This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

H2020 Theme Oriented Training NMBP

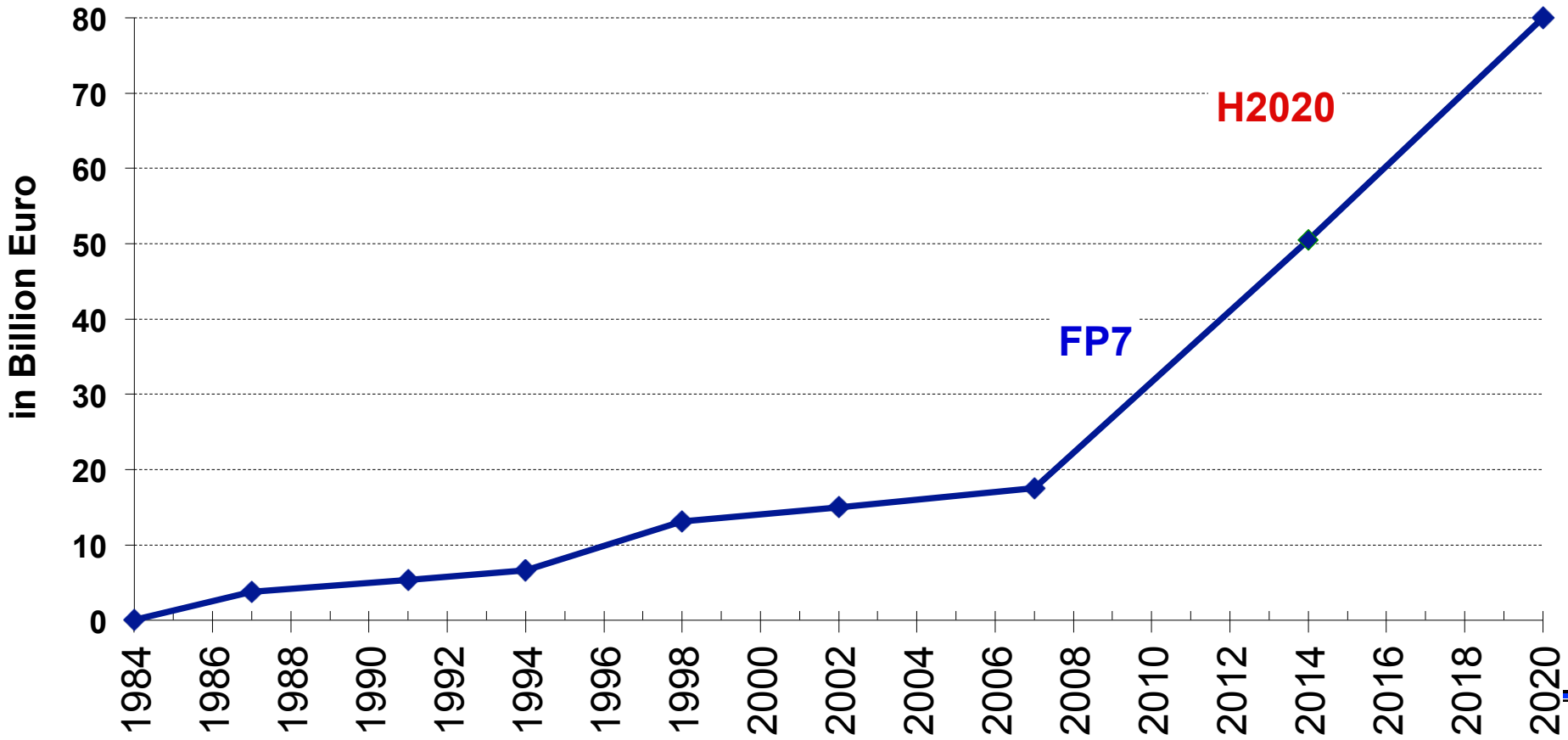
Thies Wittig

Deputy Team Leader
Project "Turkey in Horizon 2020"

The EU Funding Programme for Research and Innovation

FP Budget Development

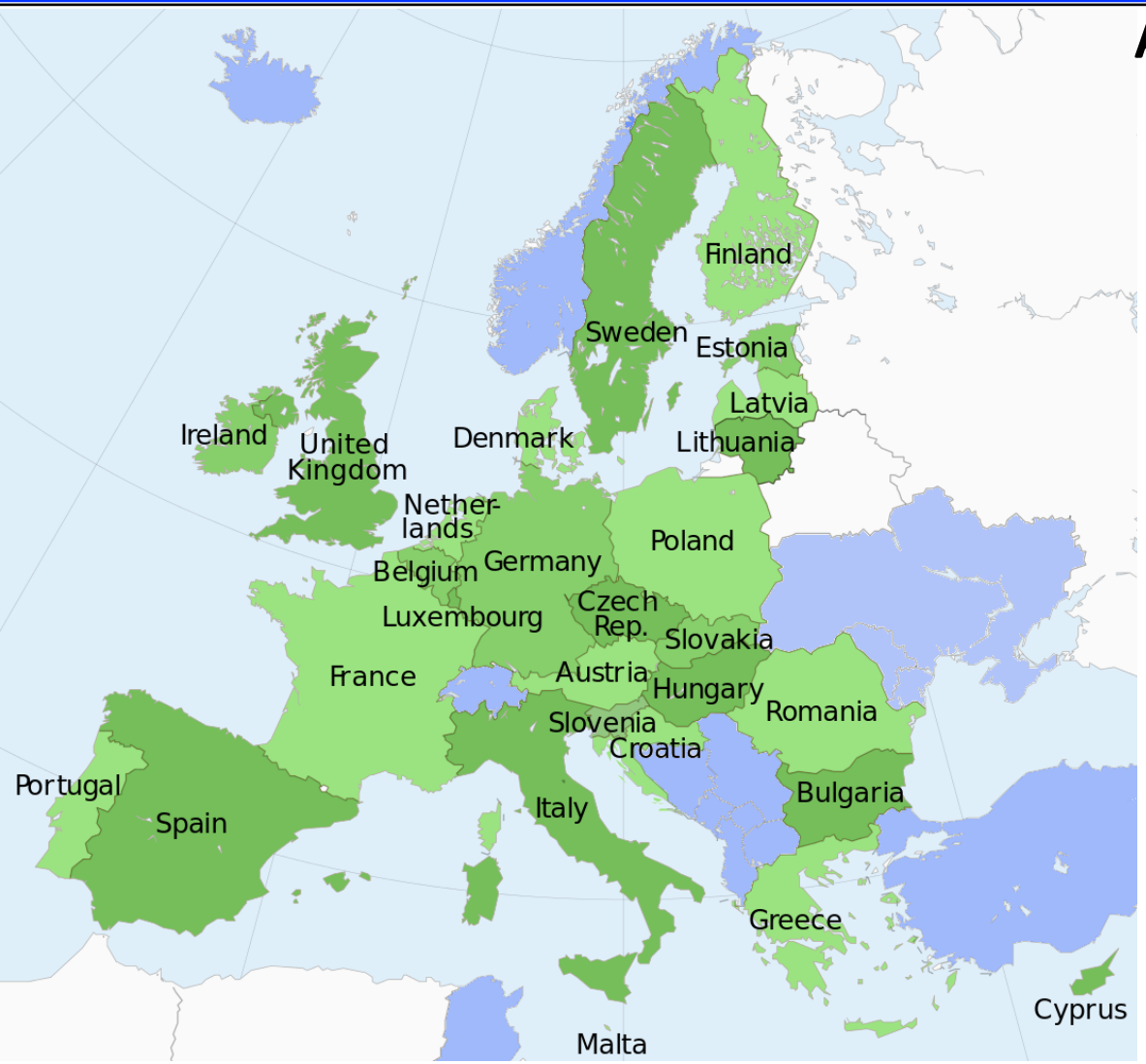
- Horizon 2020 has nearly €80 billion Euro of funding available over 7 years (2014 to 2020).



