



Federal Ministry  
of Education  
and Research

# Science, Research and Funding Landscape of Germany

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# Content:

1. **Strategic Framework** of BMBF's STI and Education Policy
2. German **Tertiary Education System**
3. BMBF: **International Co-operation** in STI
4. Bilateral STI Co-operation between Germany (**BMBF**) and Iran
5. Multilateral German-Iranian STI **Co-operation**: H2020

# Some Facts about Germany

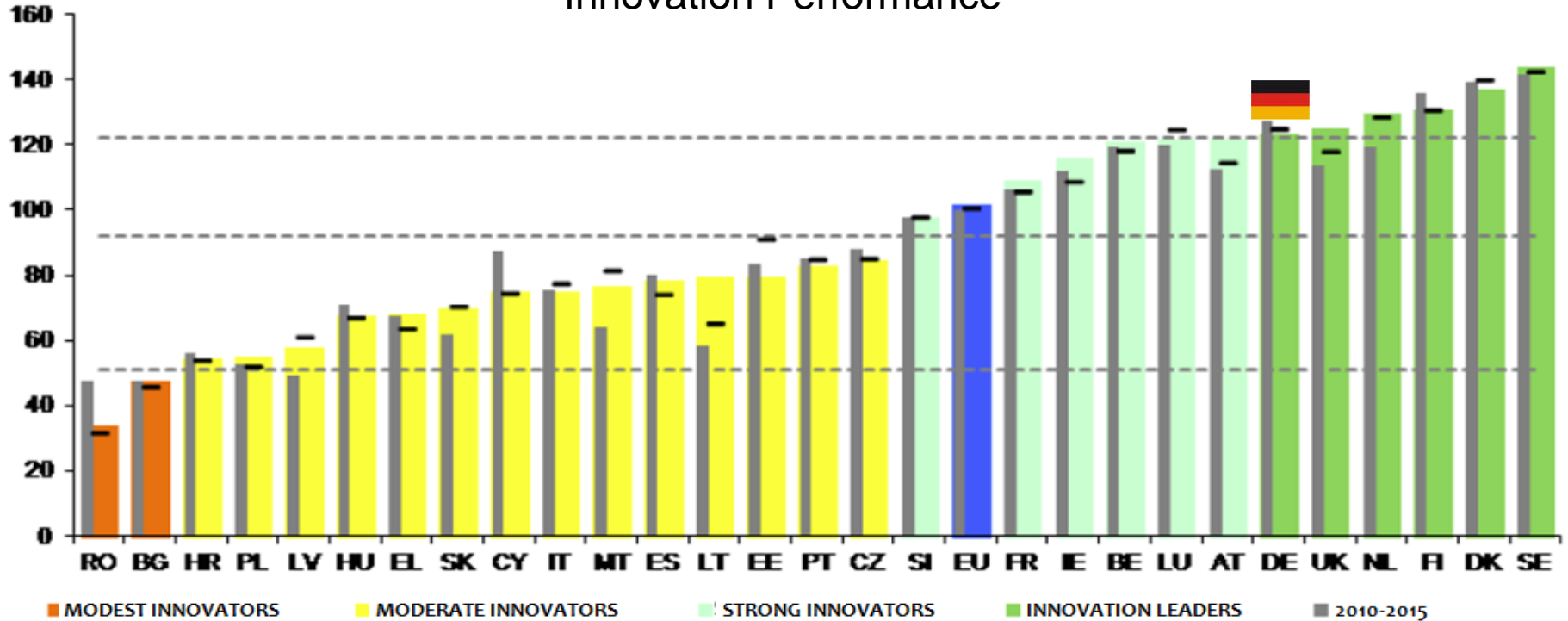
- Population: 82,4 M
- With migrant background: 18,6 M (23%)
  - **Top 5 Countries of Origin**
  - 1. Turkey: 2 797K
  - 2. Poland: 1 868K
  - 3. Russia: 1 223K
  - 4. Kazakhstan: 946K
  - 5. Italy: 861K
- ▶ Persons with **Iranian background**: 164





