



**TURKEY_{in}
HORIZON 2020**
COOPERATION AND INNOVATION COOPERATIVENESS

TURKEY IN HORIZON 2020
ALTUN/HORIZ/TR2012/0740.14-2/SER/005



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H2020 General and Introductory Training

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Project "Turkey in Horizon 2020"










**TURKEY_{in}
HORIZON 2020**
COOPERATION AND INNOVATION COOPERATIVENESS

Dr. Thies Wittig

- PhD in Computer Science
- 12 years in industrial research department (signal processing, artificial intelligence)
- In 1995 creation of own company IT Consult GmbH, Germany
- Since 1986 involved in international collaborative research projects, as researcher, manager, coordinator ...
- Long experience as EC proposal evaluator and project reviewer
- Until today involved in around 25 projects in Europe, Middle East, Far East, Balkan countries and Turkey



Why is Europe spending money on R&I?

TURKEY
in
HORIZON 2020
... by joining forces
across Europe

Investing in R&I is essential for Europe's future: Smart, sustainable, and inclusive growth.

R&I to improve of lives, protect our environment, and make our industry more competitive.

Creating a European Research Area – ERA: coordinate national research policies, pool research funding to avoid duplication.



EC Funding is not new ...

EC funding for research, development, innovation started in the 80ies with a small funding programme

Strong European economies had their large national funding programmes for R&D – smaller countries did not

Gradual move from national funding to European funding:

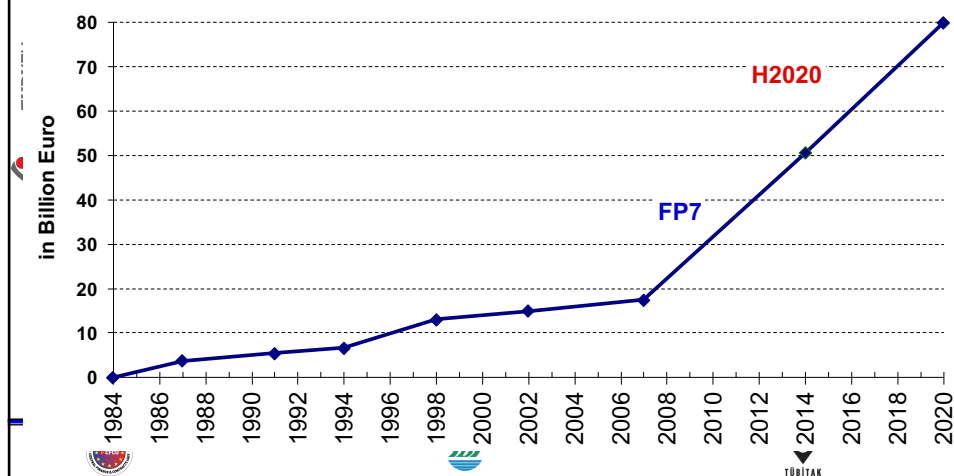
- Avoiding overlaps in R&D
- Tying in smaller countries



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FP Budget Development

- Horizon 2020 has nearly €80 billion Euro of funding available over 7 years (2014 to 2020).



Principles of EU R&D&I Activities



- Transnational collaboration (min. 3 partners/3 countries from MS or AC)
- Open to all: Industry, SMEs, Universities,...)
- Based on strategic objectives - programme oriented
- Consortia are selected by Calls for Proposals
- Innovative, based on science & technology excellence
- Competitive - competition of the best teams in EU
- Project results are the property of the participants



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28 (27) Member States and 16 Associated Countries