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

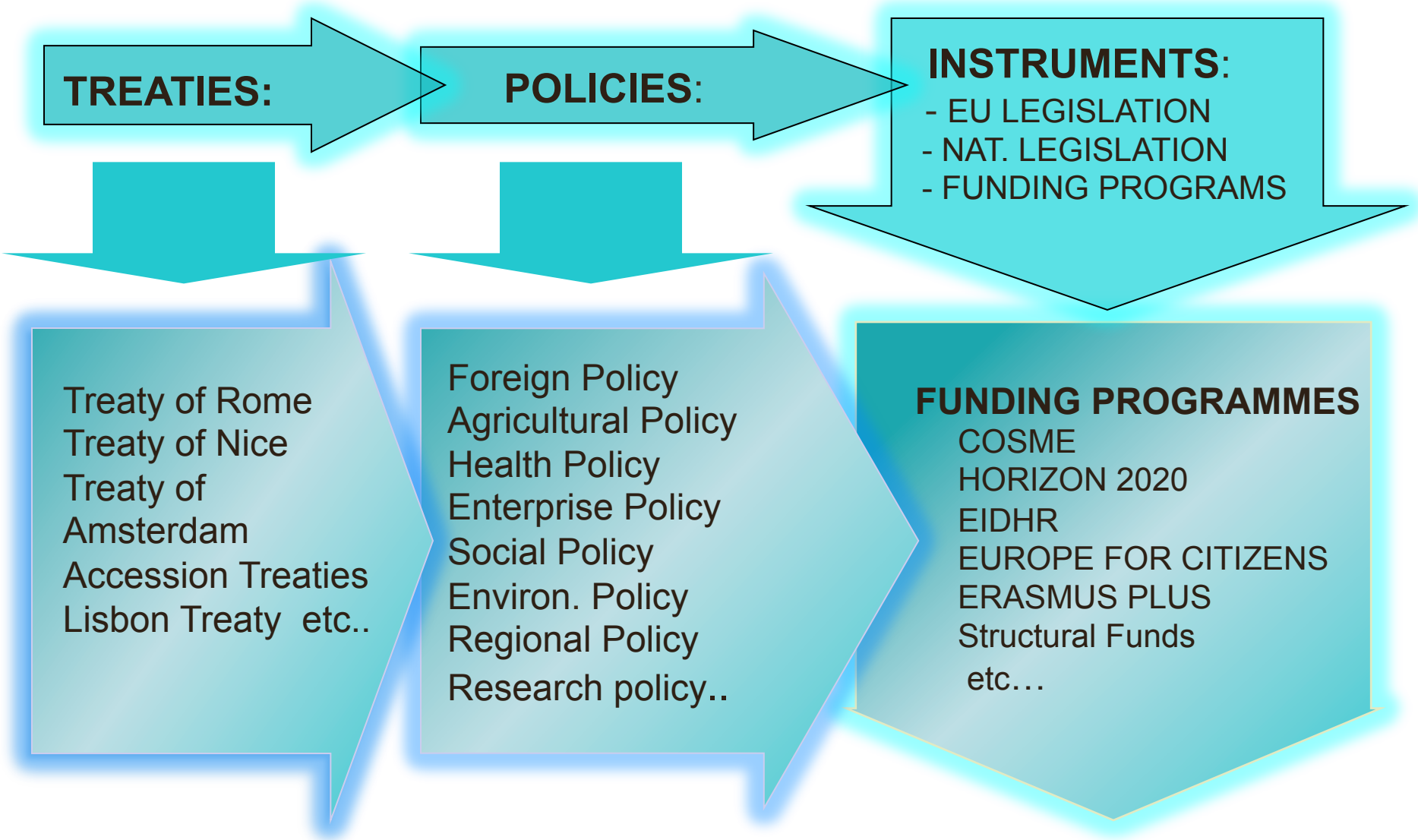
28 (27) Member States and 16 Associated Countries



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

The logic of EU funding programmes



What it is about

What is HORIZON 2020

Horizon 2020 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.

The H2020 Structure – 3 Pillars

24%

Leadership in Enabling and Industrial Technologies – LEIT

ICT
Nanotechnologies
Advanced materials
Biotechnology
Advanced Manufacturing & Processing
Space
The SME Instrument

33%

Excellent Science

ERC
FET
Marie Curie
Research Infrastructures

43%

Societal Challenges

Health and wellbeing
Food
Energy
Transport
Environment
Reflective societies
Secure societies

Spreading excellence and widening participation

Science with and for society

Remember: H2020 is called

Framework Programme for Research and **Innovation**

What is Innovation ?

What is INNOVATION and why is it so important?

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

Of course, but …

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**

… or as Steve Jobs said:

"One of the ways that I believe people express their appreciation to the rest of humanity is to make something wonderful and put it out there."

INNOVATION

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

Let's look at some examples …

INNOVATION

Is this idea from 1956 Innovation?

No!

It never went past this first stage.

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.

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!

INNOVATION

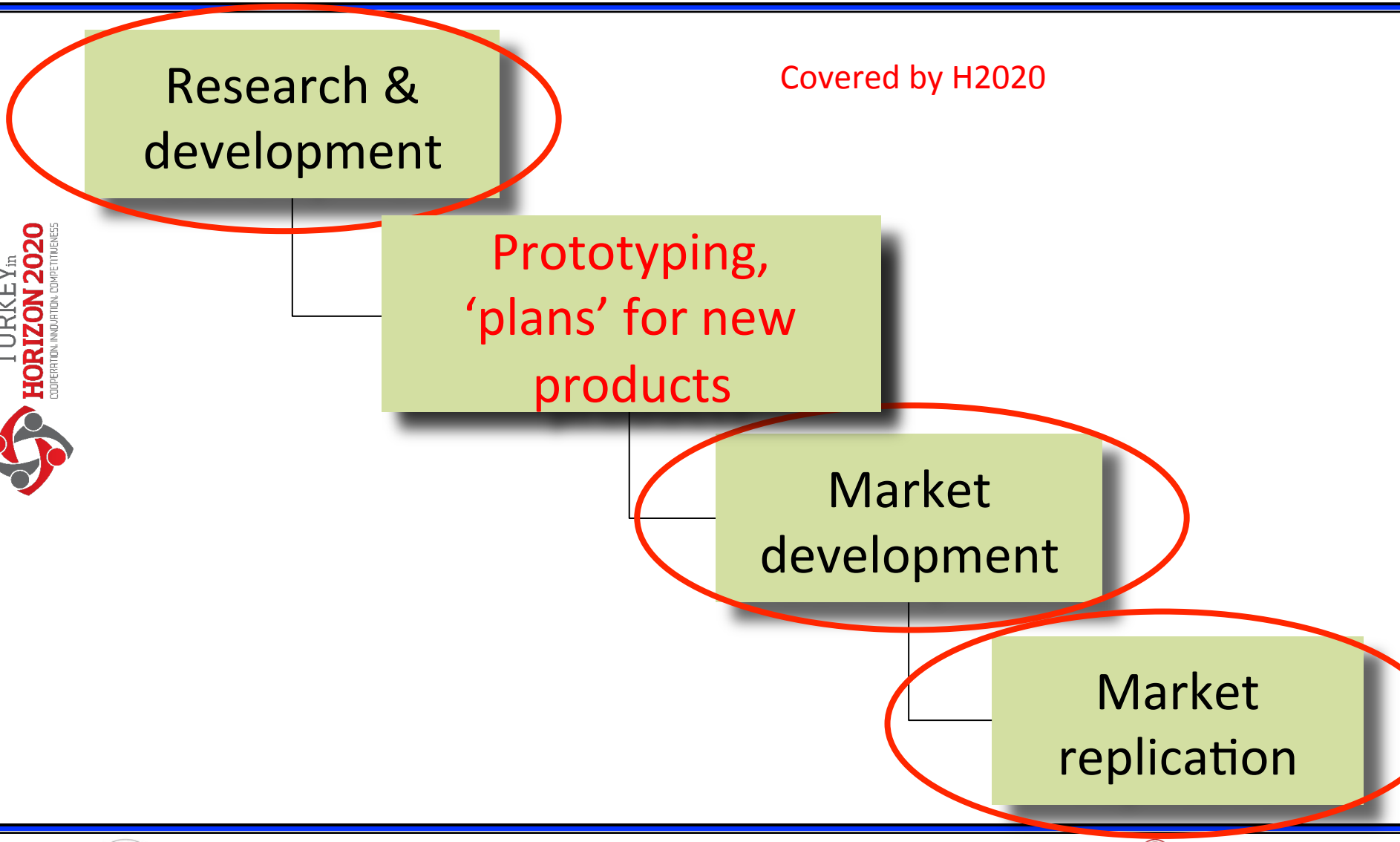
What is next?