# 1 Strategic Framework

## Innovation Performance

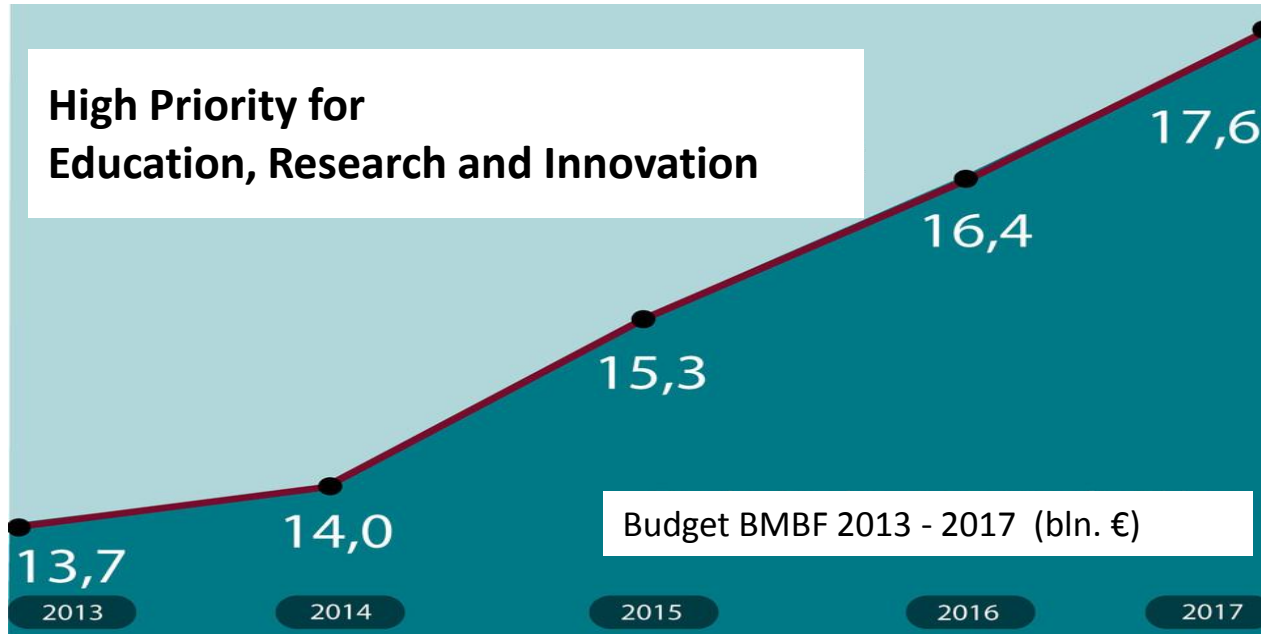


Axis Y: innovation performance in 2016 (coloured columns), 2015 (horizontal hypkens) and 2010 (grey columns) relative to EU average in 2010 - aggregate of 27 indicators



# 1 Strategic Framework

## Funding: BMBF Budget 2013 - 2017



# 1 Strategic Framework

## STI Education Policy / Federal R&D Funding

- Federal Ministry for Education and Research (BMBF): **17.6 bn €**
  - Vocational Education
  - Research (5.6% of the overall federal budget)
  - Innovation
- Federal Ministry for Economic Affairs and Energy (BMWi): **3.4 bn €**
  - Innovation
- Together with Industry and States: **3% of GDP investment in R&D**

# 1 Strategic Framework

## Research performers

### Higher education

- **Universities:** 113
- Universities of Applied Sciences (“Fachhochschulen”): 246
- Private **colleges:** 135
- Other academies and colleges: 68

### Other:

- Institutes abroad (e.g. German Historical Institutes in London, Rome, Paris, Moscow..)
- Academies (e.g. Leopoldina)

### Research organisations

- 4 big players:
  - **Fraunhofer**-Society: 67
  - **Helmholtz** Association: 18
  - **Max-Planck**-Society: 83
  - **Leibniz** Association: 88



and German Industry!