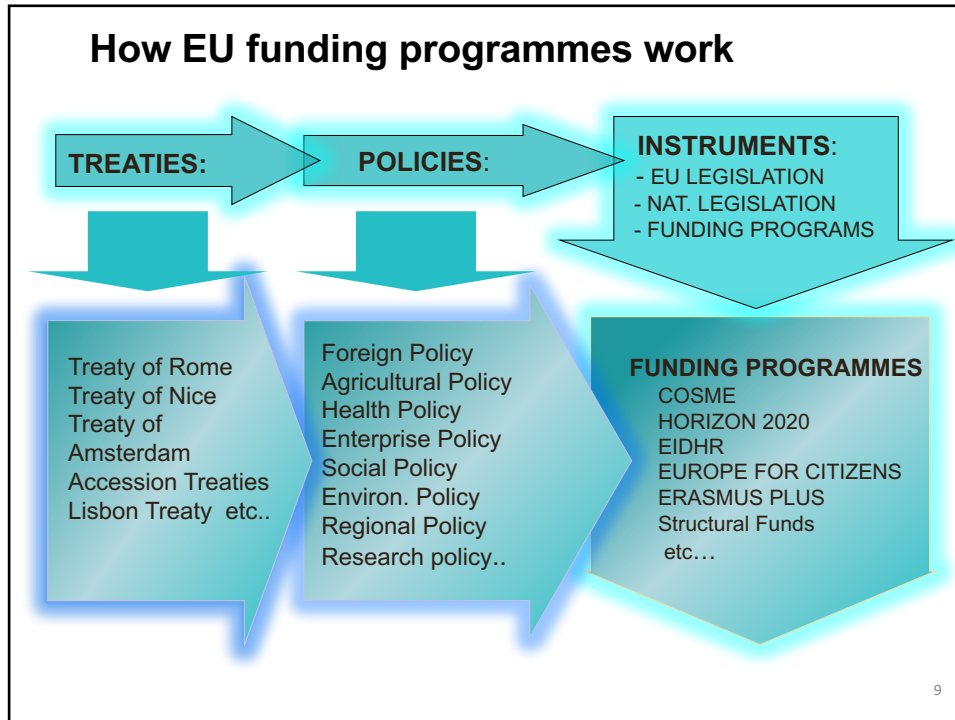


Associated Countries

- Iceland
- Norway
- Albania
- Bosnia and Herzegovina
- The former Yugoslav Republic of Macedonia
- Montenegro
- Serbia
- **Turkey**
- Israel
- Moldova
- Switzerland
- Faroe Islands
- Ukraine
- Tunisia
- Georgia
- Armenia



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... before we start

What is a proposal and what is a project ?

Assume that a number of organisations want to work together to achieve a certain goal.

- They write a **Proposal**: a document that describes in detail what they want to do, how and why.
- It covers the scientific/technical aspects, a concrete management/work plan and describes how the results will be used after the end of the project (exploitation) and what the long-term impacts are.

A proposal is not legally binding !



... before we start

If this proposal is accepted, then it becomes a Project.



- The **Project** consists of the same consortium as the proposal, to achieve a given goal, funded by the EC.
- The proposal text becomes the "Description of Work", the **DoW**.
- This **DoW** becomes part of the contract with the EC and **is legally binding**.



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Some examples ...



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Energy Efficiency



TURKEY
HORIZON 2020
COMPETITIVE AND INNOVATIVE LEADER PROGRAM



Personal Energy Administration Kiosk
application: an ICT-ecosystem for
Energy Savings through Behavioural
Change, Flexible Tariffs and Fun



Funding 1.938 mill Euro. Start 3/2016, 3 years



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PEAKapp targets the development of an unprecedented ICT-to- Human ecosystem to trigger lasting energy savings through behavioural change and continuous engagement, to enable increased consumption of clean and low-priced electricity from the spot market for household customers, to connect them to social networks, to motivate them through serious gaming, and to boost the efficacy of Smart Home building energy management systems by integrating their functionalities into the PEAKapp solution.



TURKEY
HORIZON 2020
COMPETITIVE AND INNOVATIVE LEADER PROGRAM




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| | | | |
|---|---|--|---|
|  |  EI-JKU - Energieinstitut an der Johannes Kepler Universität Linz Austria |  IJS - Ijsfontein Interactive Media The Netherlands |  Tecnalia - Fundacion Tecnalia Research & Innovation Spain |
| |  GreenPocket GmbH Germany |  ENAMO GmbH Austria |  ELDER - Elektrik Dagitim Hizmetleri Derneği Turkey |
| |  220E - 220Energiya OÜ Finland, Estonia, Sweden, Latvia |  DTU - Danmarks Tekniske Universitet Denmark |  RTDS - RTDS Association Austria |
| |  BED - Baskent Elektrik Dagitim A.S. Turkey | | |
| | | | |




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ICT : Advanced Cloud Infrastructures and Services




SecUre iNformation SHaring in
federated heterogeneous private clouds



Funding: 4.520 mill Euro. Start 1/2015, 3 years

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Today the European Public Sector Players lack the necessary infrastructure and technology to allow them to integrate their computing clouds. Furthermore, legislative barriers often make it difficult to use available commercial technological solutions. The SUNFISH project aims to provide a specific and new solution to face these issues. SUNFISH will enable the secure federation of private clouds based on the Public Sector needs: federated private clouds belonging to different Public Sector Entities will be able to share data and services transparently, while maintaining required security levels.