Streaming to mobile devices!

Disruptive?

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

The Innovation Chain



Research and Innovation

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

- Research and Innovation (RIA),
- Innovation (IA), or
- Coordination and Support (CSA)

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

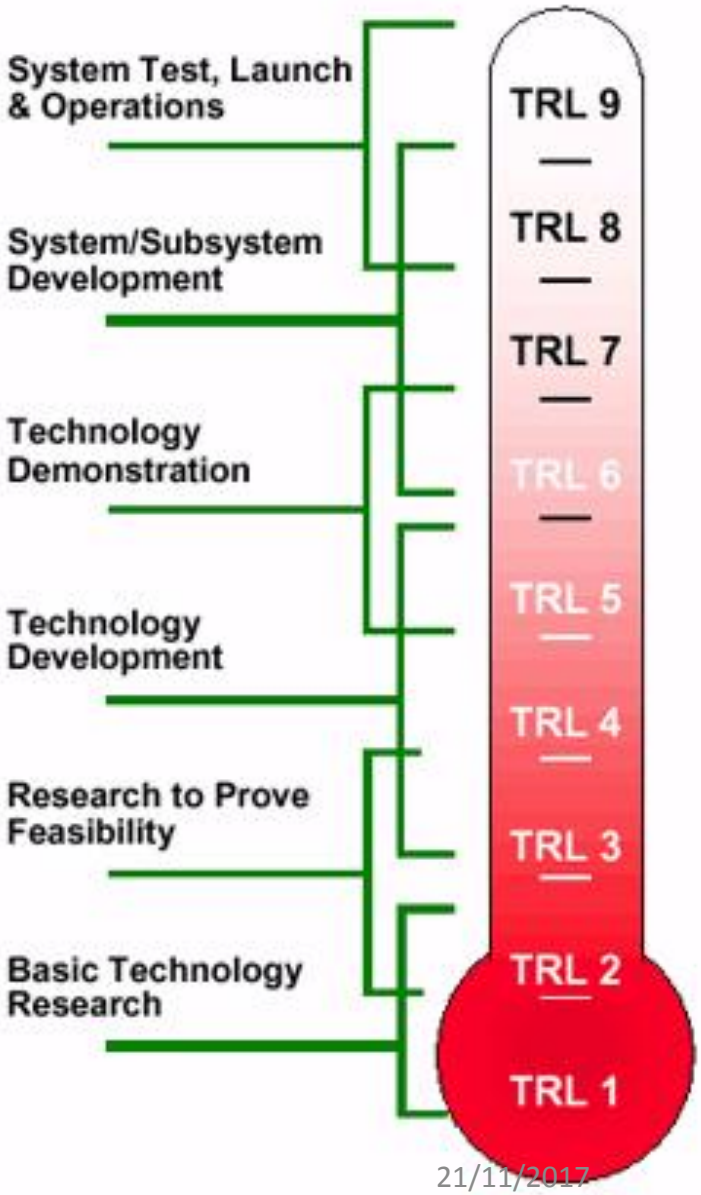
How can we measure such maturity?

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.

A measurement of the maturity level of technologies: a new development in H2020



TRL9 – actual system proven in operational environment

TRL8 – system complete and qualifyed

TRL7 – system prototype demonstration in operational environment

TRL6 – technology demonstrated in relevant environment

TRL5 - technology validated in relevant environment

TRL4 – technology validated in LAB

TRL3 – experimental proof of concept

TRL2 – Technology concept formulated

TRL1 - Basic principles observed

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 !