# 1 Strategic Framework

## Funding Partners for R&D cooperation

### Research Projects

- BMBF
- Deutsche Forschungsgemeinschaft (DFG)
- Foundations

### Other

- Industry

### Mobility of Researchers and Students

- DAAD
- Alexander von Humboldt-Stiftung
- BMBF





## 2 German Tertiary Education System

### Legal Framework

Federal government and state governments

### Core funding

Provided by the state governments

### Research funding

Predominantly provided by federal government  
+ EU + industry

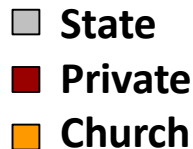




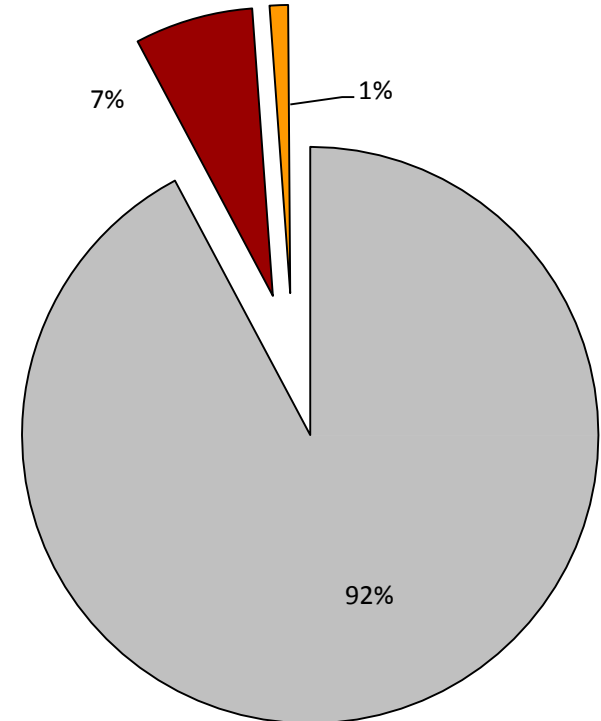
## 2 German Tertiary Education System Universities

- Largely **state-funded** system
- **2.8 million students**
- Only 8% of students at **private higher education**
- **Iranians = 3rd largest group of non-EU students** at German universities (after China and India)!

[www.researchmap.de](http://www.researchmap.de)



According to student numbers



## 2 German Tertiary Education System

### Universities and Universities of Applied Sciences

	Universities	Universities of Applied Sciences
Programme levels	Bachelor Master Doctorate	Bachelor Master
Fields of study	All	Business, Social and Health Sciences, Engineering (75% of German engineers are educated at FH/HAW)
Degree programmes	Theory-oriented, based on fundamental research, unity of teaching and research	Applied-oriented, based on applied research, include a practical semester (internship)
Requirement for professorship	Doctorate/PhD, <i>Habilitation</i>	Doctorate/PhD Min. three years industry experience
Average number of teaching lessons/week	8-10	18