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Partners



- 4 Public Bodies
- 3 Academic Partners
- 2 Industrial Partners
- 1 Public-funded non-profit association
- 1 SME

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What is HORIZON 2020

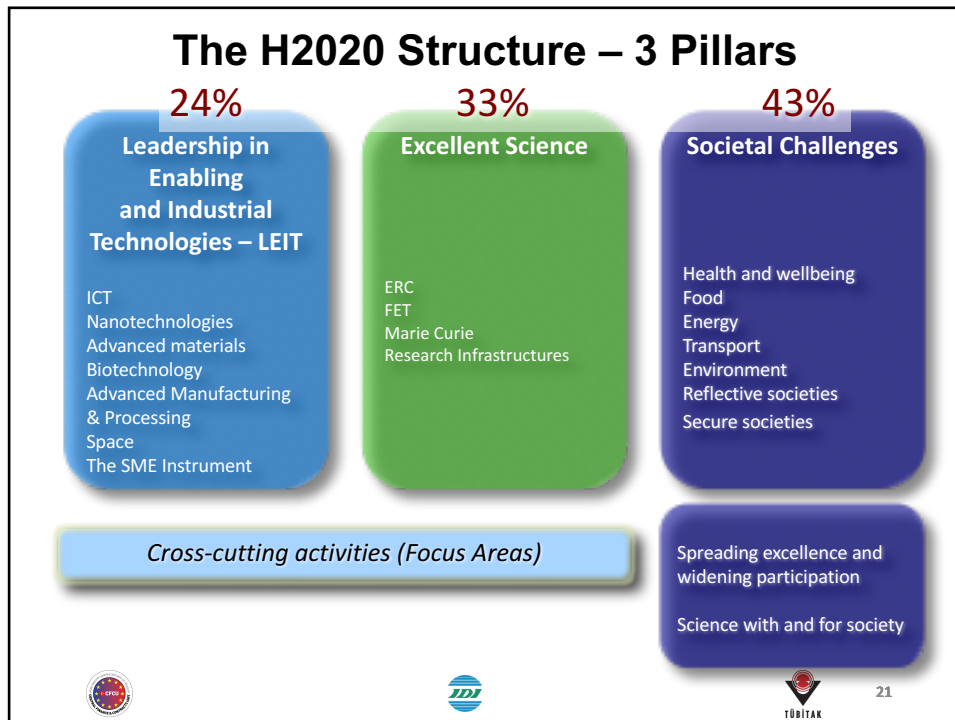
Horizon 2020 funding focuses on Research and Innovation.

It does not cover, for example, Education or Arts.


It addresses 3 main areas ("Pillars"):

- Technologies to strengthen Industrial Leadership.
- Excellent Science to make European research and innovation system more competitive.
- Societal Challenges, responding to the priorities of the EU2020 Strategy.





Remember: H2020 is called



Framework Programme for Research and **Innovation**

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What is Innovation ?

What is INNOVATION and why is it so important?

- New ideas ?
- New knowledge ?
- New research results ?
- New methodologies ?

Of course, but ...



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What is Innovation ?

- Innovation = Invention (research) + **exploitation**
- A new way of doing things, which is commercialized.
- Schumpeter said “an idea that finds its way to the market”

Innovation relates to **Products, Processes,**
or **Business Models**



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INNOVATION

- Innovation is **not improvement**, it is doing something **different**
- Innovation results in a **big impact**
- Innovation is **invention applied**
- Innovation can be **disruptive**



Let's look at some examples ...



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INNOVATION



Is this idea from 1956 Innovation?

No!
It never went past this first stage.



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INNOVATION



1979

Was this SONY walkman an Innovation?

Yes!

A completely new concept that was highly successful on all markets!

Was it a Disruptive Innovation?

No!

There was nothing comparable to it before.



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INNOVATION



Are MP3 players an Innovation?

Yes!

A new concept (small, light, no moving parts) that is highly successful on all markets!

Was it a Disruptive Innovation?

YES!

It killed the tape-based walkman!



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INNOVATION

What is next?



Streaming to mobile devices!

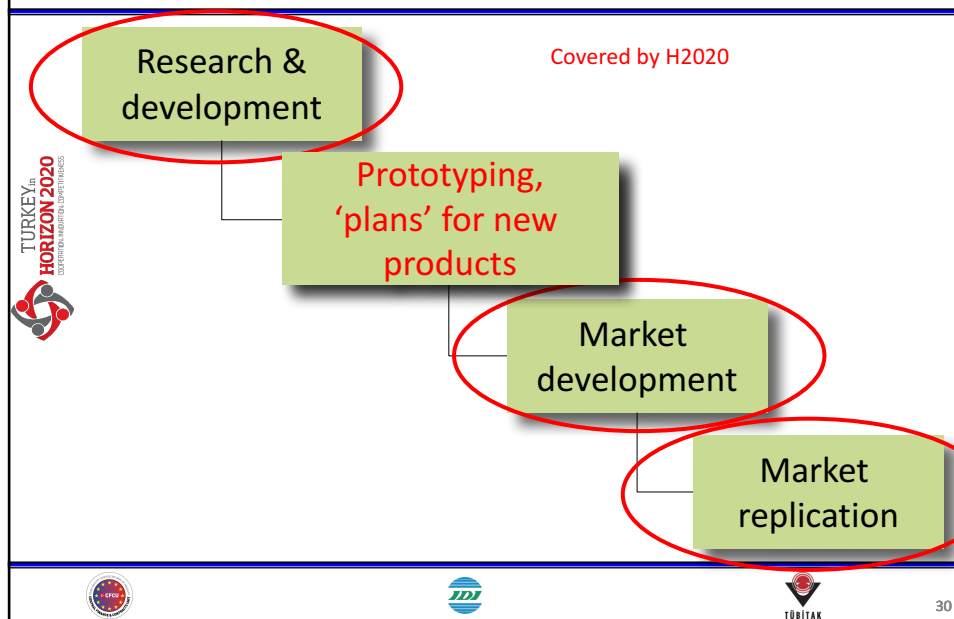
**Disruptive?
At least a serious threat to MP3 players but also to CDs.**