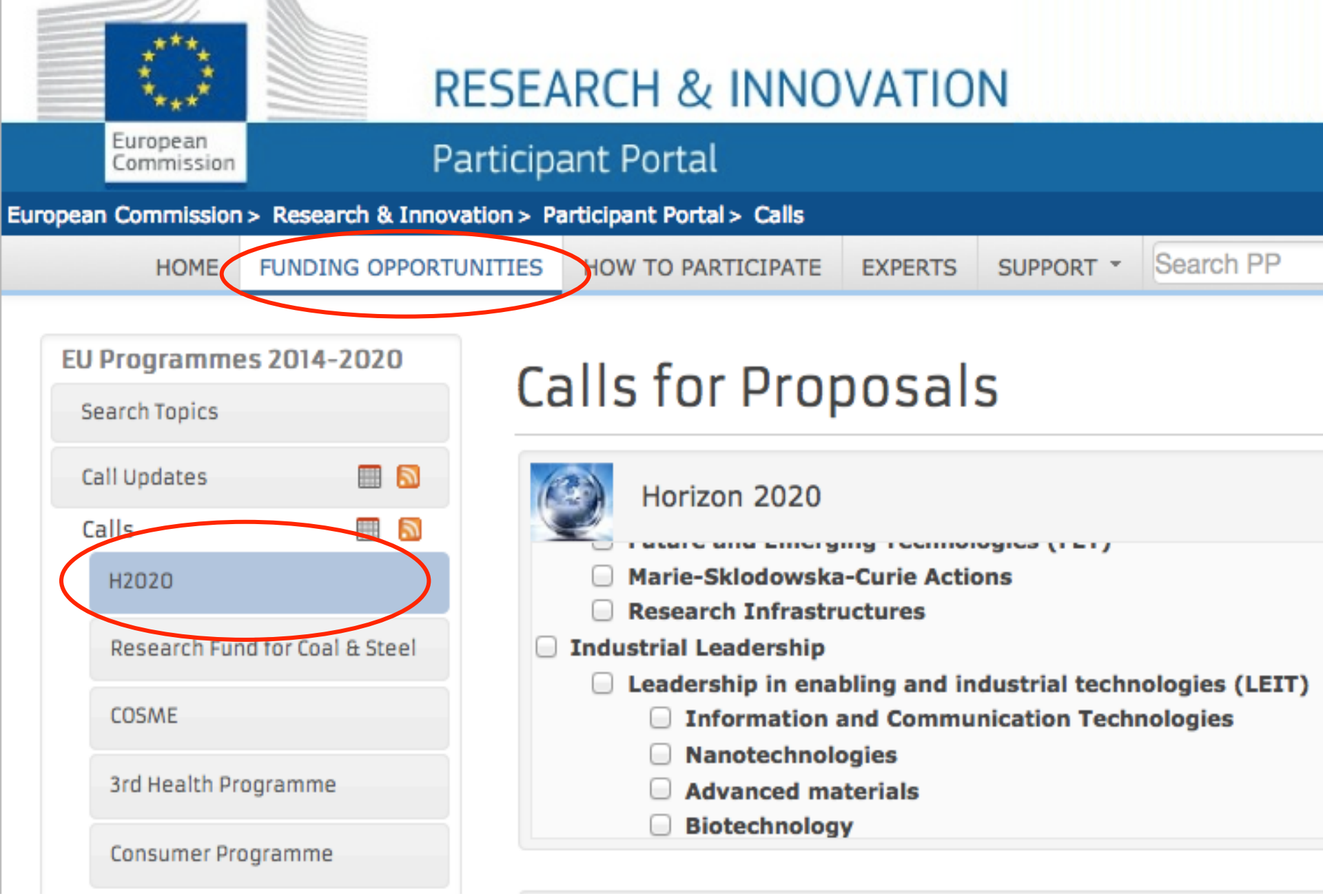
Work Programmes

What are these Work Programmes and what do they contain?

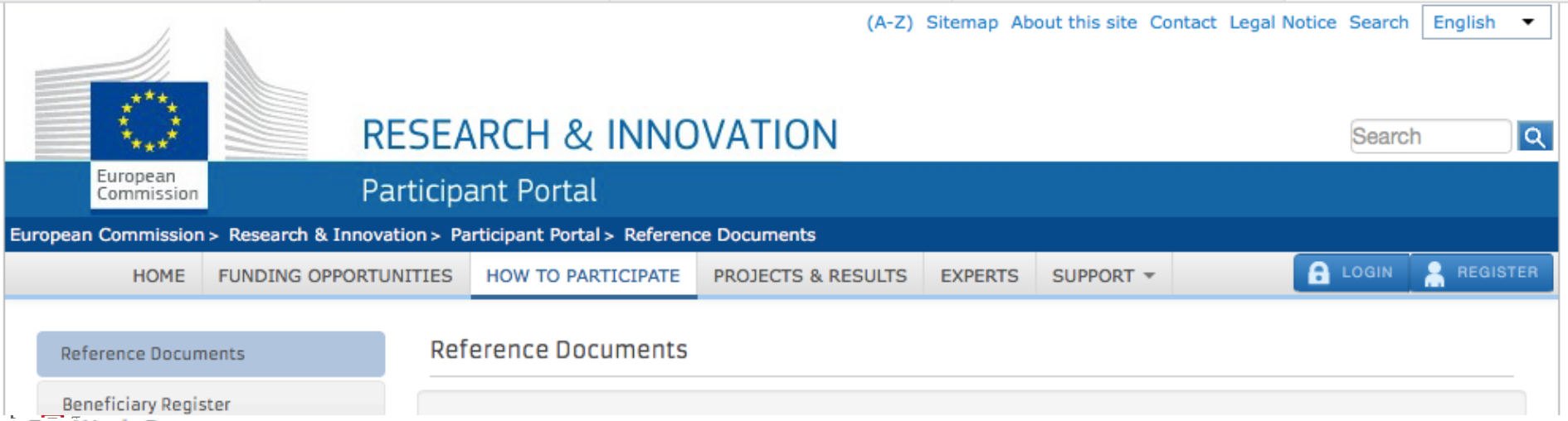
The **Participants Portal**:

Where to find them:

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


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

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



- Work Programmes
  - 2014-15
  - 2016-17
  - 2018-20
    - Main WP
      - 1. Introduction 2018-20
      - 2. Future and Emerging Technologies (FETs) 2018-20
      - 3. Marie Sklodowska-Curie actions (MSCA) 2018-20
      - 4. Research infrastructures (including e-Infrastructures) 2018-20
      - 5. Introduction to Leadership in enabling and industrial technologies (LEITs) 2018-20
      - 5i. Information and communication technologies (ICT) 2018-20
      - 5ii. Nanotechnologies, advanced materials, advanced manufacturing and processing, biotechnology 2018-20
      - 5iii. Space 2018-20

European Commission

EN

Horizon 2020

Work Programme 2018-2020

5.ii. Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing

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1.1 OPEN INNOVATION TEST BEDS 9

DT-NMBP-01-2018: Open Innovation Test Beds for Lightweight, nano-enabled multifunctional composite materials and components (IA) 11

DT-NMBP-02-2018: Open Innovation Test Beds for Safety Testing of Medical Technologies for Health (IA) 12

DT-NMBP-03-2019: Open Innovation Test Beds for nano-enabled surfaces and membranes (IA) 14

DT-NMBP-04-2020: Open Innovation Test Beds for bio-based nano-materials and solutions (IA) 16

DT-NMBP-05-2020: Open Innovation Test Beds for functional materials for building envelopes (IA) 16

DT-NMBP-06-2020: Open Innovation Test Beds for nano-pharmaceuticals production (IA) 16

1.2 MATERIALS CHARACTERISATION and COMPUTATIONAL MODELLING 16

DT-NMBP-07-2018: Open Innovation Test Beds for Characterisation (IA) 17

DT-NMBP-08-2019: Real-time nano-characterisation technologies (RIA) 18

DT-NMBP-09-2018: Accelerating the uptake of materials modelling software (IA) 19

DT-NMBP-10-2019: Adopting materials modelling to challenges in manufacturing processes (RIA) 21

