



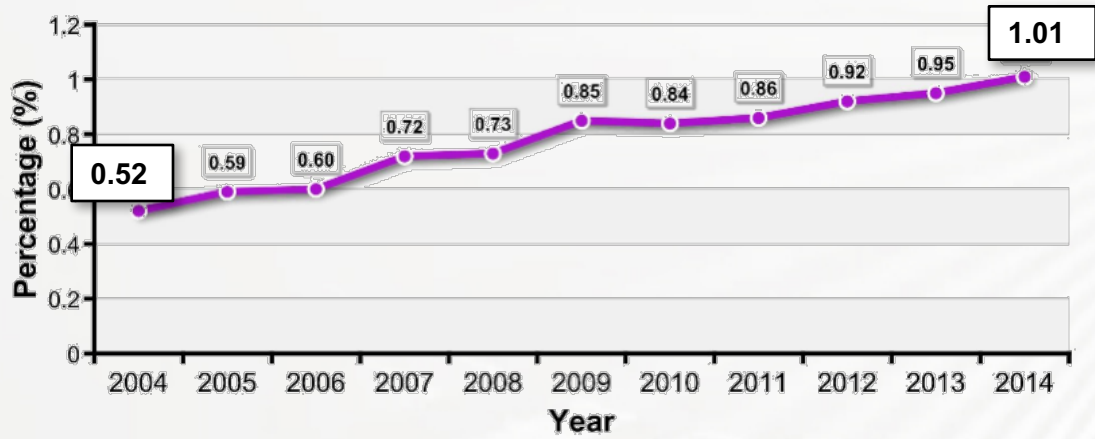
Horizon 2020 Dedicated TÜBİTAK Support and Award Programmes

Hakan KARATAŞ
Director for International Cooperation
H2020 National Coordinator

28 January 2016

	TURKEY		EU
Population (million)	79	15%	513
Area (1.000 km2)	784	18%	4.325
GDP (PPP-billion \$)	806	4%	18.240
Median Age (years)	29	30%	42

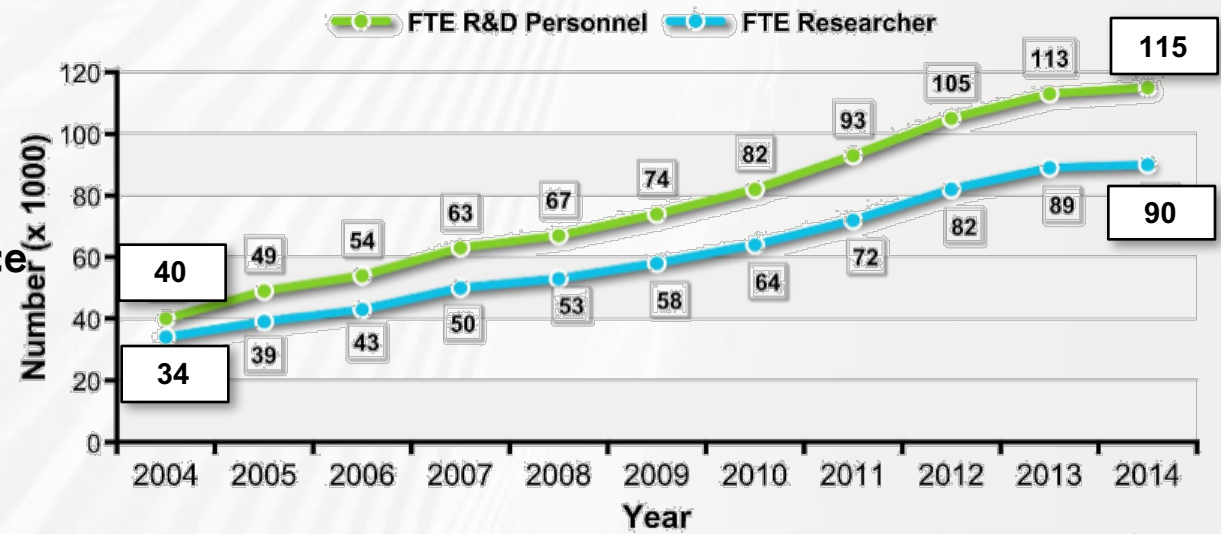
Important Increase in Resources for R&D and I



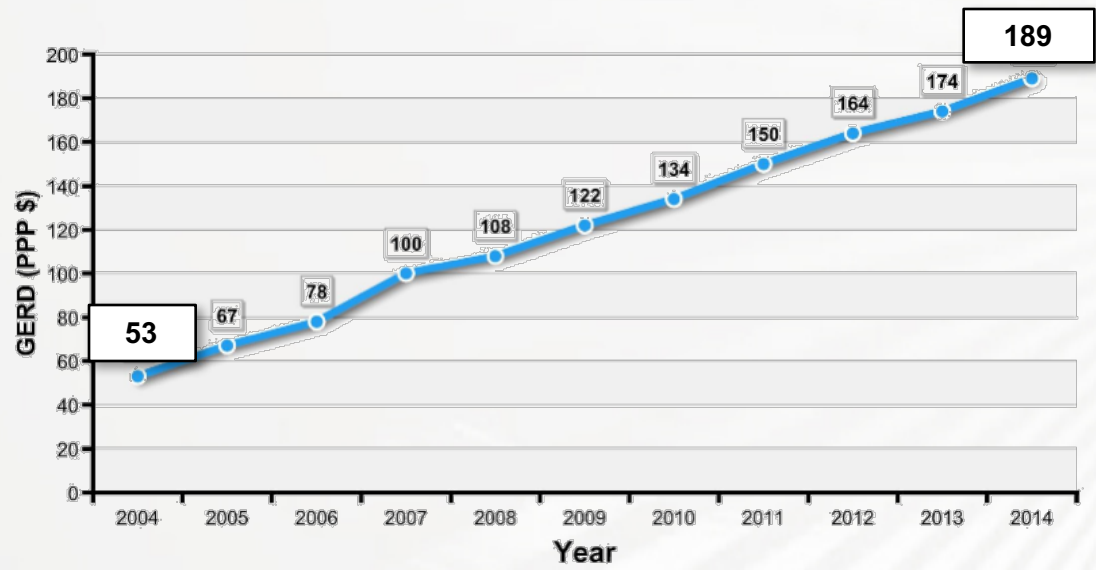
- Based on an annual growth rate of **17%**, R&D expenditures rate increased **2 times**
- Turkey has passed Austria, Belgium, Finland and Mexico in total R&D expenditures

FTE Human Resources

- **Around 3 times** increase since 2004



GERD per Capita and by Sources of Funds

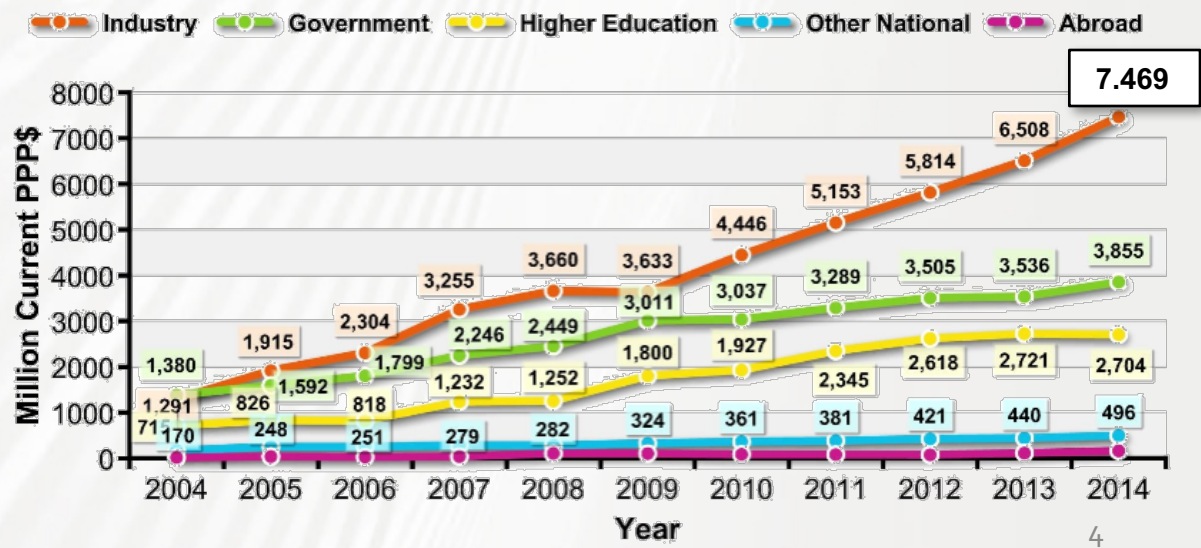


GERD per Capita Population:

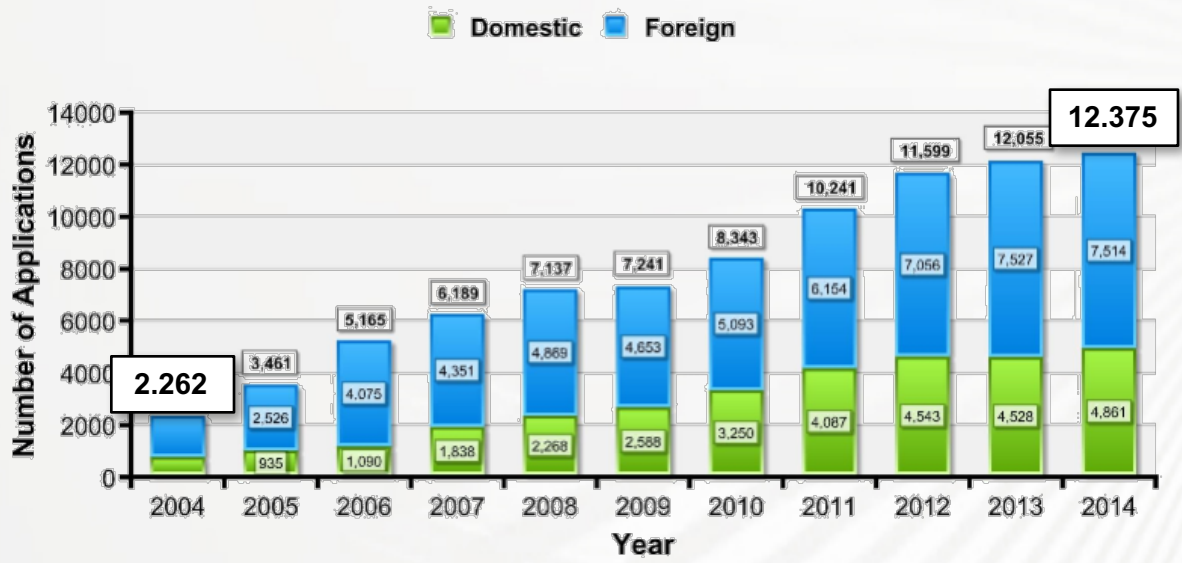
- More than 3 times increase since 2004

GERD by sources of Funds:

- Industry has the biggest share and fastest increase in R&D spending



Patents and Publications also Increasing

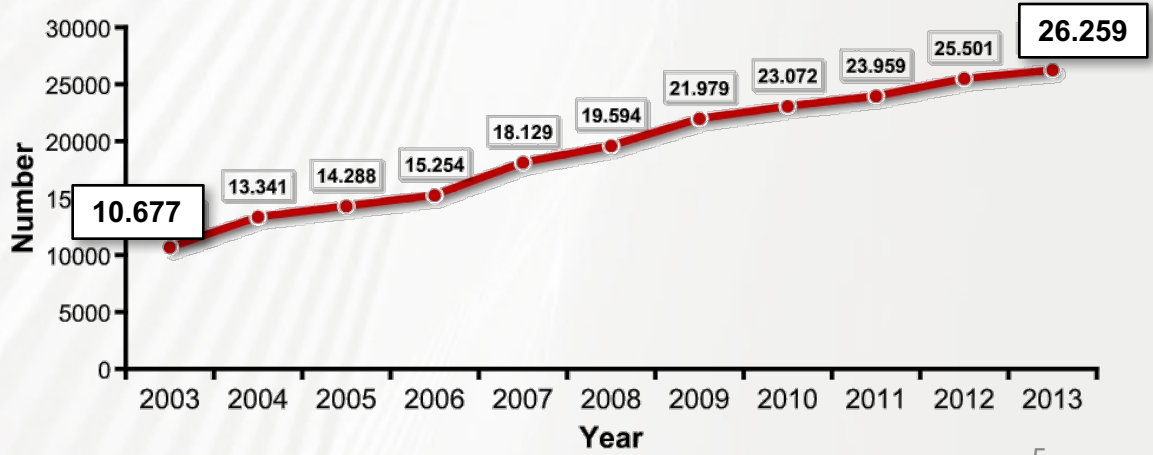


Patents:

• 5,4 times increase since 2004

Scientific Publications:

• 2,5 times increase since 2003



Greater Achievements in Turkey to boost reserach and innovation

In times of fiscal constraints, invest ingin education, R&D, innovation and ICTs. Such investments should where possible not only be protected from budget cuts, but should be stepped up.

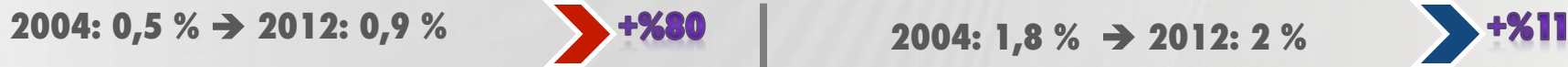
Turkey

EU

GERD



GERD as % of GDP



GERD per capita population



Source: Eurostat

IU: 2014

Turkey

EU

2007-2012

2007-2012

+4.4 %

R&D intensity

+2.4 %

+5.3 %

**Knowledge intensity of the
economy**

+1.0 %

+6.7 %

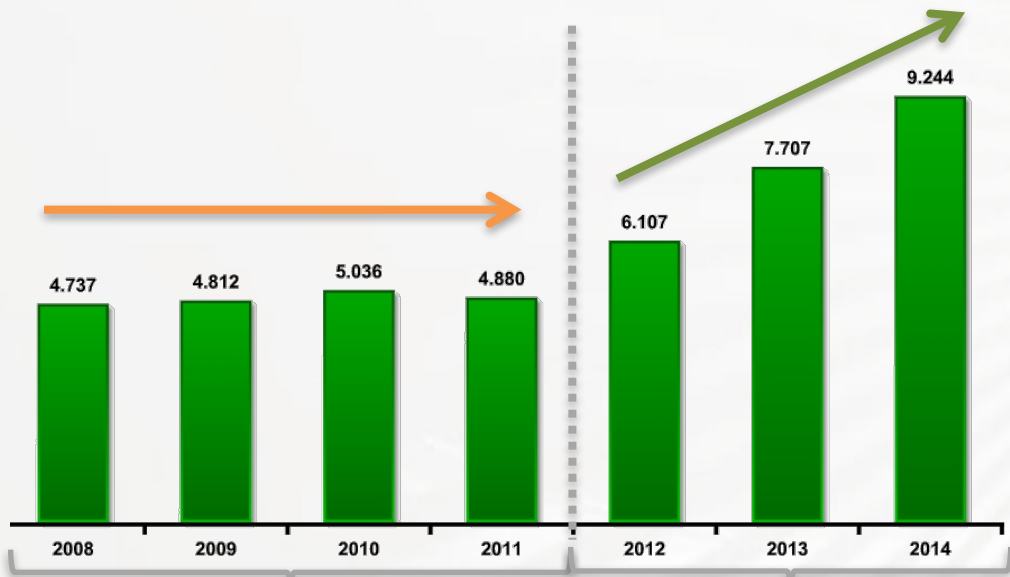
Excellence in S&T

+2.9 %

«Turkey is committed to improving its innovative capacity through smart policies and more investment in RDI activities.»