While many of the past Innovations have disappeared or will in the future, some core Innovations remain as essential ones:
For example, the MP3 encoding.
Developed and patented by Fraunhofer Institute, Germany, in 1993



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The Innovation Chain



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Research and Innovation

Calls in **Industrial Technologies** and **Societal Challenges** either address

- Research and Innovation (RIA), or
- Innovation (IA)



For Innovation calls, the research part has been done previously and some prototype of a certain matureness must exist.

How can we measure such maturity?



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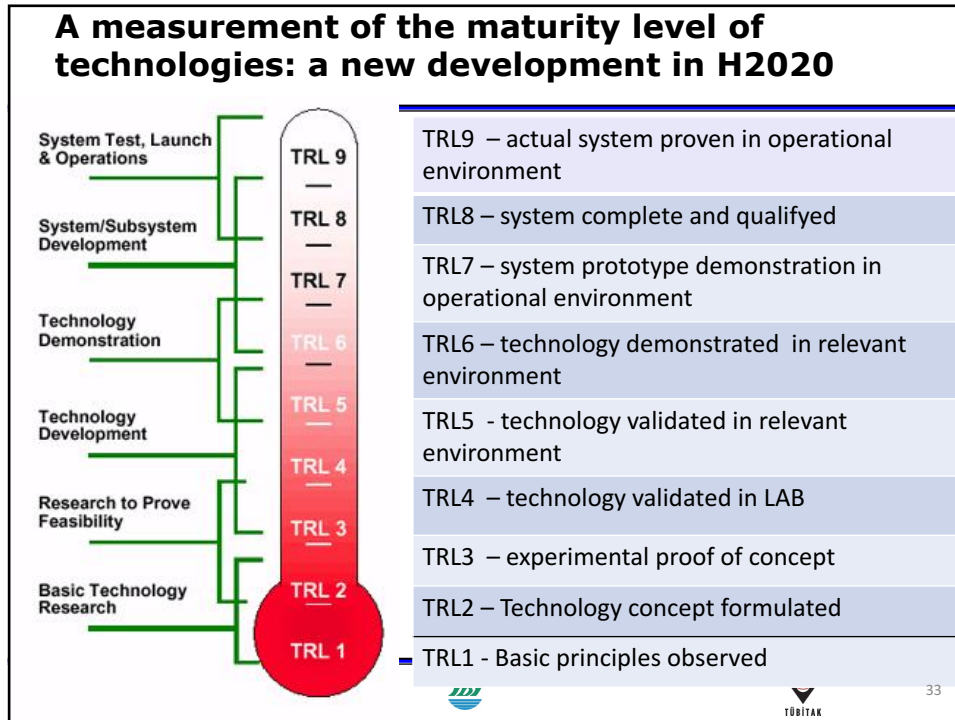
Measuring Technology Matureness

Technology Readiness Levels (TRLs)

- The use of TRLs as a measurement of the maturity level of particular technologies is a new development in Horizon 2020.
- TRLs provide a common understanding of a technology development status
- Many of the call topics have a defined TRL at which the implementation of the proposal is intended to start. For example a project has to start at TRL 3 and end at TRL 5.



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Innovation and the Private Sector

To ensure that innovation is happening in H2020



SME participation become obligatory in most projects. Around 20% of the total budget for Societal Challenges and LEITs must go to SMEs.

This is good news for SMEs, of course !

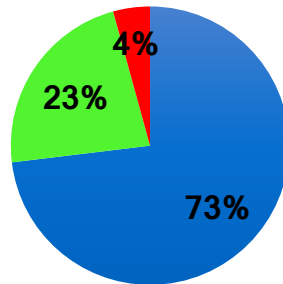
It is also an important message for universities: purely academic consortia in these 2 areas are out !



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Specific opportunities for SMEs

A specific SME instrument comes under the H2020 objective of 'smart, sustainable and inclusive growth', however with a small budget!



- LEIT & S.C. without SMEs
- LEIT & S.C. SMEs only
- SME Instrument



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THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

HORIZON 2020

The practical side

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How easy will it be to get H2020 funding ?