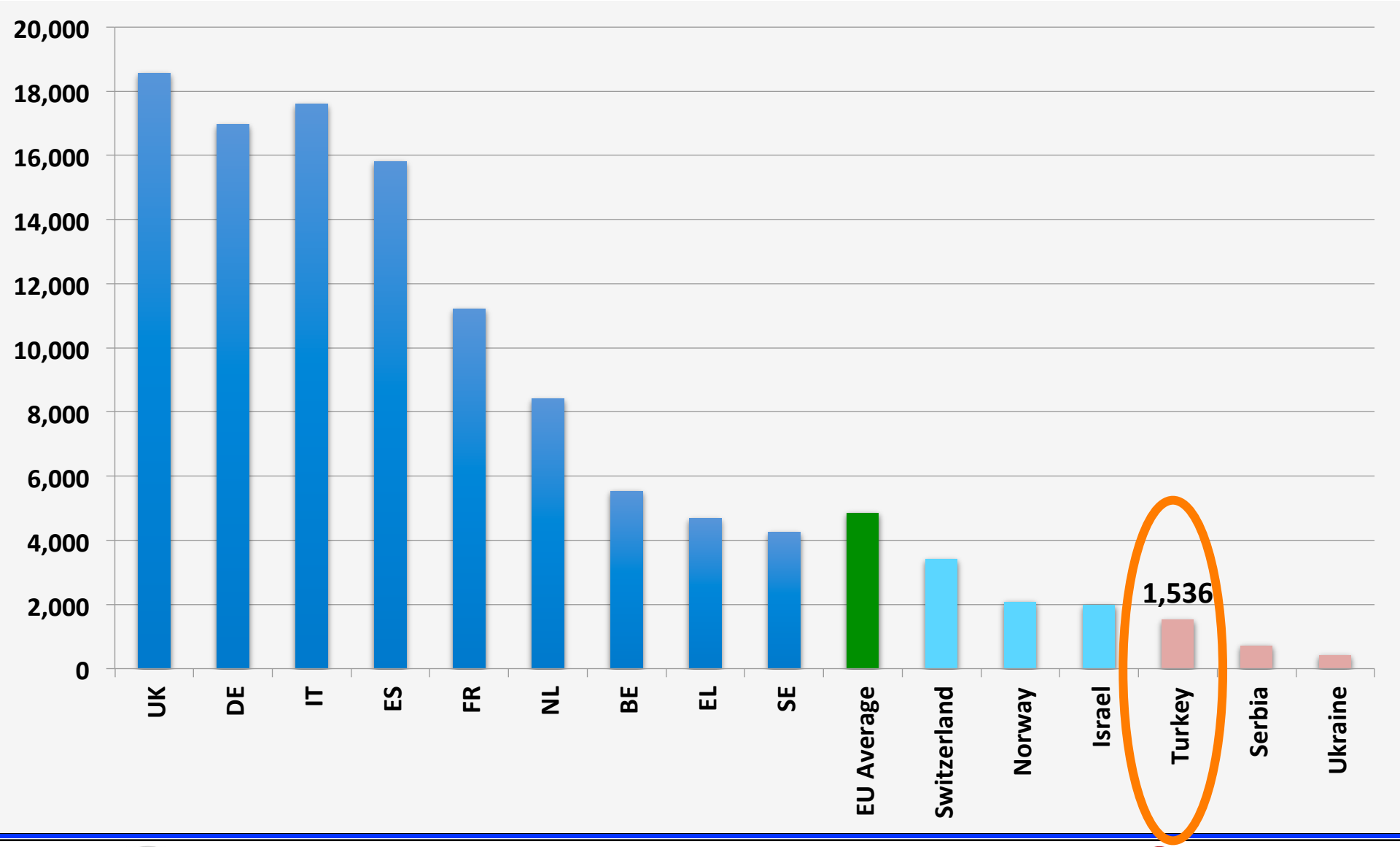
DT-NMBP-11-2020: Open Innovation Test Beds for Materials Modelling (IA) 22

The first two years

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.

Proposals submitted in the first Two Years



Success Rates

Success Rate Average for 2014 and 2015: **11.8 %**

Newcomers to H2020: **49%**

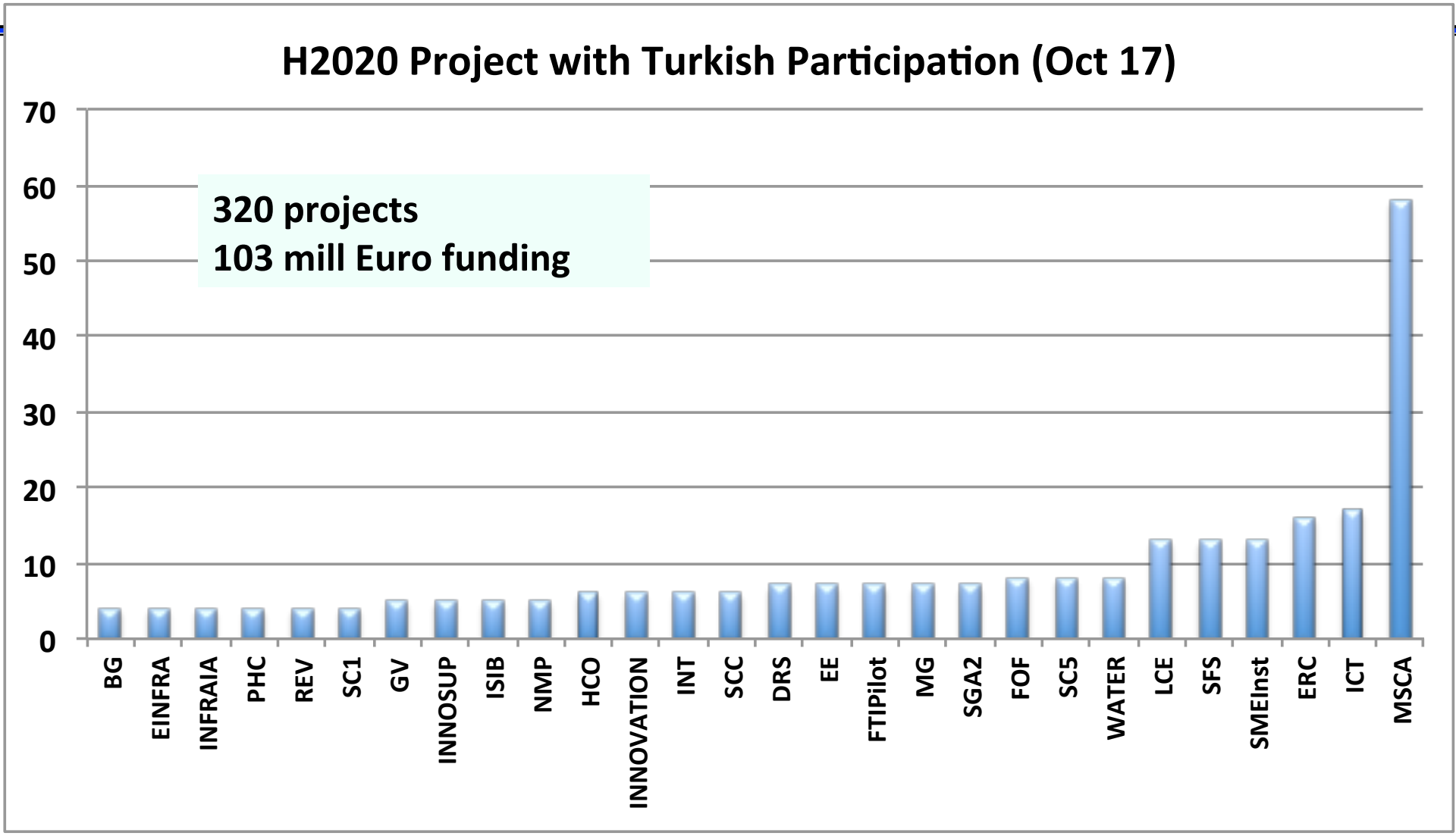
The 20% budget target for the funding of SMEs was achieved: **23.7%** (without SME Instr.)