«Bottom-up strategic approach: private sector and academia have identified their R&D needs in a detailed and more efficient way, and support mechanisms have acquired a more targetted structure»

Innovation and Entrepreneurship Ecosystem Is Boosted



Yearly Av. **4.866** Applications

Yearly Av. **7.605** Applications

University
In the last 3 years project application numbers
1,9 times increased

Industry
In the last 3 years project application numbers

1,8 times increased



Yearly Av. **1.894** Applications

Yearly Av. **3.065** Applications

International Cooperation in Research

Research activities are rapidly being *internationalized!*



«Science» Magazine



- **Currently**, proportion of international scientific publications which are prepared by researchers from at least two different countries is 60%
- **It in 1992**, was only 20%
- the pace of *internationalization* in research is more than just fast!!!

In Today's World

Markets getting sophisticated, Customer needs and expectations differentiated;

Firms are forced to cooperate with actors in their target markets

Supplier

Customer

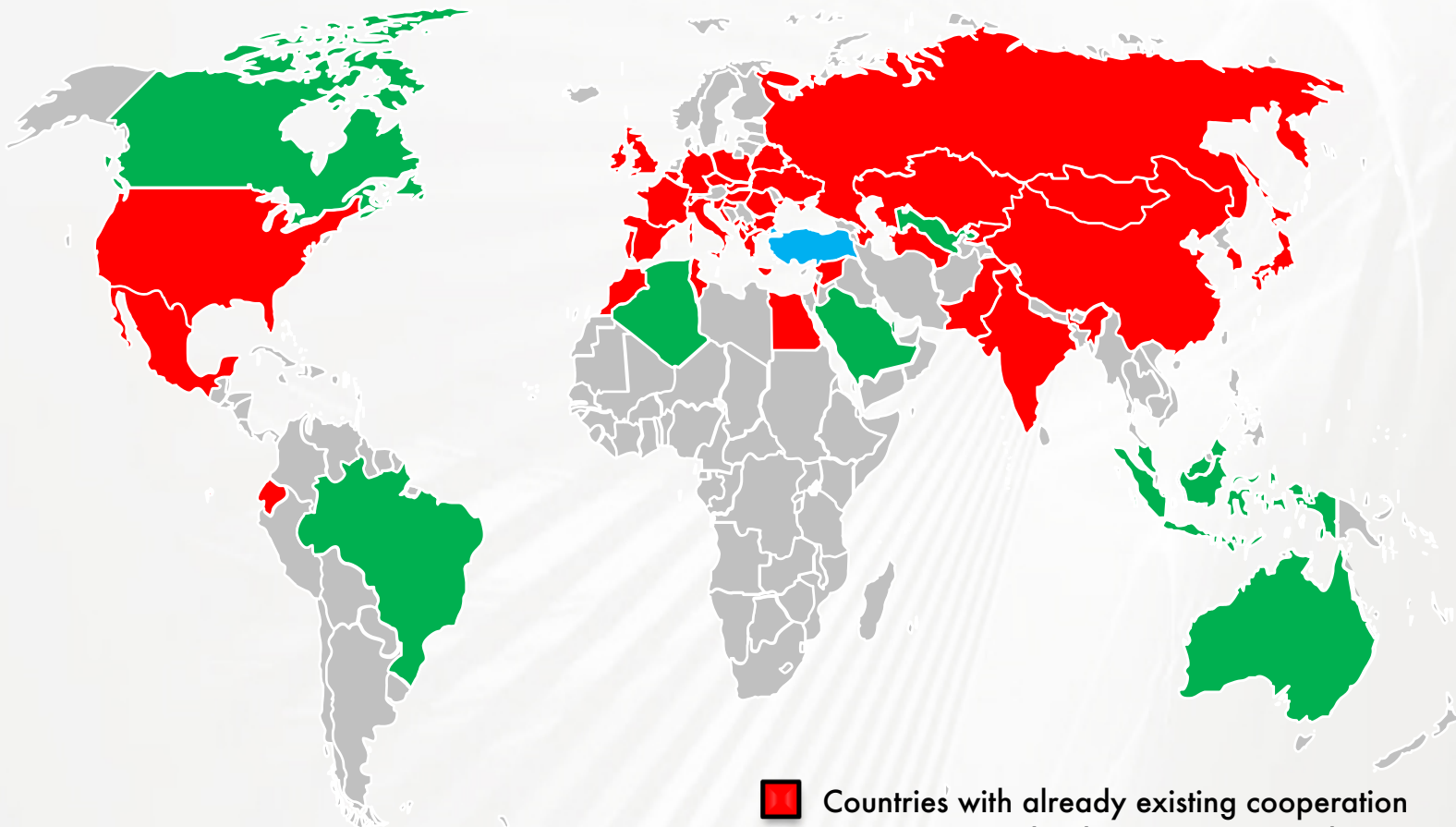
Competitor





Besides, «public procurement» decisions are increasingly influenced by pre-commercial partnerships aiming to transfer knowledge

It also is important to access the information about «industrial standards» and «regulations» in advance, to provide competitive advantage

Bilateral Cooperations of Turkey



-  Countries with already existing cooperation
-  Countries aimed to have cooperation by 2015-2016

2014 Turkey and Germany Science and Innovation Year



Capacity development and networking with Germany for H2020 calls

- Total: 74 Events
- 1.000 Turkish - 780 German Researchers



2+2 Specific Call

- 2+2 Programme Call first launched in 2009.
- 4 out of 16 applications were supported

- 2nd call launched in 2014.
- 130 applications received!!!

2015 TR-UK Science and Innovation Year



Newton-Katip Çelebi Fund

- Launched in September 2014
- **40 M Pound for Joint Projects between TR and UK**



Industry

Brokerage events to seek cooperation possibilities in H2020

2015



TTOs

Sharing of experiences for H2020 related services

June 2016



Sep. 2016

Thematic Studies

Brokerage events between SSH and SiS

Feb. 2016



NCPs

Sharing of experiences for H2020 related services

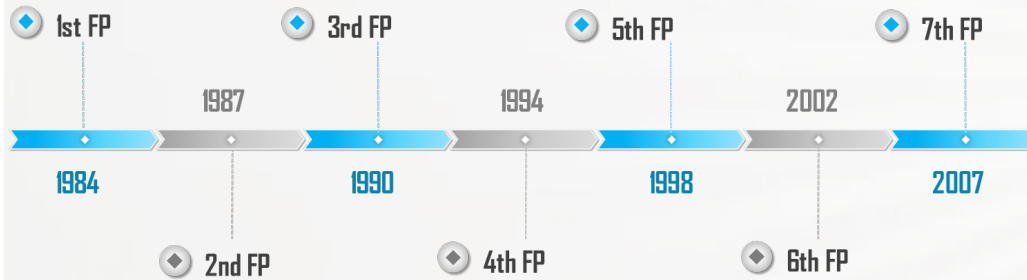
Sep. 2016



ERC

Sharing of best practices regarding ERC submissions.