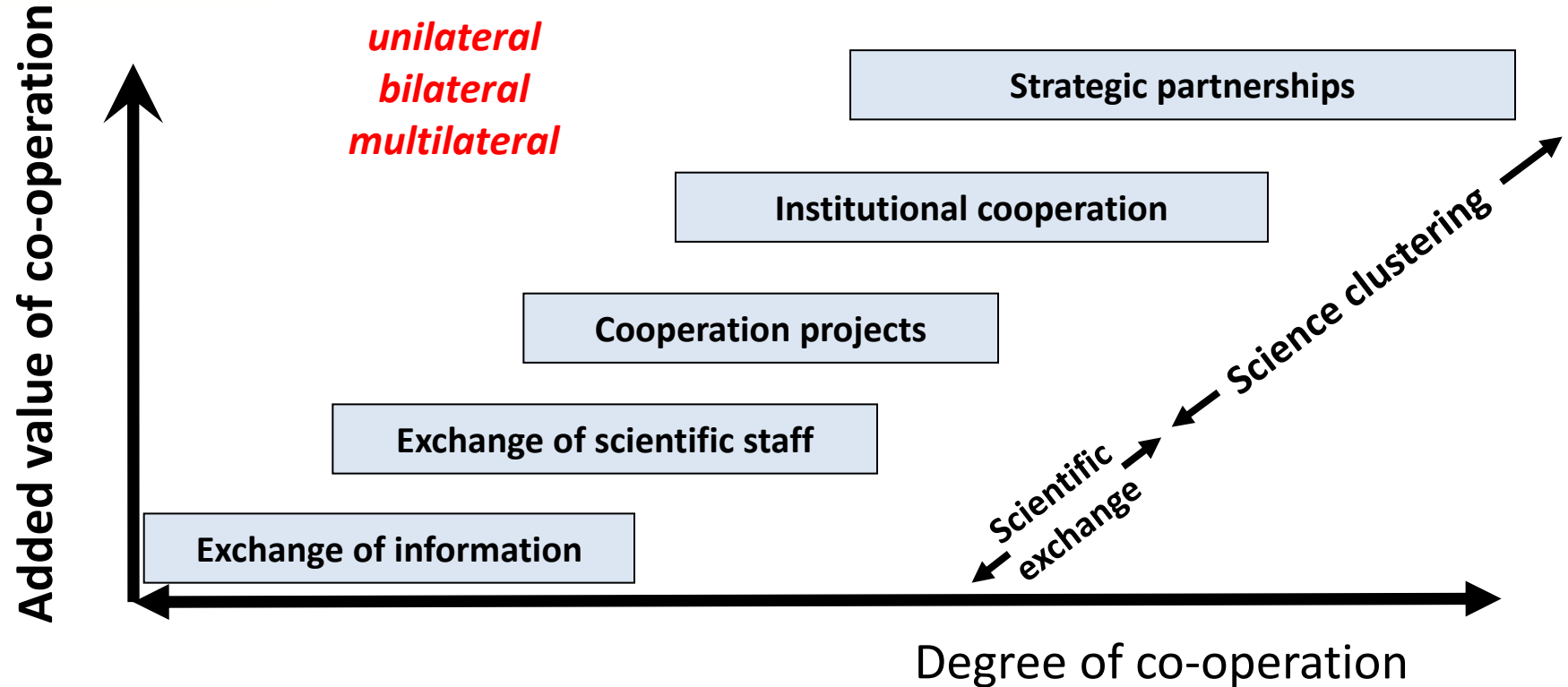


## 2 International Cooperation in STI

### BMBF's International Cooperation Strategy

Objective 1	Objective 2	Objective 3	Objective 4	Objective 5
Strengthening <b>excellence</b> through worldwide cooperation	Developing Germany's strength in <b>innovation</b> on the international stage	Internationalising <b>vocational training</b> and qualification	Working with emerging and developing <b>countries</b> to shape the global knowledge-based society	Overcoming <b>global challenges</b> together

### 3 International Cooperation in STI BMBF-Instruments





## 3 International Cooperation in STI

### BMBF's International Cooperation Strategy – Objective 4

## Working with emerging and developing countries to contribute shaping the global knowledge-based society

### Aims:

- Further developing existing cooperative projects and establish **new partnerships**
- Systematically establishing **bilateral higher education** structures
- Exploiting **digitalization** opportunities in international cooperation
- Strengthening international structures for spreading uniform **guidelines and principles** in order to establish a level playing field
- Jointly disseminating “**good practices**” in scientific work
- Making targeted use of **European initiatives**



## Focus on Iran

- High number of **graduates**: 570.000 per year/ 1.000 universities
- Excellent **young scientists**
- Leading country for **scientific publications** in the region
- Available **financial resources**
- Strong Iranian **diaspora** in Germany with good networking,  
**6.500 Iranian students** in Germany
- Strong interest in **STI cooperation with Germany**

## 4 Bilateral STI Cooperation between BMBF and Iran

- Agreement on cooperation in S&T(1977)
- Two major research projects during sanctions (since 2008)
- 2008 and 2016: High-ranking BMBF visits to Iran
- 5 May 2017: 1st Joint STC Meeting, Bonn
- Feb/March 2018: Day of German Science in Iran
- Late 2018: first bilateral Iranian-German Call