By now (Oct 17) 14,800 projects

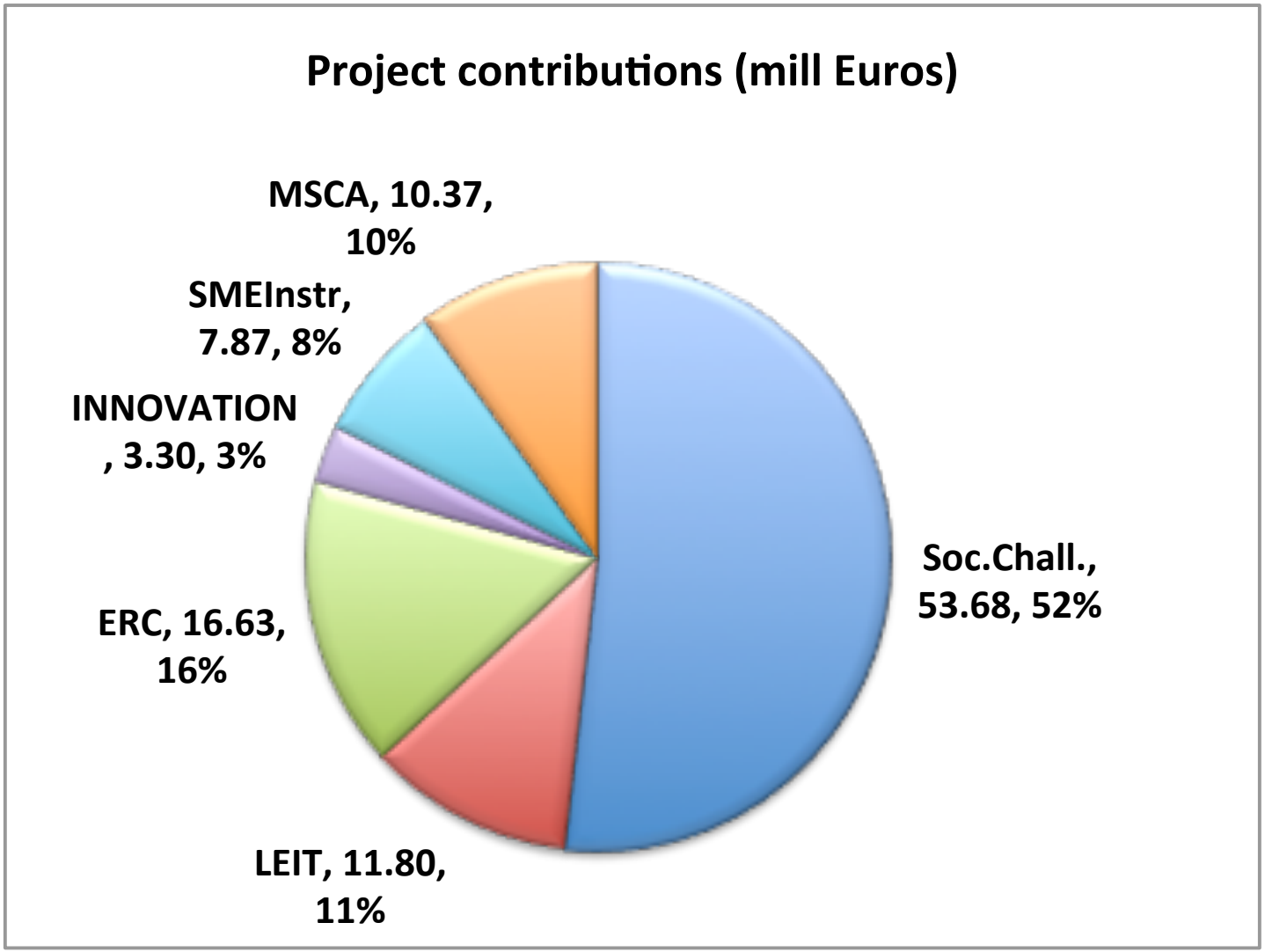
By now (Oct 17) 26 bn Euro funding

How about Turkey?