The competition is even higher as in FP7, with an average success rate going down to 11%.

But also, as before, excellent proposals that are fully in line with the objectives of a call stand a realistic chance to win.



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Types of actions supported by grants

- **Research and Innovation Actions**
- **Innovation Actions**
- **Coordination and Support Actions**
- **SME instrument**
- ERANET Co-fund
- Pre-commercial procurement Co-fund
- Public procurement of innovative solutions Co-fund



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Research and innovation actions

- Actions primarily consisting of activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution.
- For this purpose they may include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment.



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Innovation actions

- Actions primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. Often specific TRL levels are required as a starting point.
- For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.



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Coordination and support actions

Actions consisting primarily of **accompanying measures** such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of networking and coordination between programmes in different countries.



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Work Programmes

What are these Work Programmes and what do they contain?

The **Participants Portal**:

Where to find them:

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/>



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RESEARCH & INNOVATION
Participant Portal

European Commission > Research & Innovation > Participant Portal > Calls

HOME **FUNDING OPPORTUNITIES** HOW TO PARTICIPATE EXPERTS SUPPORT Search PP

EU Programmes 2014-2020

Search Topics

Call Updates

Calls

H2020

Research Fund for Coal & Steel

COSME

3rd Health Programme

Consumer Programme

Calls for Proposals

Horizon 2020

- ☐ Future and Emerging Technologies (FET)
- ☐ Marie-Sklodowska-Curie Actions
- ☐ Research Infrastructures
- ☐ Industrial Leadership
- ☐ Leadership in enabling and industrial technologies (LEIT)
 - ☐ Information and Communication Technologies
 - ☐ Nanotechnologies
 - ☐ Advanced materials
 - ☐ Biotechnology


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http://ec.europa.eu/research/participants/portal/desktop/en/funding/reference_docs.html


TURKEY ⁱⁿ HORIZON 2020
COOPERATION AND INNOVATION LEADER PROGRAM




- Legal basis
 - Framework programmes (EC-Euratom)
 - Rules for participation
 - Specific programme
 - European Institute of Innovation and Technology (EIT)
- Grant agreements, contracts and rules of contest
 - Model grant agreements
 - Rules of contest of prizes
 - Contracts for experts
- Guidance
 - Section on beneficiary registration, validation and financial viability check
 - Section on proposal submission and evaluation
 - Annotated Model Grant Agreement
- Specific guidelines
 - ERC rules for submission and evaluation
- Work Programmes
 - 2014-15
 - 2016-17
 - Main WP
 - 1. Introduction 2016-17_v.2.0 >
 - 2. Future and Emerging Technologies (FETs) 2016-17_v.2.0 >
 - 3. Marie Skłodowska-Curie actions (MSCA) 2016-17_v.2.0 >
 - 4. Research infrastructures (including e-Infrastructures) 2016-17_v.2.0 >
 - 5. Introduction to Leadership in enabling and industrial technologies (LEITs) 2016-17_v.2.0 >
 - 5i. Information and communication technologies (ICT) 2016-17_v.2.0 >
 - 5ii. Nanotechnologies, advanced materials, advanced manufacturing and processing, biotechnology 2016-17_v.2.0 >
 - 5iii. Space 2016-17_v.2.0 >
 - 6. Access to risk finance 2016-17_v.2.0 >
 - Innovation in SMEs 2016-17_v.2.0 >


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1. Introduction 2016-17_v.2.0
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- 5iii. Space 2016-17_v.2.0
6. Access to risk finance 2016-17_v.2.0
7. Innovation in SMEs 2016-17_v.2.0
8. Health, demographic change and wellbeing 2016-17_v.2.0
9. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy 2016-17_v.2.0
10. Secure, clean and efficient energy 2016-17_v.2.0
11. Smart, green and integrated transport 2016-17_v.2.0
- ...






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EN

Horizon 2020

Work Programme 2016 - 2017

5 iii. Leadership in Enabling and Industrial Technologies - Space




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| | |
|--|-----------|
| <i>HORIZON 2020 - Work Programme 2016 - 2017</i> | |
| <i>Leadership in Enabling and Industrial Technologies - Space</i> | |
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KEY FACTS AND FIGURES