## 4 Bilateral STI Cooperation between BMBF and Iran



### Dols

- Joint Declaration of Intent with Ministry of **Science, Research and Technology** (MSRT) on **STI** collaboration: 9 October 2016
- Joint Declaration of Intent with Ministry of **Science, Research and Technology** (**MSRT**) on collaboration in **VET**: 9 October 2016
- Joint Declaration of Intent with Ministry of **Energy** (**MoE**): on water, waste water, energy efficiency, **VET**: 29 March 2017
- Joint Declaration of Intent with the the Ministry of **Health and Medical Education** (**MoHME**) on **STI, HE**: 5 May 2017
- Joint Minutes with Ministry of **Cooperatives, Labour and Social Welfare** on skill development and **VET**: 8 October 2016

## 4 Bilateral STI Cooperation: BMBF-Iran

### “Young Cities”: Energy-Efficient City Structures for Tehran-Karaj

Funding period: (2008 - 2014), 7m €

### “Integrated Water Research Management In Zayandeh Rud“

Funding period:

- 2010-2015 (Phase I);
- 2016-2018 (Phase II), 3m €

Cooperation Partner: i.e. Ministry of Energy

<http://www.iwrm-isfahan.com>



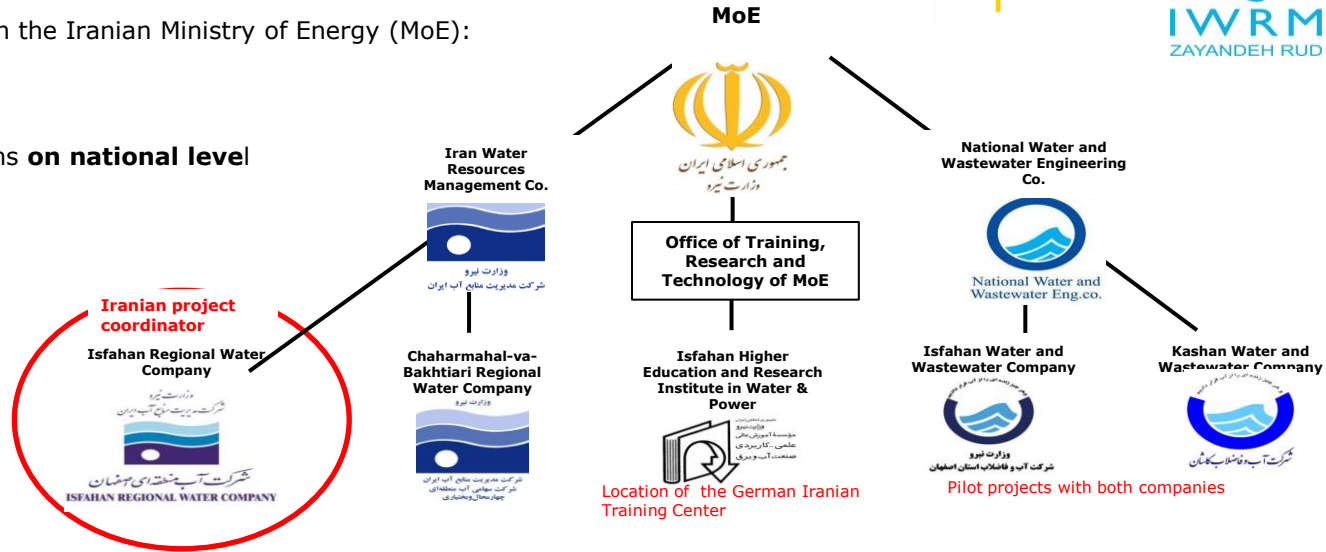
# German-Iranian Cooperation BMBF - Iranian Partner Institutions Project: Integrated Water Resources Management Zayandehrud

Based on MoU and in **cooperation** with the Iranian Ministry of Energy (MoE):



**Cooperating institutions on national level**  
(agencies of MoE):

**Cooperating institutions on regional level**  
(provincial authorities of MoE):



**Involved institutions on regional level**  
for project work:

- The Governor of Isfahan and further provincial authorities of other ministries:

The Governor General of Isfahan Province



Industrial Settlements Organization of Isfahan



Isfahan Agricultural Organization



Environmental Protection Organization of Isfahan



Zayandeh Rud Urban Development Organization



Mirab Zayandeh Rud Company



شرکت میر آب زاینده رود

- Scientific institutions

Isfahan University of Technology



Isfahan Agricultural and Natural Resources Research and Education



- other involved institutions (industry and consuler):

Isfahan Power plant



ESCO Esfahan Steel Company

تولید فولاد

شرکت فولاد مبارکه اصفهان

Zayandab Consulting Engineers



مهندسين مشاور زاینده رود

# Modul Capacity Development IWRM

## German-Iranian Training Center



### German-Iranian Training Center for Water and Wastewater Management

#### Training modules

- Sustainable groundwater management
- Sustainable surface water management
- Operation & Maintenance of WWTP (Basic Training for daily operation)
- Optimizing WWTP operation (regarding resource efficiency)
- Water consumption management
- Decentralized Wastewater treatment
- Rehabilitation of wastewater networks

#### Pilot projects

- Efficient WWTP operation
- Energy saving WWTP
- Canal rehabilitation
- Innovative irrigation technologies using purified wastewater
- Water consumption management

#### Showroom

- Presentation of new technologies
- Training
- German-Iranian Workshops
- Site visits and Training in Germany for Iranian delegations

### „Train the Trainer“ Education Moduls



### „Showroom“ for German tech.



Weiterbildung  
MADE IN GERMANY

## 4 Bilateral STI Cooperation between BMBF and Iran

### Current Funding Possibilities

- **CLIENT II Programme** International Partnerships for Sustainable Innovation“
- **IKARIM** – International Partnerships for Catastrophe- and Risk Management
- **GROW** – Global Resource Water
- **Mobility Calls**

## 4 Bilateral STI Cooperation

Successful application to recent calls with Iranian participation

### IKARIM-Call (Catastrophe Risk Management)

- *REVISE* Innovation for the future of sustainable energy in Iran
- *INCOR*  
Basic Infrastructures and Services for Inclusive Community Disaster Resilience in Iran
- *NOTSCHI* Risk analysis in the context of earthquakes

### CLIENT II-Call (Cooperation in sustainable Energy)

- *ConSolTiDEF* Concentrating Solarthermal Energy in Iran

## 4 Multilateral STI Cooperation

### Concluded regional projects

#### “Crossroad Asia: Conflict, Migration, Development“

(2011-2014); 1,8 mln. €

Partners: Iran, Afghanistan,, Kashmir, Kazakhstan, Kyrgyzstan, Nepal, Northern India, Pakistan, Tajikistan, Turkmenistan, Uzbekistan and Xinjiang (China)