EU Framework Programmes – Horizon 2020



2014-2020

Horizon 2020

Main Objectives

- ✓ Enhance economic competitiveness through global cooperation
- ✓ Transform the accumulation of knowledge and experience into economic value
- ✓ Generating new businesses and employment
- ✓ Taking science and technology into market by utilizing the sources efficiently
- ✓ Producing solutions for societal, economical and technological challenges
- ✓ Developing new economical relations and accessing to new markets
- ✓ Accessing to latest technology produced and used in other countries



EU Framework Programmes and Turkey



National Coordination Office

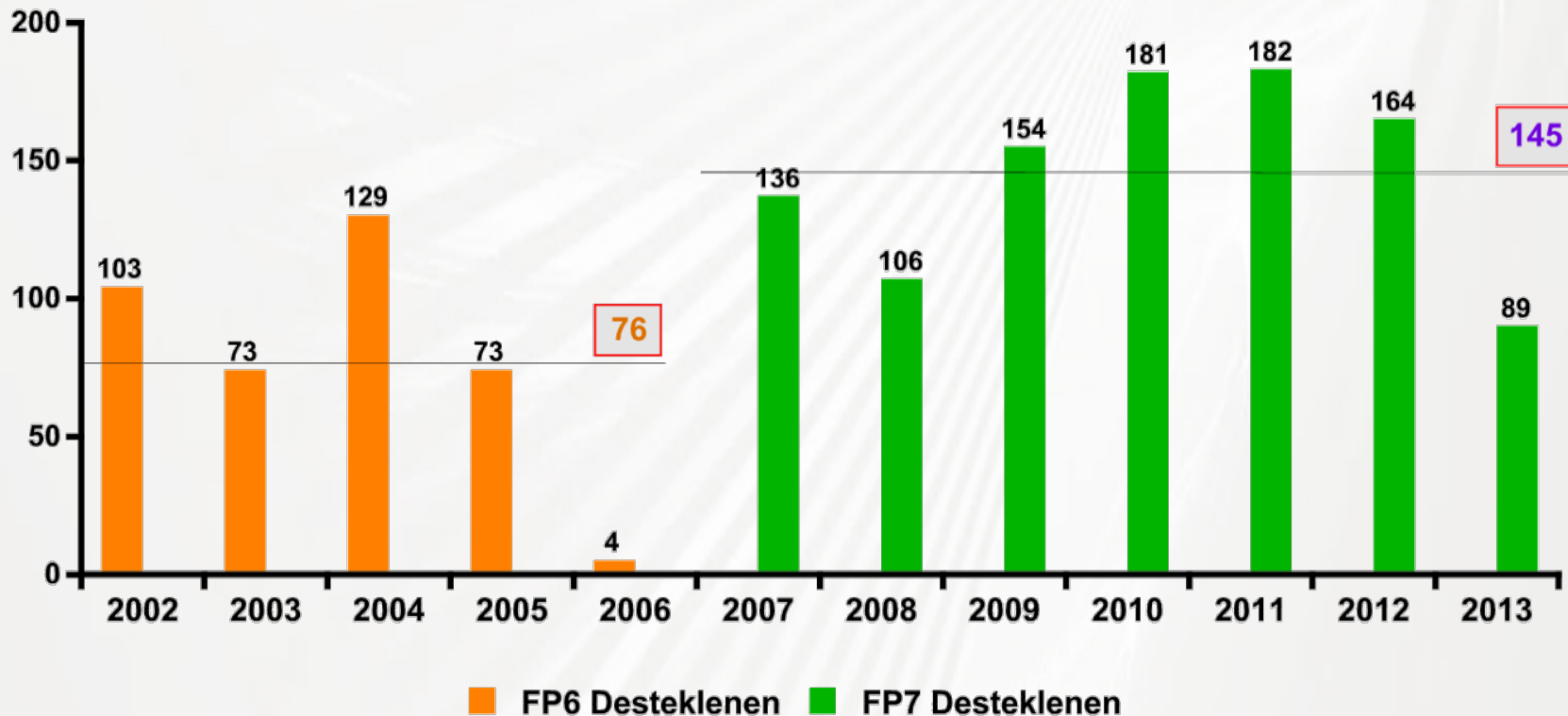


FP 6
2002-2006 (5 years) 19,1 Billion €

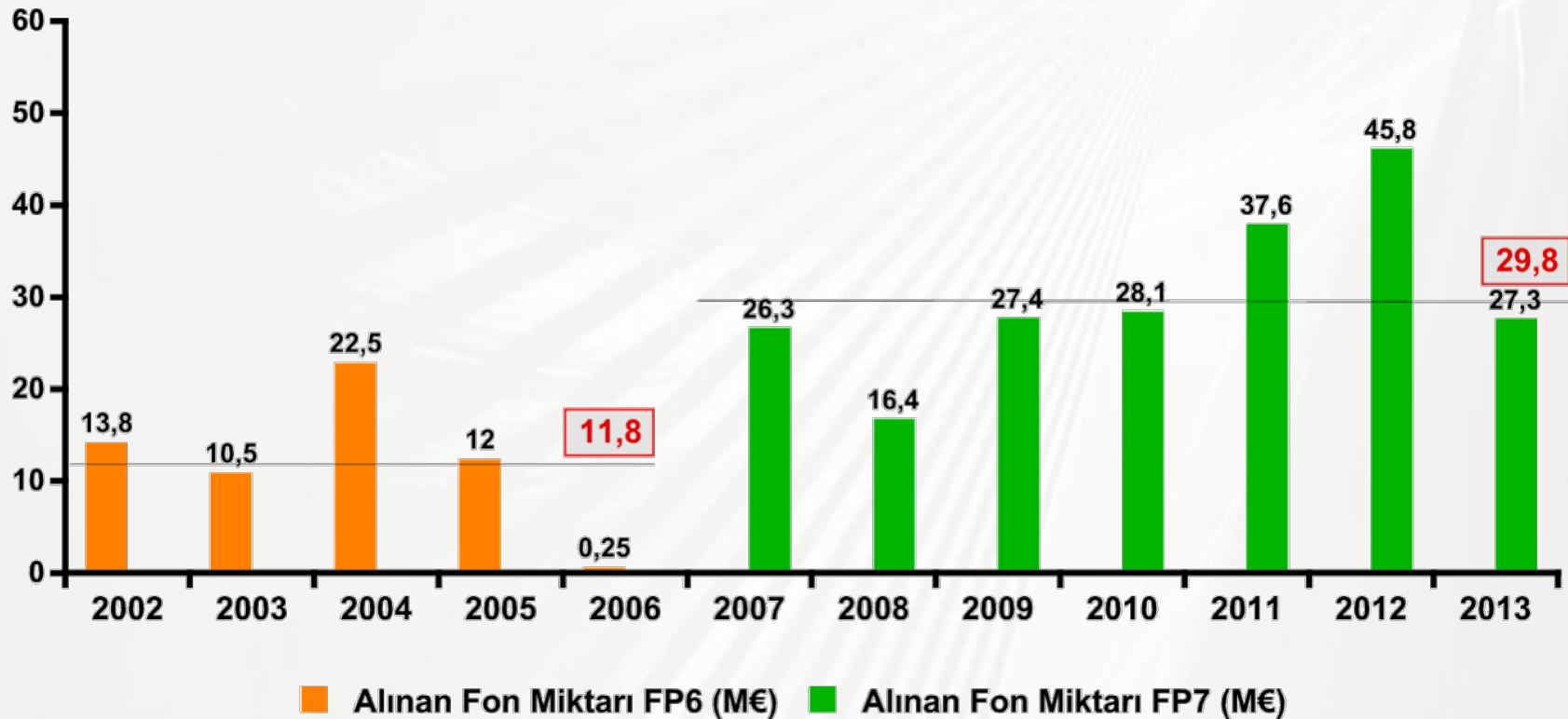
FP 7
2007-2013 (7 years) 53,2 Billion €

Horizon 2020
2014-2020 (7 years) 80 Billion €

Turkey's average annual number of projects increased by 2 times between the 6th to the 7th Framework Programme



Turkey's average annual return increased by 2,5 times between the 6th to the 7th Framework Programme