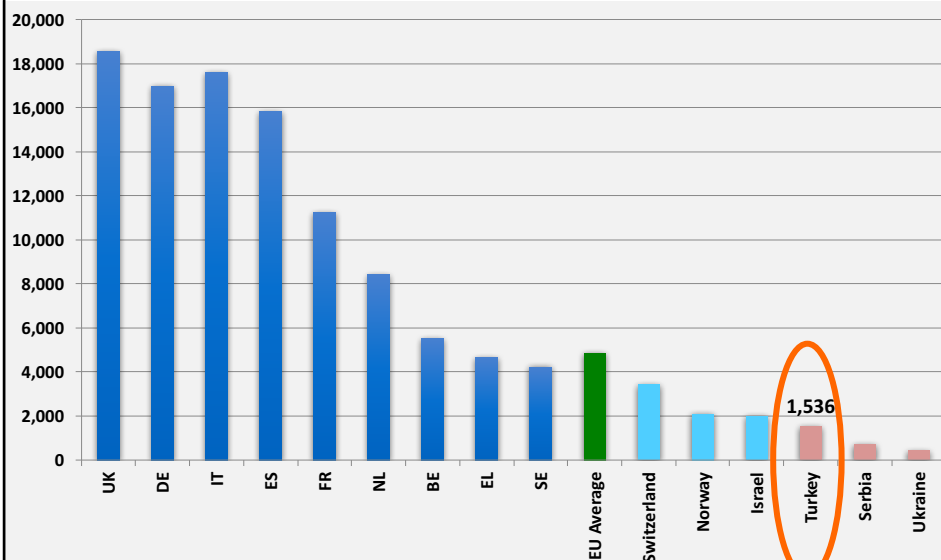


- Over **76,400 proposals** were submitted in the first two years, requesting a total contribution of €125.4bn.
- Around **9,200 proposals** were retained for funding. The overall success rate was **11.8%**.
- Over **9,000 grant agreements** were signed by 1/9/16, with a budget allocation of over **€15.9bn** funding.

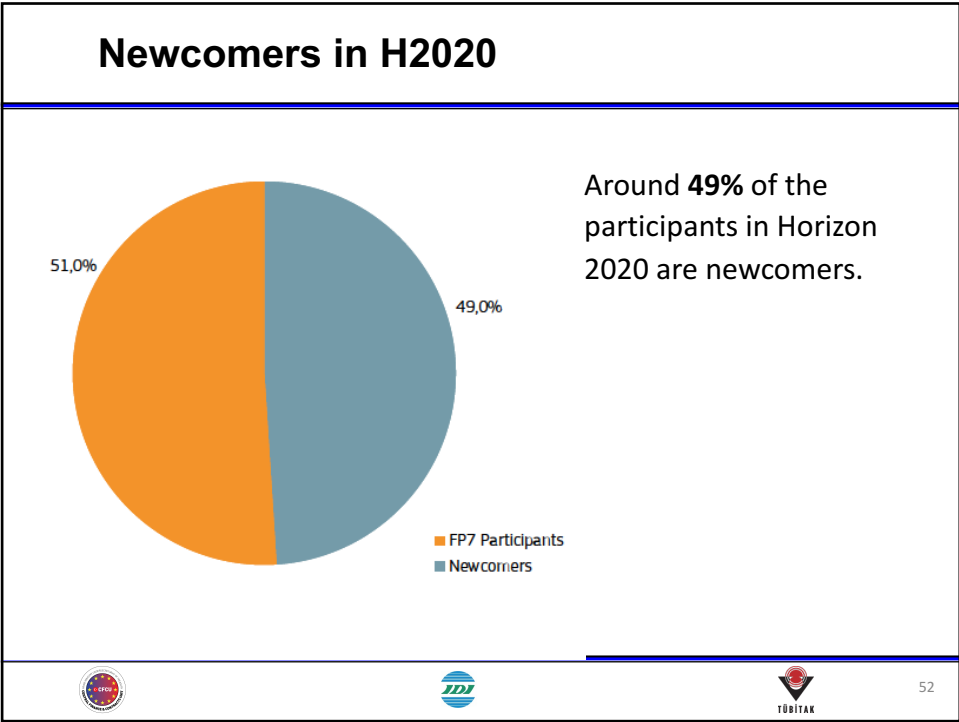
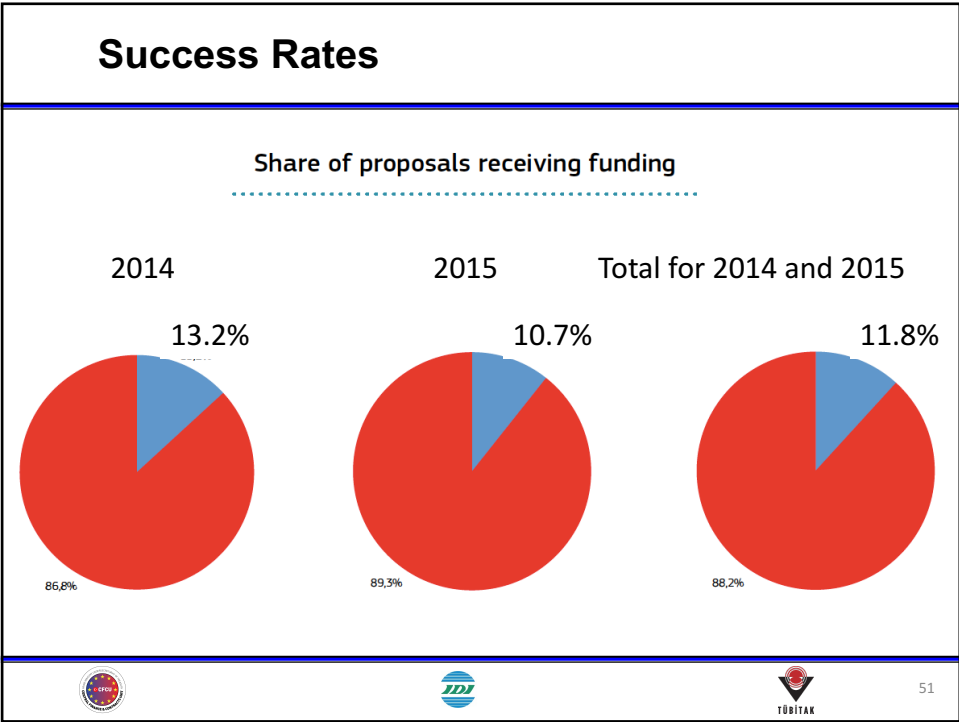