#### „Khurasan“: Analysis of the Development of Material Culture and Art in Khurasan Region

(2014 – 2017); 0,4 mln. €

Partners: Iran, Afghanistan, Tadschikistan, Turkmenistan, Uzbekistan

# 5 Bilateral STI Cooperation between BMBF and Iran

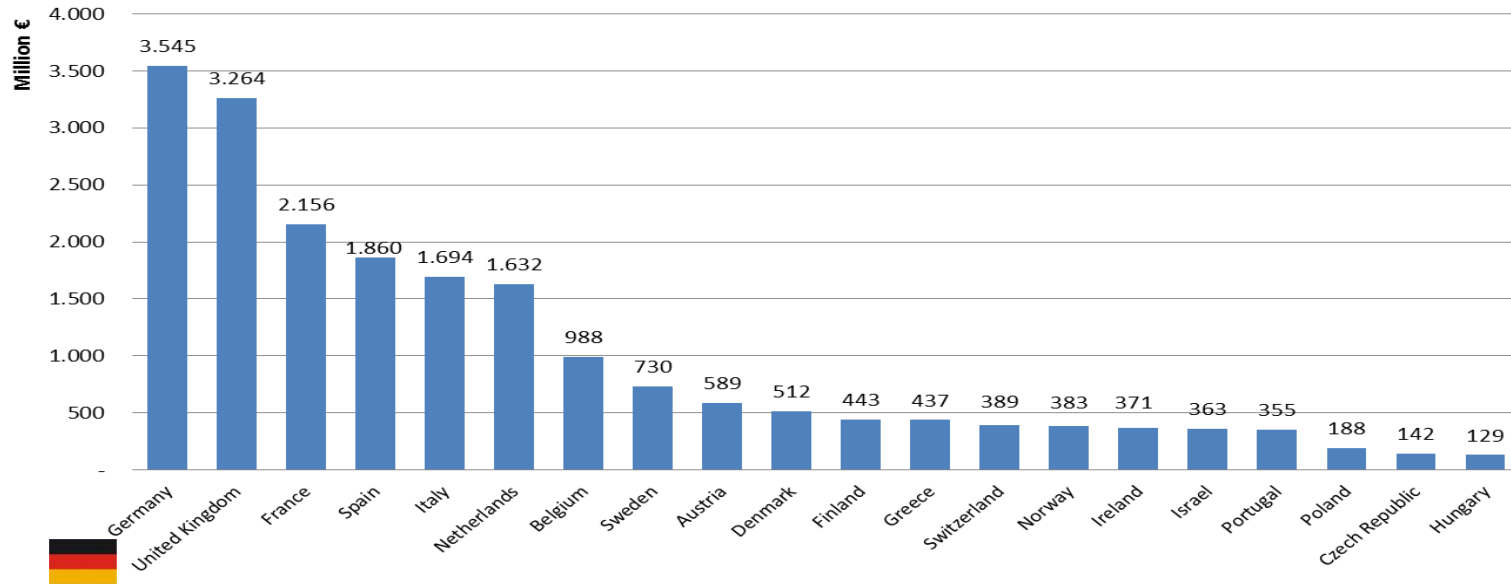
## Next Steps

- **Joint bi-lateral call** (launched in late 2018)
- **Iranian Science Day in Germany** (2019)
- **2<sup>nd</sup> Joint STI Meeting** in Iran (2019)
- ...



# 5 Multilateral GER-IRN STI-Cooperation: H2020

Horizon 2020: Most successful Countries [EC-Contribution in Million Euro]



Source: H2020-ECORDA-Grants-Database; 28.02.2017



# 5 Multilateral GER-IRN STI-Cooperation: H2020

## Iranian Participation in FP 7; 3 projects with German and Iranian Partners

Bereich	Thema	Akronym	Titel	Proj. Typ	EU-Zuwendungen	Partner	DE-Partner	DE-Zuwendungen
COOPERATION	HEALTH	GENCODYS	Genetic and Epigenetic Networks in Cognitive Dysfunction	CP-IP	11.647.068,00€	15	1	1.838.220,00 €
COOPERATION	KBBE	ARBO-ZOONET	International network for capacity building for the control of emerging viral vector borne zoonotic diseases	CSA-CA	998.470,00€	26	3	324.370,00 €
COOPERATION	KBBE	NEXTGEN	Next generation methods to preserve farm animal biodiversity by optimizing present and future breeding options	CP-FP-SICA	2.999.999,00€	11	1	353.104,00 €
PEOPLE	PEOPLE	ARCHIRAN	Ancient Iran: a Social Archaeology	MC-IIFR	15.000,00€	1		
<b>Gesamt</b>					<b>15.660.537,00€</b>	<b>53</b>	<b>5</b>	<b>2.515.694,00 €</b>

# 5 Multilateral GER-IRN STI-Cooperation: H2020

## One joint project

- Title: Middle East Research and Innovation Dialogue (**MERID**)
- Scientific field: Europe in a changing world - inclusive, innovative and reflective Societies
- Duration: 01.01.2015-31.12.2017
- Project Partners
  - **GER:** Freie Universität Berlin
  - **IRN:** Iranian Association for the Management of Technology





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**Thank You!**

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**<https://www.bmbf.de>**