Total Budget: 53,2 Billion €, Return Amount: 209 Million €



**930 Turkish researchers, 9.500
European researchers**



**200 SME, cooperated with
2.000 European R&D actor**



**350 Turkish researchers in
European research centres**

**Toplam
Portföy
Büyüküğü**

1.012 Proje

1.206 Ortaklık

209 Milyon €

2,8 Milyar €



Benefits of Participation

Access to the latest technology

Projects that will shape future technologies

Partnerships with higher budgets and higher impact

Industry-Academia Collaboration

Access to new markets

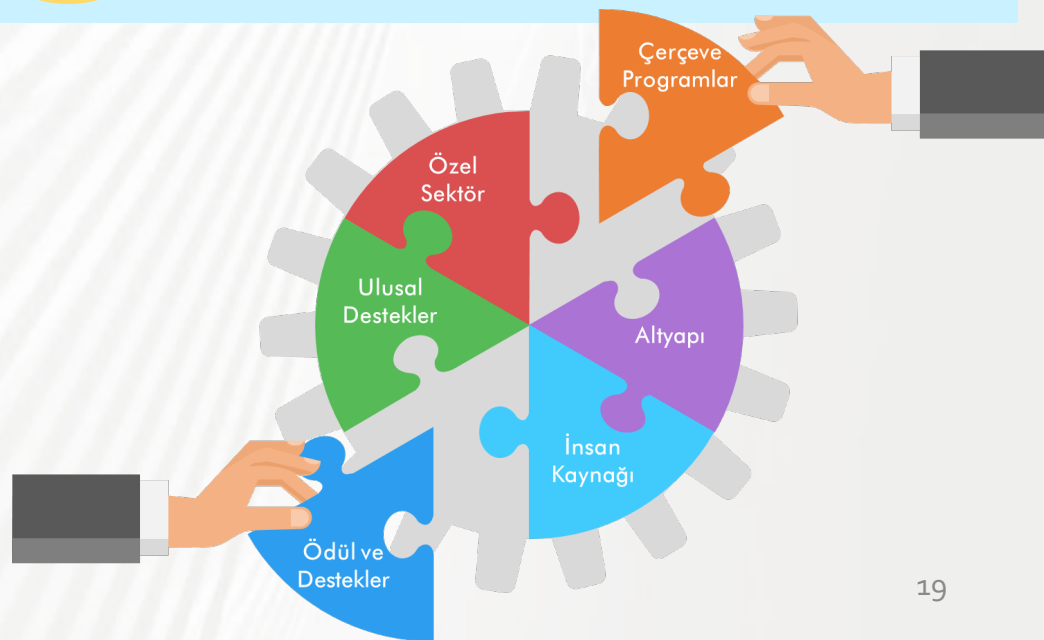
Economic Development

Access to «Industrial Standards» and «Regulations» in advance

Cooperation that complement the impact of national investments

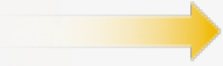
2023 Targets

To be one of the 10 first most competitive economies of the World



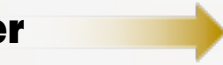
Example 1: Seamless Human-Robot Cooperation

Objective



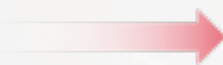
Integrating the latest industrial automation systems for assembly operations in combination with human capabilities

Turkish Partner



TOFAŞ «as the coordinator» (13 Partners)

Budget



0,7 Mn € / 8,7 Mn €



ROBO-PARTNER Human – Robot Cooperative Tasks Planner

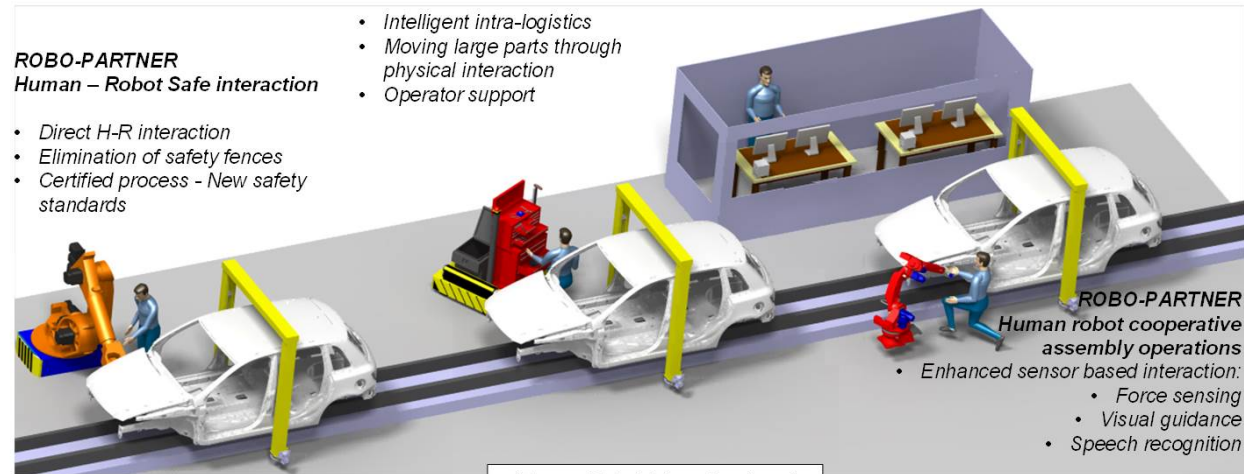
- Efficient planning of human & robotic resources
- Ergonomic optimization of tasks allocation
- Simplified programming of new tasks
 - Programming through direct physical interaction
 - Intuitive libraries

ROBO-PARTNER Mobile Robots

- Intelligent intra-logistics
- Moving large parts through physical interaction
- Operator support

ROBO-PARTNER Human – Robot Safe interaction

- Direct H-R interaction
- Elimination of safety fences
- Certified process - New safety standards



- ### ROBO-PARTNER Human robot cooperative assembly operations
- Enhanced sensor based interaction:
 - Force sensing
 - Visual guidance
 - Speech recognition

Low

Human Robot Interaction Level

High

Common workspace sharing

Mobile unit part handling

Joint task execution

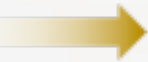
Example 2: Transportable Autonomous Patrol for Border Surveillance

Objective



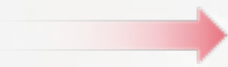
Designing, implementing and field-testing a prototype of adaptable and transportable border surveillance system

Turkish Partners



Aselsan, STM (13 Partners)

Budget

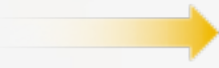


3,7 Mn € / 20 Mn €



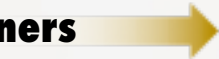
Example 3: Innovative Future Efficient District and Cities

Objective



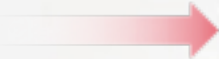
Developing a replicable, systemic and integrated strategy to adapt European cities and urban ecosystems into the smart city of the future

Turkish Partners

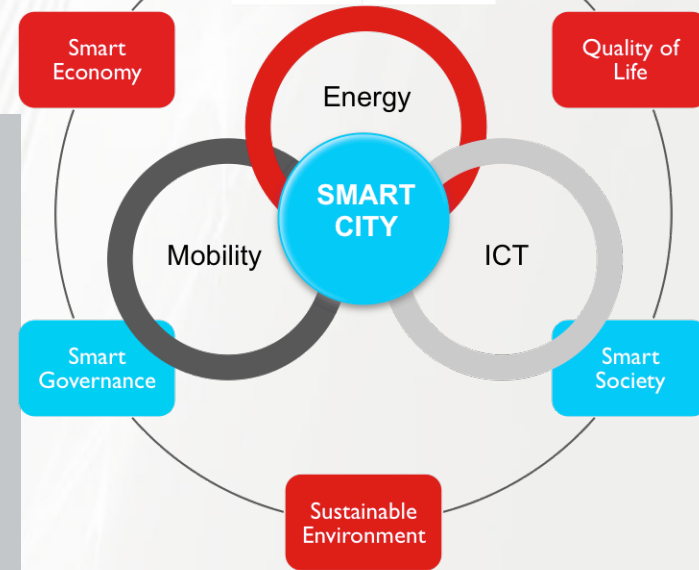


SEAŞ, Soma Municipality, TÜBİTAK Energy Institute, Istanbul Technical University, MIR R&D (18 Partners)