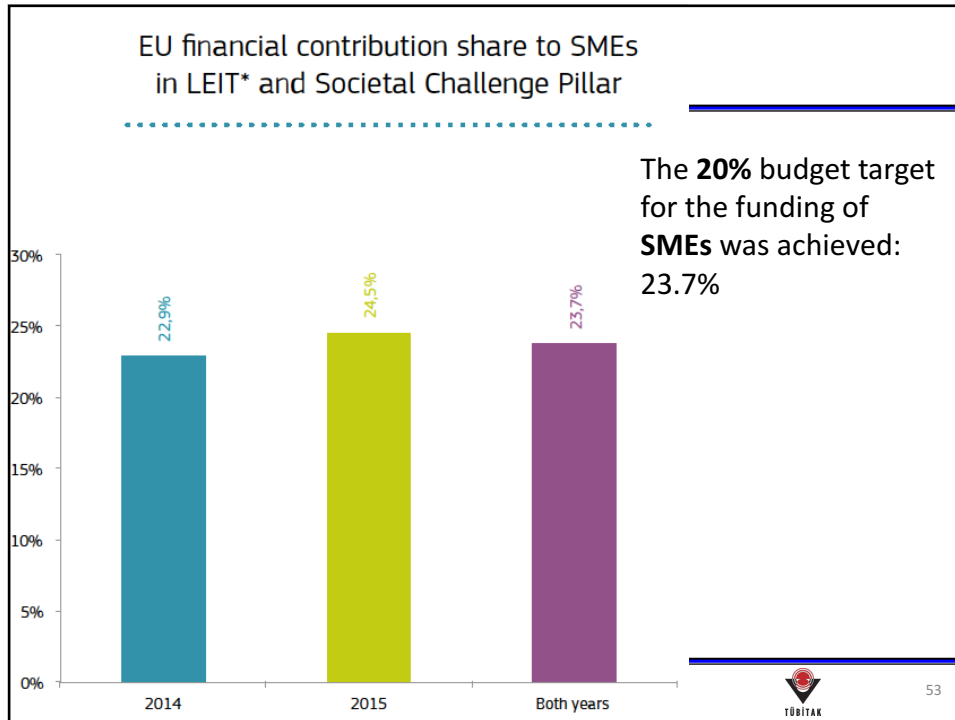
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Proposals submitted in the first Two Years