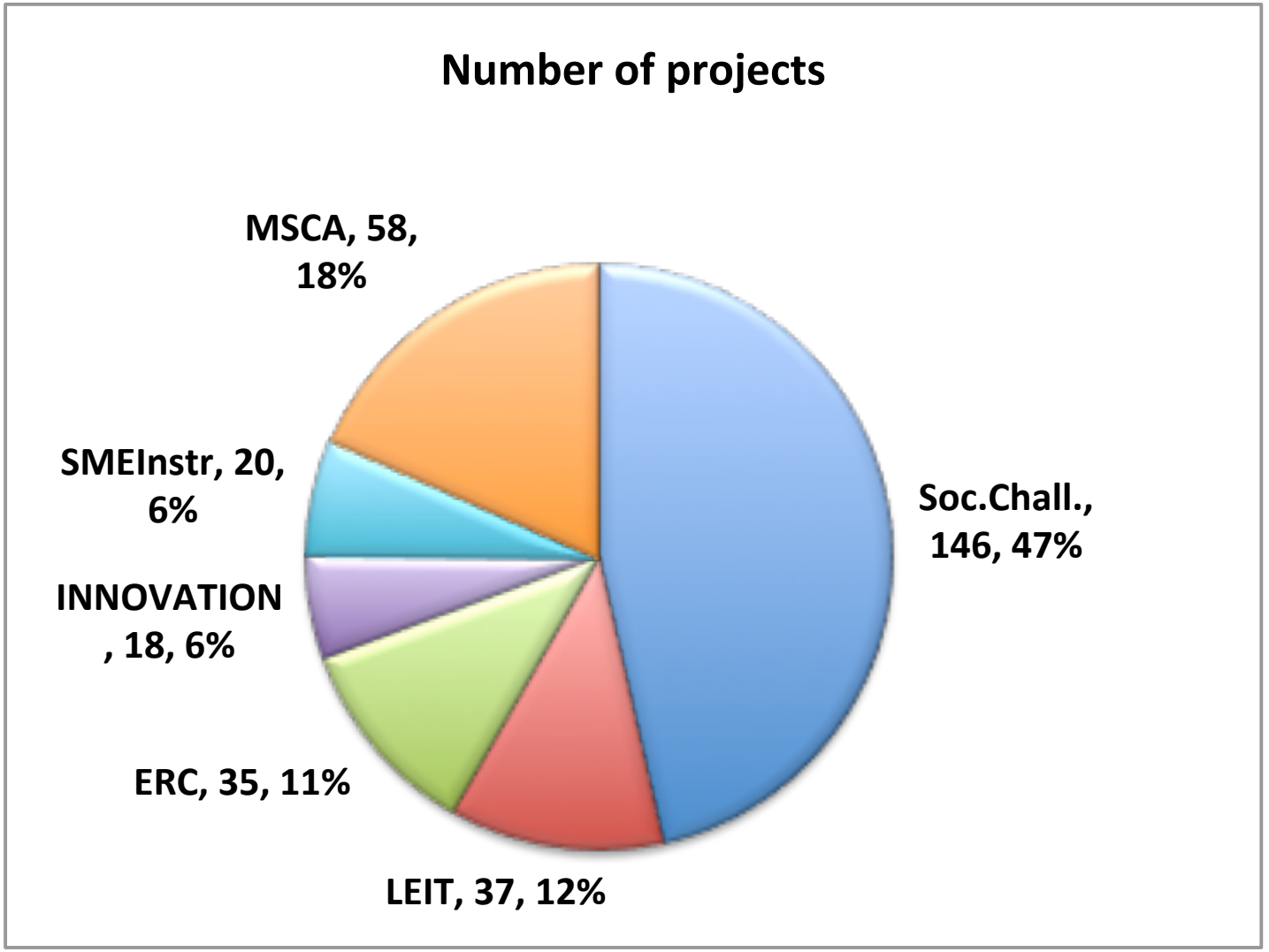
Turkey in H2020

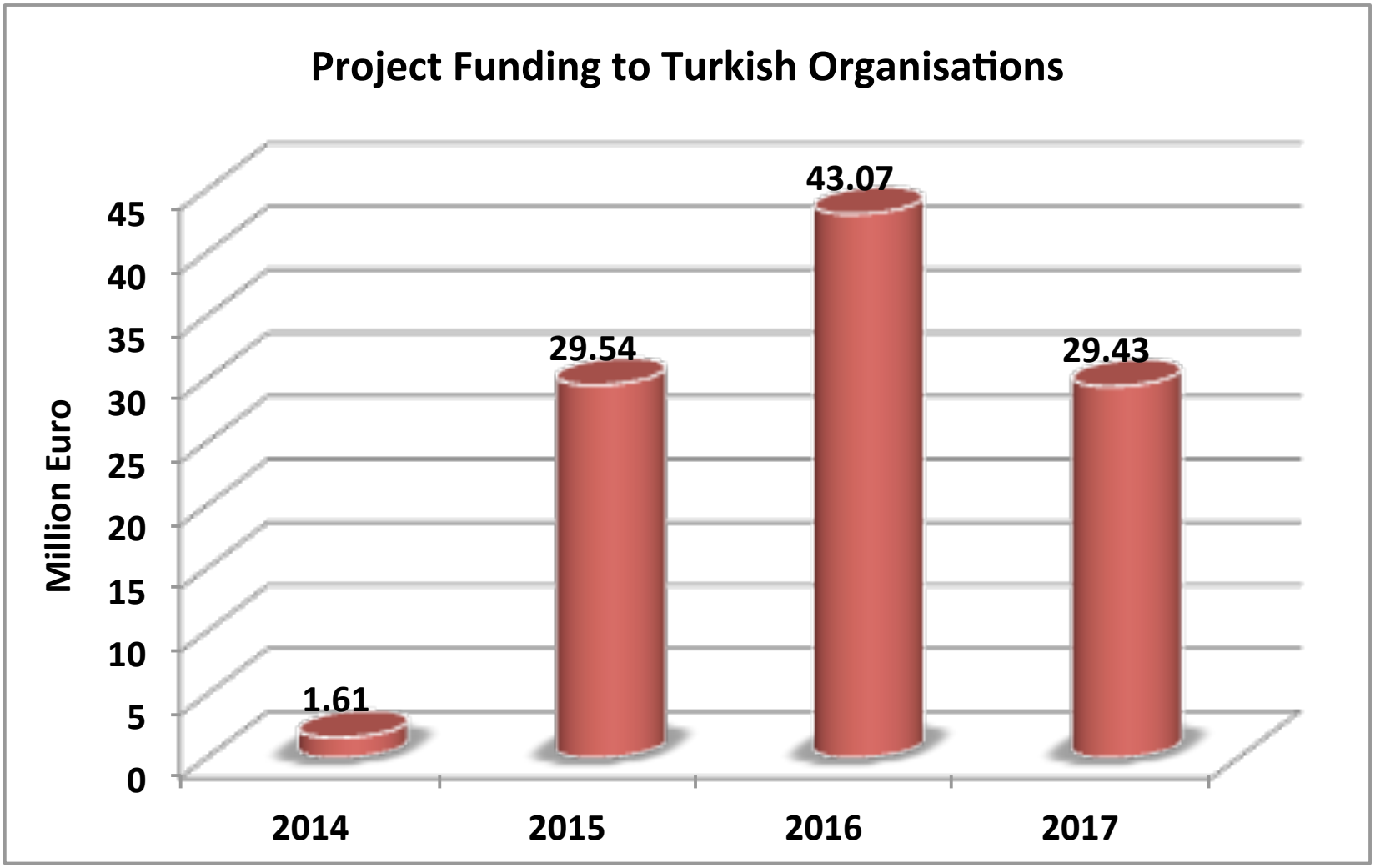


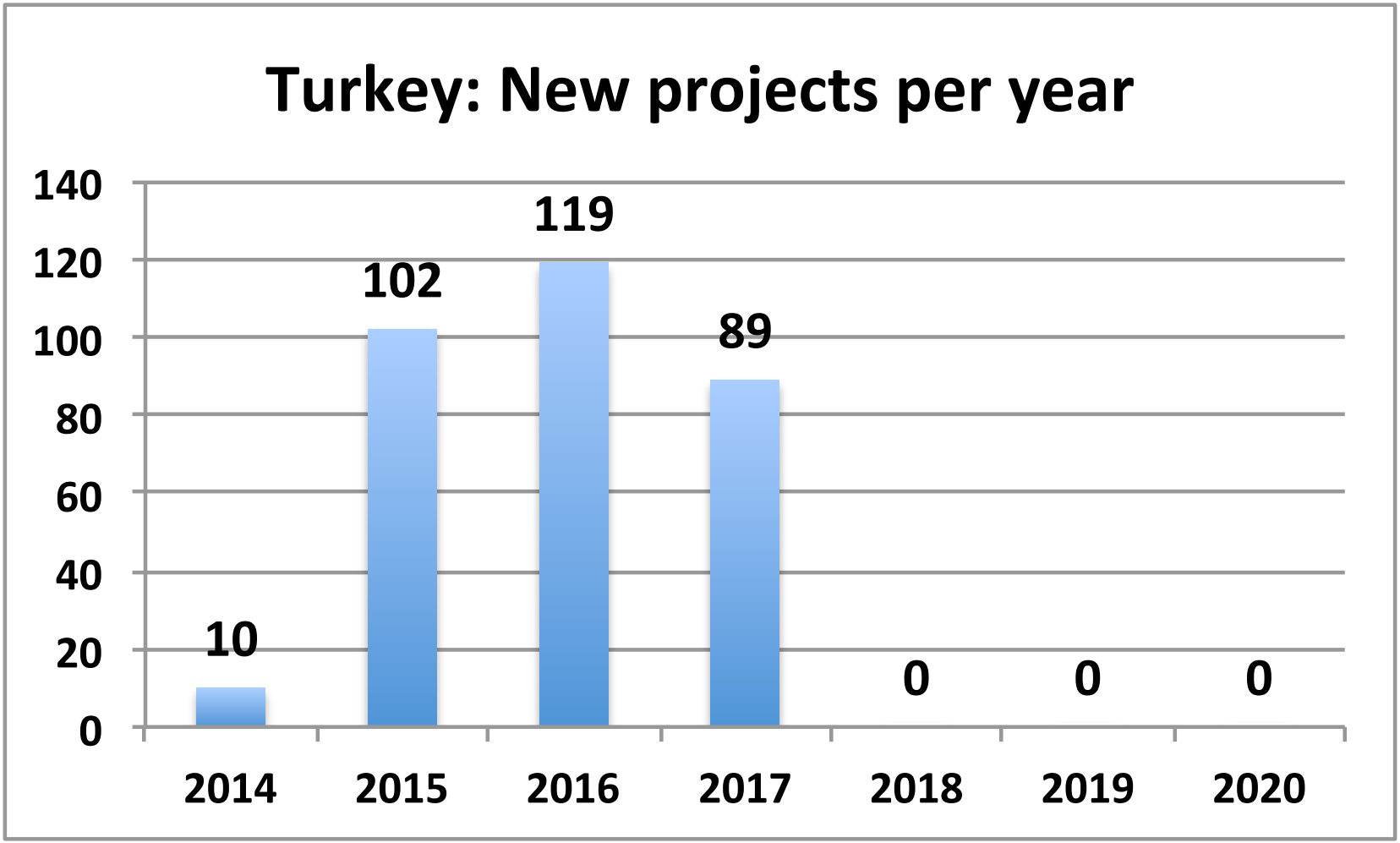
By Oct 2017

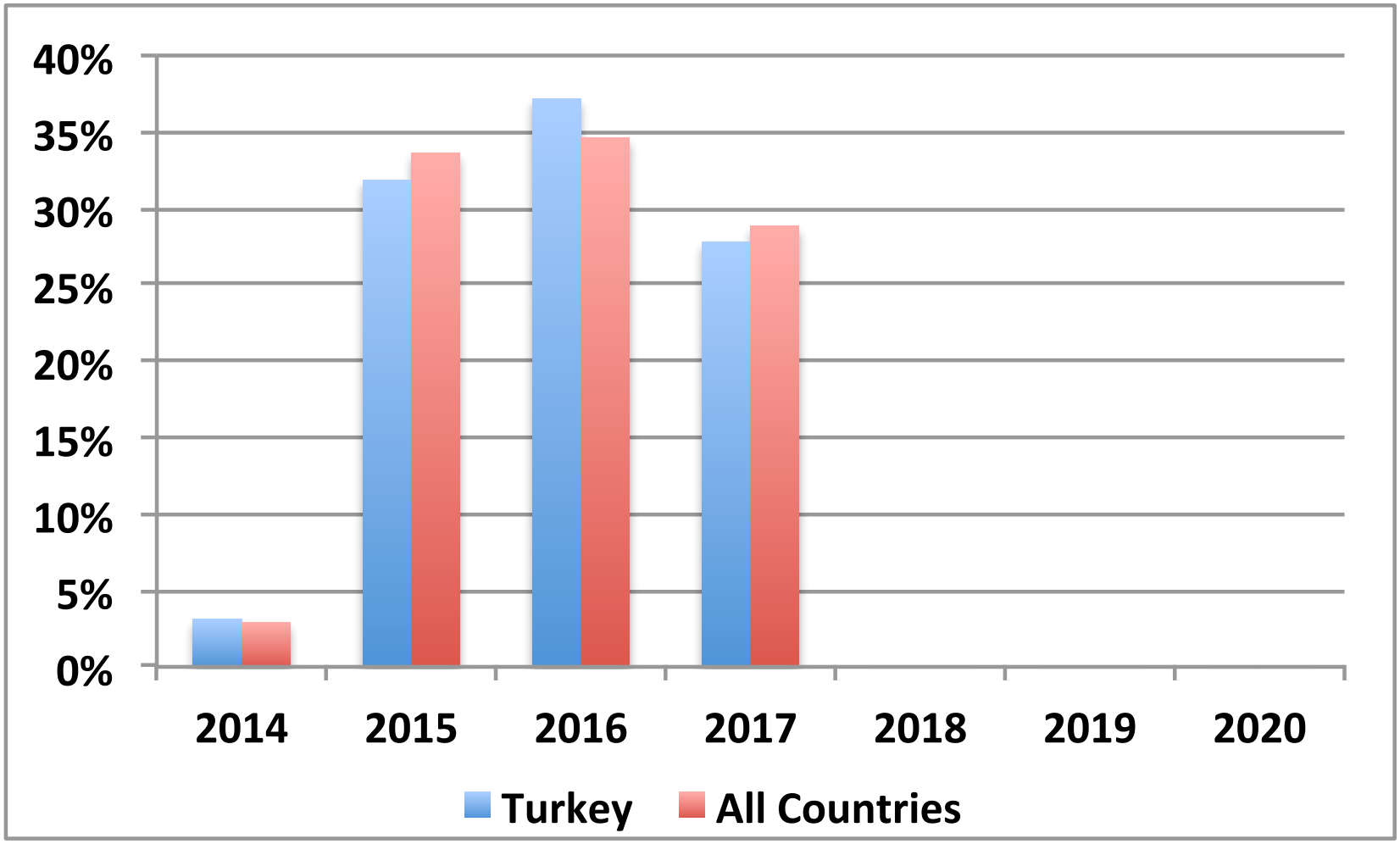

Project contributions (mill Euros)
MSCA, 10.37, 10%
SMEInstr, 7.87, 8%
INNOVATION , 3.30, 3%
ERC, 16.63, 16%
LEIT, 11.80, 11%