Budget



5 Mn € / 49,1 Mn €



Turkish Industry in Framework Programmes

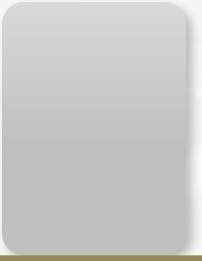


1.91 Billion €



Germany

1.26 Billion €



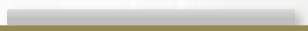
U.K

0,09 Billion €



Poland

0,06 Billion €



Turkey



Currently

%55



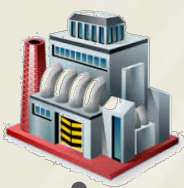
Academy

%20



SME

%11



Industry

%40



SME

%20



Industry

H2020 Target

Increasing share of Private Sector's Return in H2020 to

60%

City	# of Projects	Funded Budget (1.000 Euro)	Utilization
Ankara	501	93.176	40,7%
İstanbul	441	86.020	37,6%
İzmir	89	12.915	5,6%
Kocaeli	58	10.124	4,4%
Eskişehir	18	6.592	2,9%



OBJECTIVE 1

Increasing awareness at national level through enhanced training activities

OBJECTIVE 2

Development of initiatives and incentives aiming to encourage participation to the Programme

OBJECTIVE 3

Identifying capabilities in TARAL, increasing international visibility and developing cooperation with ERA

OBJECTIVE 4

Increasing cooperation with national institutions

OBJECTIVE 5

Developing synergy among national and international R&D programmes

OBJECTIVES
H2020 ROADMAP

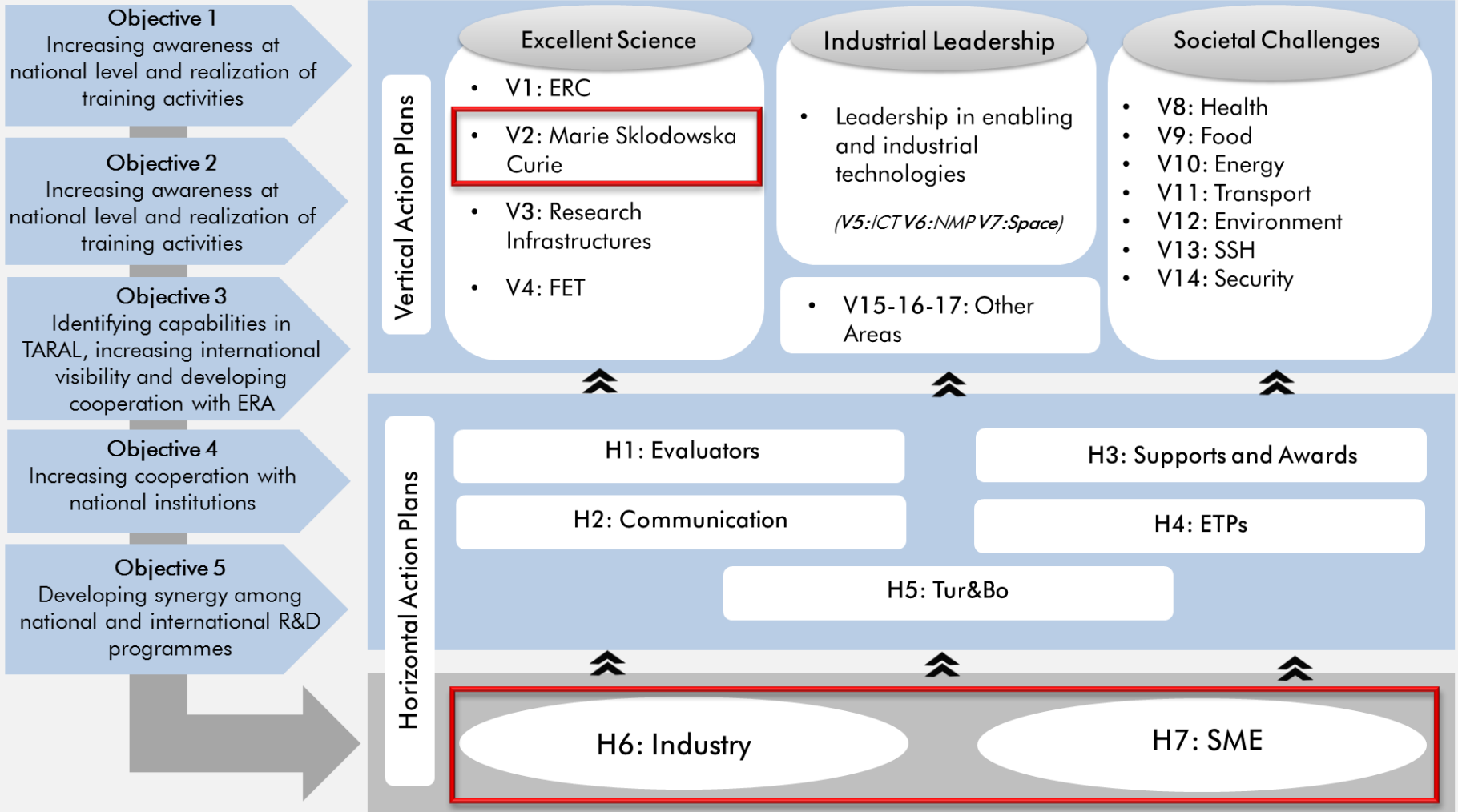
Steadily increasing and widening Turkey's participation in Horizon 2020 and maximizing the benefits to be utilized through participation to the Programme

.....
451 million Euro
.....

Integration with ERA

2015 Roadmap for Horizon 2020

Vision: Steadily increasing and widening Turkey's participation to Horizon 2020 and maximizing the benefits to be utilized through participation to the Programme.



A Set of Concerted Actions



Trainings

- Trainings
- Face to face meetings
- Promotion Materials



Workshops/Forums

- Focus Group Workshops
- Thematic Workshops
- Industry Forum



New Initiatives

- H2020 Support and Award Programme
- TR in H2020 Project



Side Initiatives

- Science and Inn. Years
- International Cooperation
- Synergy with IPA
- Destination TR
- International Mobility



Visibility

- TuRBo Office
- Advisory Boards
- Evaluators

Raise Awareness

Customize

Support

Facilitate

Lobby



HORIZON 2020

Raise Awareness - Trainings



Horizon 2020 Related Trainings and Face to Face Meetings

 University/
Research Ins.

 Industry

 SMEs

Public Bodies 

 Target Groups

2014

2015

173 Events
7.000 Participants
818 B2B

312 Events
11.166 Participants
1.200 B2B



Increase Participation - Workshops



TTOs

- 23 October 2014
- 13 February 2015



Evaluators/Panel Members in FPs

- 29 January 2015



European Enterprise Networks

- 10 February 2015



Industry Representatives

- 20 February 2015



Woman Researchers

- 9 March 2015



Regional Development Agencies

- 16 September 2015



PC Members/Thematic Groups (NMP)

- 15 September 2015
- 1 October 2015



2015: Meetings with 7 Different Focus Groups

Meetings with Stakeholders helped to boost participation of their R&I networks

Better Feedback to PCs

2016

Meetings with H2020 Thematic and Programme Level Sub-Groups

ERC, Health, Security, Transport, MSCA, etc.

