice for interpretation

The divorce bill - a figure at last

- Figure is not mentioned in the text of agreement
- Downing Street sources says it will be between 35bn and 39bn pound
- It will be paid over four years

What happens next?

- 15. Dec. 2017
EU leaders have ruled that sufficient progress has been made in the first phase of talks allowing negotiations to move on discussions about Britain's future outside the bloc
- The withdrawal treaty and transition deal need to be ready by October 2018 – in order that they can be ratified by March 2019
- The only option for a future trade arrangement was a Canada-style deal, rather than a one based on Norway (Mr. Barnier EU's chief negotiator)

First stage

- Until summit of the EU heads on 22 March new rules for the transition period have to be defined
- UK wants a period of grace for two years that would include a free market like today Brexit would be de facto postponed

Second stage

- Until October 2018 its about the question of how the trade relations should be re-regulated
- UK wants a free trade agreement that goes beyond the CETA agreement between the EU and Canada (Canada plus) London financial services will continue to

have free access to the EU market after Brexit (impossible)

- A normal agreement like that with Canada and South Korea requires a customs border in Ireland (impossible)
- Remains an agreement as with Norway. But that requires free access for EU workers (impossible)

Third stage

- If everything goes well the withdrawal treaty and transition deal, which regulates all important questions regarding Brexit, need to be ready at the EU summit in 18 October. The remaining 5 month until the formal exit at 29 March are needed to ratify the agreement.
- On the EU side, not only the heads of government have to agree, but also the EU parliament.
- However the Brexit is still highly controversial on the island.
- The Brexit deal must finally be confirmed by means of a full-fledged legislative process by the lower and upper houses

Canada-style trade

- London will struggle to achieve its aim of tariff-free and frictionless trade with the bloc
- UK's rejection of the European Court of Justice and issues around „regulatory autonomy“ mean it will not be „compatible“ as a close trade partner
- London's status as a financial centre could be further at risk, as it rules out „direct branching in sectors like financial services“
- The future deal would see only „limited EU commitments to allow cross border provision of services“

A customs border in Ireland would be probably be unavoidable in a trade agreement based on the Canadian model.

Norway-style trade

- By agreeing to an EFTA Norwegian style deal UK would be remaining in the single market, therefore accepting the four freedoms: goods, people, services and capital
- Access to the single market is partial in a sense that fisheries and agricultural are excluded

However, freedom of movement is the biggest spanner in the Brexit break off deal due to immigration being the main driving force for Brexit.



Juergen Teller, 53, ist einer der berühmtesten zeitgenössischen Fotografen.

Editors

- Alekseeva, Tatiana Dr., Ass. Professor, Institute of International Relations, Ulyanovsk State University (Ulyanovsk, Russia)
- Arzhenovskiy, Igor Dr. Professor, International Institute of Business Technologies, Nizhny Novgorod State University of Architecture and Civil Engineering (Nizhny Novgorod, Russia)
- Dudikov, Mihail Ass. Professor, Institute of International Relations, Ulyanovsk State University (Ulyanovsk, Russia)
- Radchenko, Larissa Dr., Ass. Professor, Dean of the Russian-German Faculty, Institute of International Relations, Ulyanovsk State University (Ulyanovsk, Russia)
- Rupsch, Helmut Professor, Faculty of Business Administration and Economics, Niederrhein University of Applied Sciences (Mönchengladbach, Germany)
- Wenke, Martin Dr., Professor, Faculty of Business Administration and Economics, Niederrhein University of Applied Sciences (Mönchengladbach, Germany)

Сотрудничество России и Германии
в сфере высшего образования, исследований и науки
Материалы XII Международного российско-немецкого семинара

German-Russian Cooperation in Higher Education and R&D
Materials of the 12th International Russian-German Workshop

Федеральное государственное образовательное учреждение высшего образования
«Нижегородский государственный архитектурно-строительный университет
603950, Нижний Новгород, ул. Ильинская, 65
<http://www.nngasu.ru>, srec@nngasu.ru