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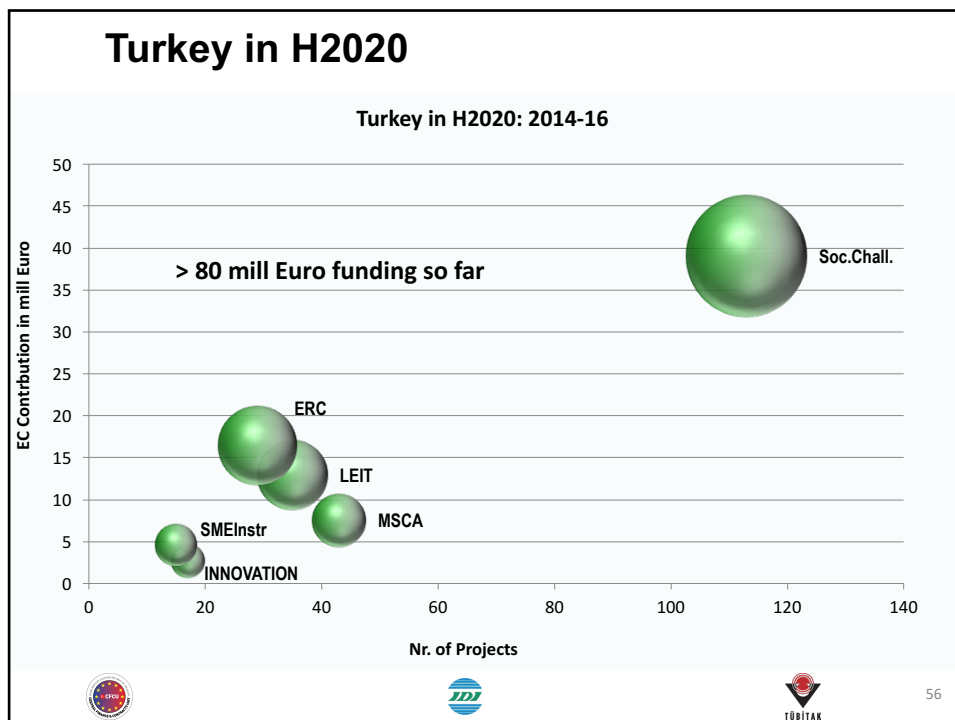
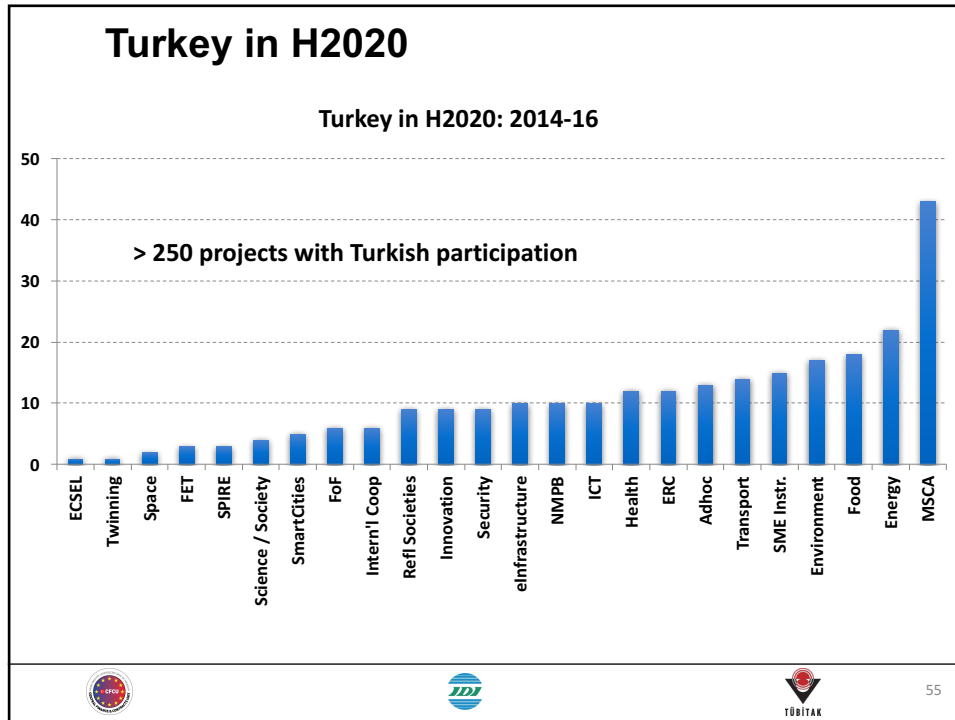




How about Turkey?

TURKEY in
HORIZON 2020
COOPERATION AND INNOVATION PROGRAM

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Rules of Participation

Minimum conditions

- For standard collaborative actions
 - At least, 3 legal entities, each established in different MS/AC
- For SME Instrument, programme co-fund, CSA
 - 1 legal entity established in a MS/AC

Additional conditions

- To be set out in the Work Programme (i.e. number of participants, type of participants, etc.)



Evaluation of proposals

Award criteria

- Excellence
- Impact
 - *Higher weighting for innovation actions*
- Quality and efficiency in the implementation

- Details, weightings and thresholds defined in WP
- Evaluation carried out by independent experts
- Possibility of a 2 stage submission procedure



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Simplified Funding Model

One reimbursement rate by action

The same rate for all beneficiaries and all activities:

- Up to 100% for Research and Innovation actions
- Up to 70% for innovation (non-profit entities up to 100%)
- Up to 70% for PCP co-fund, 33% for ERANET co-fund, 20% for PPI co-fund



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Simplified Funding Model

A single method for calculation of indirect costs:

- Flat rate of 25% of total direct costs, excluding subcontracting, costs of third parties and financial support to third parties



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Eligible costs

Main cost categories:

- Personnel costs
- Costs of subcontracting
- Other direct costs
 - Travel costs and subsistence allowances
 - Depreciation costs of equipment
 - Costs of other goods and services (including non-deductible VAT)



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