Industry Workshop on the 20th of February 2015 in Ankara



Ortaya Konan Öneriler

- **Industry Representatives**
- **Chambers of Commerce and Industry**
- **Public Institutions**

Vize Sorunu

- Sanayi kuruluşu temsilcilerinin vize sorununun AB Bakanlığı yoluyla çözülmesi

Odak Gruplar

- Ulusal seviyede Ufuk 2020 Programı kapsamında odak çalışma grupları oluşturulması (imalat, enerji verimliliği grubu gibi)

Akademik Yükselme

- Akademisyenleri araştırma projelerine yönlendirmek adına, gerçekleştirecekleri ulusal ve uluslararası projelerin akademik yükselme sürecinde dikkate alınmasının sağlanması

Yeni Destekler

- Ufuk 2020 Mentörlük Desteğinin hayata geçirilmesi
- Uluslararası ağlara katılım destek paketinin oluşturulması

Diğer Konular

- 5746 sayılı kanun dahilindeki vergi istisnalarının kapsamının genişletilmesi
- Ufuk 2020 gelecek çağrılarının öncelikleri doğrultusunda, sanayinin kullanımına açık ulusal programların (1511/1003) Programlarının önceliklerinin uyumlaştırılması
- TURBO Ofisinin sanayi için de etkin kullanımının sağlanması



SUPPORT and AWARD PROGRAMMES



Quantity

New Actors

Quality

Better Projects

Leadership

More Coordinators

Promotion

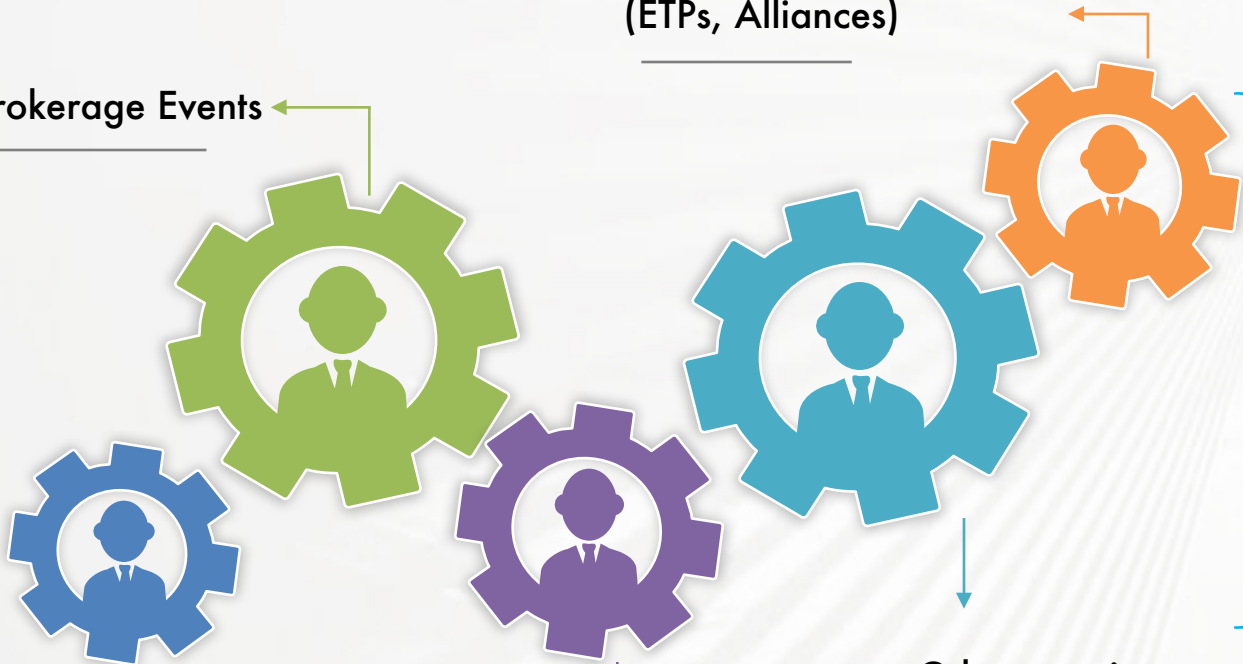
Generous Awards

Support for H2020 Oriented Travels



Strategic Networks
(ETPs, Alliances)

Brokerage Events



**Activities and Platforms
crucial for consortium
building**

Infodays

Consortium Meetings

Other meetings
crucial for calls
and
partnerships

**Before and After
Travel**

Necessary Documents

- Application Form
- Official invitation letter
- CV of applicants
- Contact/commitment letter

Up to 1.500 Euro for researchers and representatives/applicants

Eligible Costs

- **Accomodation**
- **Domestic Transport**
- **Visa**
- **Flight tickets**
- **Participation fee**
- **Daily Allowance**

**Travel
Support**

Important Issues

Report of meetings and events expected



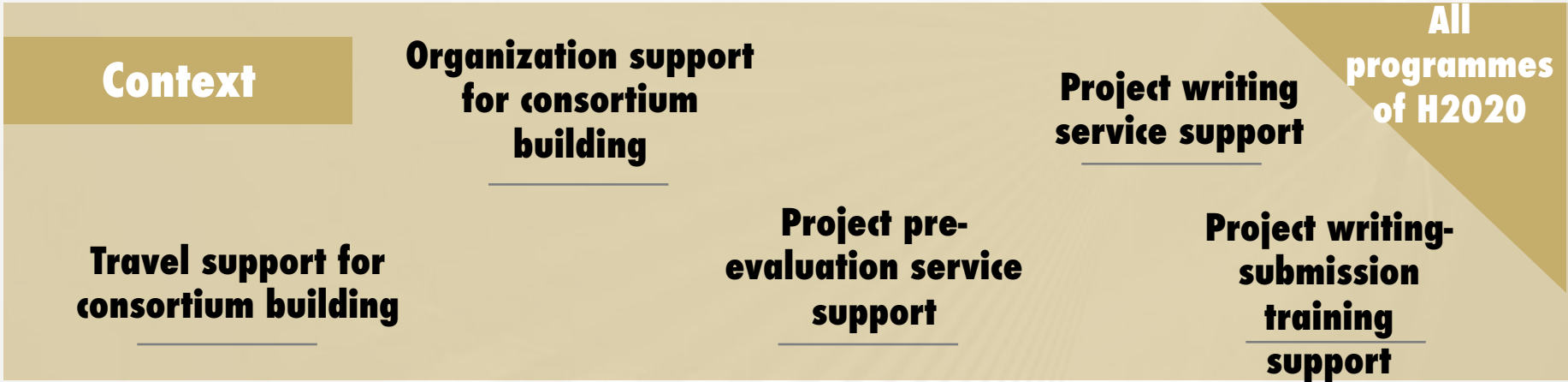
Max. 4 travel per year

**Obligation of project:
max 4 travel support
in same field**

Support for H2020 Coordinators



Up to 30.000 € support for each Potential Coordinator!



Travel Support

- Potential coordinator/project team
- Travel and accomodation
- Participation to meetings/lobbying EC
- Up to 4 travels per projects

Up to 1.500 €



Organization Support

- Organizations in Turkey or abroad
- Max. 2 days
- Venue, catering, technical equipments, travel for two representatives from project team

Up to 30.000 TL



Project writing-submission training

- **Coordinator Candidate or project team: Up to 3 people**
- **Training fee, travel and accommodation costs**
- **Participation to trainings (Financial Issues, IPR, Project idea compiling, etc.)**

Up to 9.000 €



Project writing support

- **Max. once for each project**
- **Converting ideas to project by professionals**

Up to 15.000 €

Project pre-evaluation support

- **Evand revision for submission**
- **Max. once for each project**
- **aluation of projects by professionals**

Up to 8.000 €

ERC Principal Investigator Enhancement Programme

Project Writing – Submission Trainings

- Conceptualizing and writing project idea
- Participation to upto 2 trainings
- **Per training incl. travel costs for 2.500€**

Project Pre-evaluation Support

- Evaluation by professionals before submission
- Evaluation of Project idea
- Written scientific evaluation: B Forms
- Via internet, telephone or meeting
- Travel support
- **Up to 7.500€**

Interview Trainings

- Participation to ERC interview trainings
- Participation of 1 training
- **Per training incl. travel costs for 2.500€**

EXCEPTIONS

- ERC applicants succeeded to pass the 1st stage
- MSCA IF grant holders
- TÜBİTAK Science Award Holders
- EMBO Settlement Support Programme, Young Researchers, Long-term fellowship holders
- COST action proposers

MSCA IF Project Pre-Evaluation



- **Project should be implemented in Turkey**
- **Candidates should be bearing the requirements of the MSCA Call**
- **B Form**

**Support for upto
8.000 €**

Granted Projects

Calculation Example

Budget	Formula	Partner	Coordinator
220.000	$3.500\text{€} + (\text{budget} \times 7\%)$	18.900	37.800
500.000	$8.500\text{€} + (\text{budget} \times 5\%)$	33.500	67.000
1.200.000	$28.500\text{€} + (\text{budget} \times 3\%)$	64.500	129.000

ERC Success Award

Programme	Formula
ERC Starting Grant	25.000 € + (budget x 9%)
ERC Consolidator Grant	30.000 € + (budget x 9%)
ERC Advanced Grant	35.000 € + (budget x 9%)

Example (Euro/€)

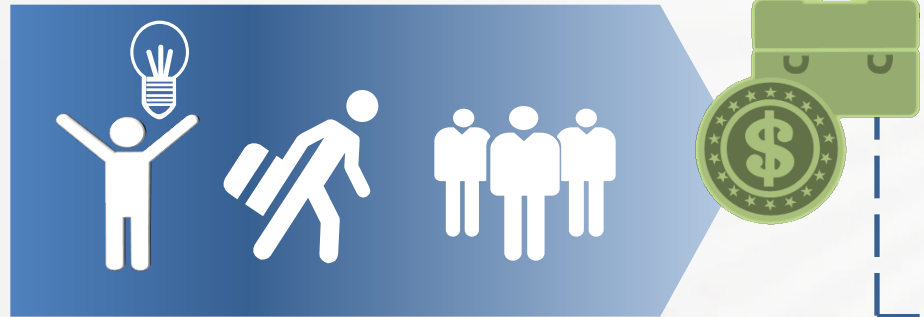
Project Budget	Starting Grant	Advanced Grant
1.500.000	160.000	170.000
3.000.000	295.000	305.000

Supporting Participation - New Programmes



Support for Bringing Coordinators to Turkey

**Foreign Coord.
Support**

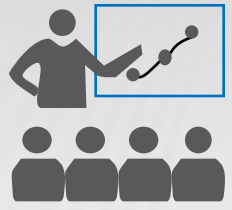


- Enabling meeting of Turkish researchers with potentially strong Coordinators from abroad

Content



- Turkish Researcher who wish to bring foreign coordinator to TR will apply



- Small workshops and bilateral meetings



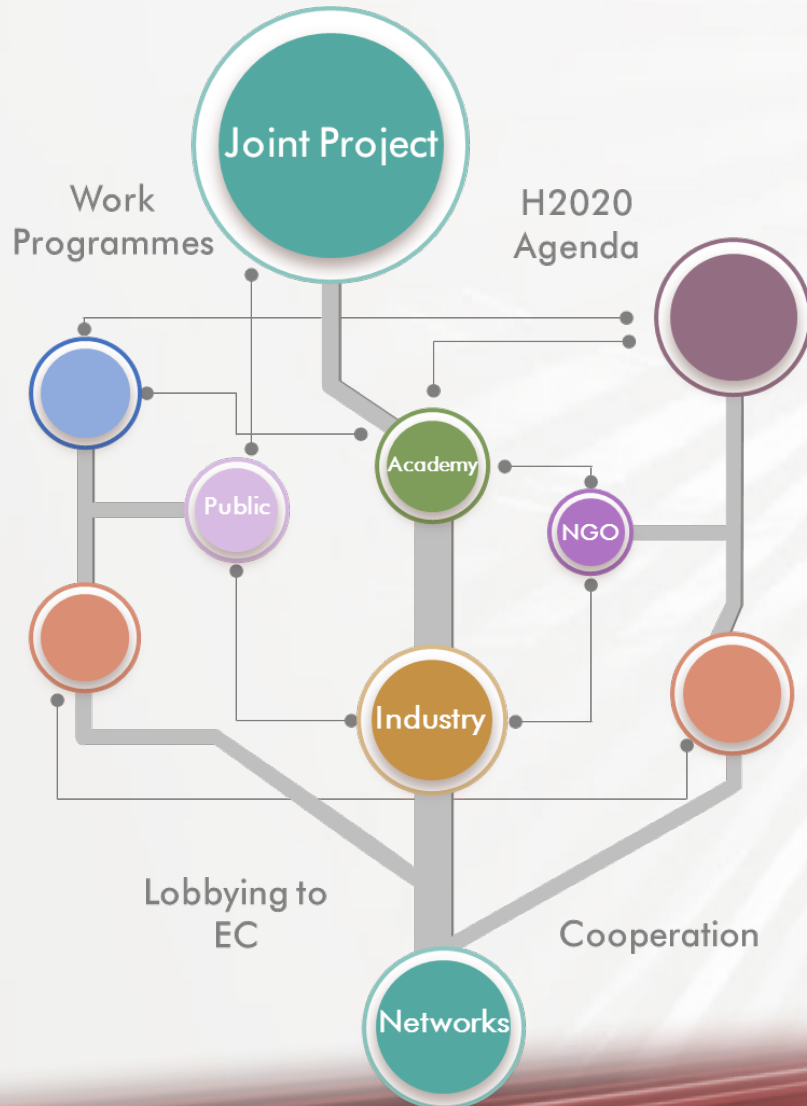
- Travel and Accomodation Support

- Total 2.000 €

Being Planned

Support for Participation to Active Networks in H2020

**Network
Building
Support**



Content

- Networks active in Europe for H2020 and accepted by TUBITAK
 - ETPs
 - Industry Associations
 - Umbrella Organizations

Support

- Certain amount of membership fee of Turkish organizations
- After 3 years of membership support could be withdrawn once the Turkish organization have not participate to H2020 projects

Being Planned

One-to-One Consultancy and Mentorship

Mediation for Partnerships

Support in Project Execution



Award and Support Incentive Mechanisms

IPA Projects with EU Contributions

.....

«TurkeyinFP7» Project



Duration : 24 May 2011 – 24 March 2014 (34 Months)

Budget : 2.250.000 Euros



TurkeyinFP7
Cooperation | Research | Technology

Activity	Realized
Establishing an «Information Multipliers System»	51 Information Multipliers through Turkey
Trainings	Advanced Trainings to 1.000 People
SME Consultancy	One-to-One Consultancy to 103 SMEs
Consultancy on Intellectual Property Rights	Consultancy to 31 Firms
Travelling Grants	For 120 Researchers
e-Learning Modules	Development of 5 e-Learning Modules

- **September 2011 – Istanbul – «ICTurkey 2011»**
 - Information and Communication Technologies
 - Minister of Science and Industry attended
 - 215 participants with project ideas



- **May 2012 – Istanbul – «TurKey Enabling Technologies 2012»**
 - Biotechnology, Advanced Materials, Manufacturing Technologies, Space Technologies
 - DG Research and Innovation attended
 - 450 participants



- **October 2012 – Brussels – «Turkey In2Societies»**
 - Socioeconomic Science and Humanities, Secure
 - 171 participants



«Turkey in Horizon 2020 Project» supported by IPA

Objective: Capacity development in TARAL for Horizon 2020

Budget

2,7 M €

Duration

27 Months

Launch Date

October 2015

Evaluation is completed

**Brokerage events for
2016-2017 calls**

Kick-off Preparations

		Membership	Championship
Political	Membership App to EEC	1959	?
Sports	UEFA	1962	2000
Music	Eurovision	1975	2003
Science/Innovation	Framework Programmes	2003	





Thanks you

karatas.hakan@tubitak.gov.tr

<http://www.h2020.org.tr/>