Soc.Chall., 53.68, 52%

By Oct 2017:

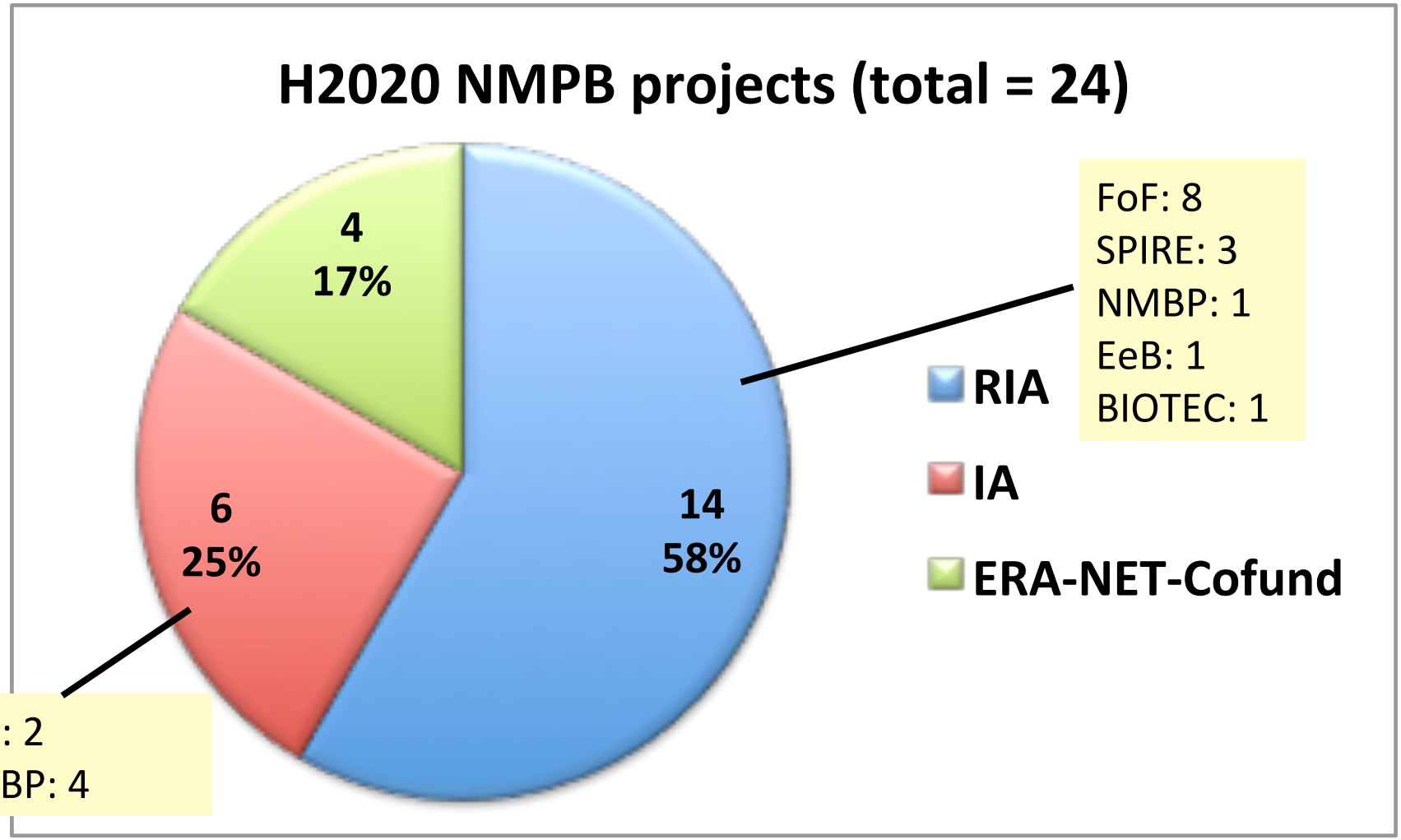

Number of projects
MSCA, 58, 18%
SMEInstr, 20, 6%
INNOVATION , 18, 6%
ERC, 35, 11%
LEIT, 37, 12%
Soc.Chall., 146, 47%


Project Funding to Turkish Organisations
Million Euro
45
40
35
30
25
20
15
10
5
0
1.61
29.54
43.07
29.43
2014
2015
2016
2017

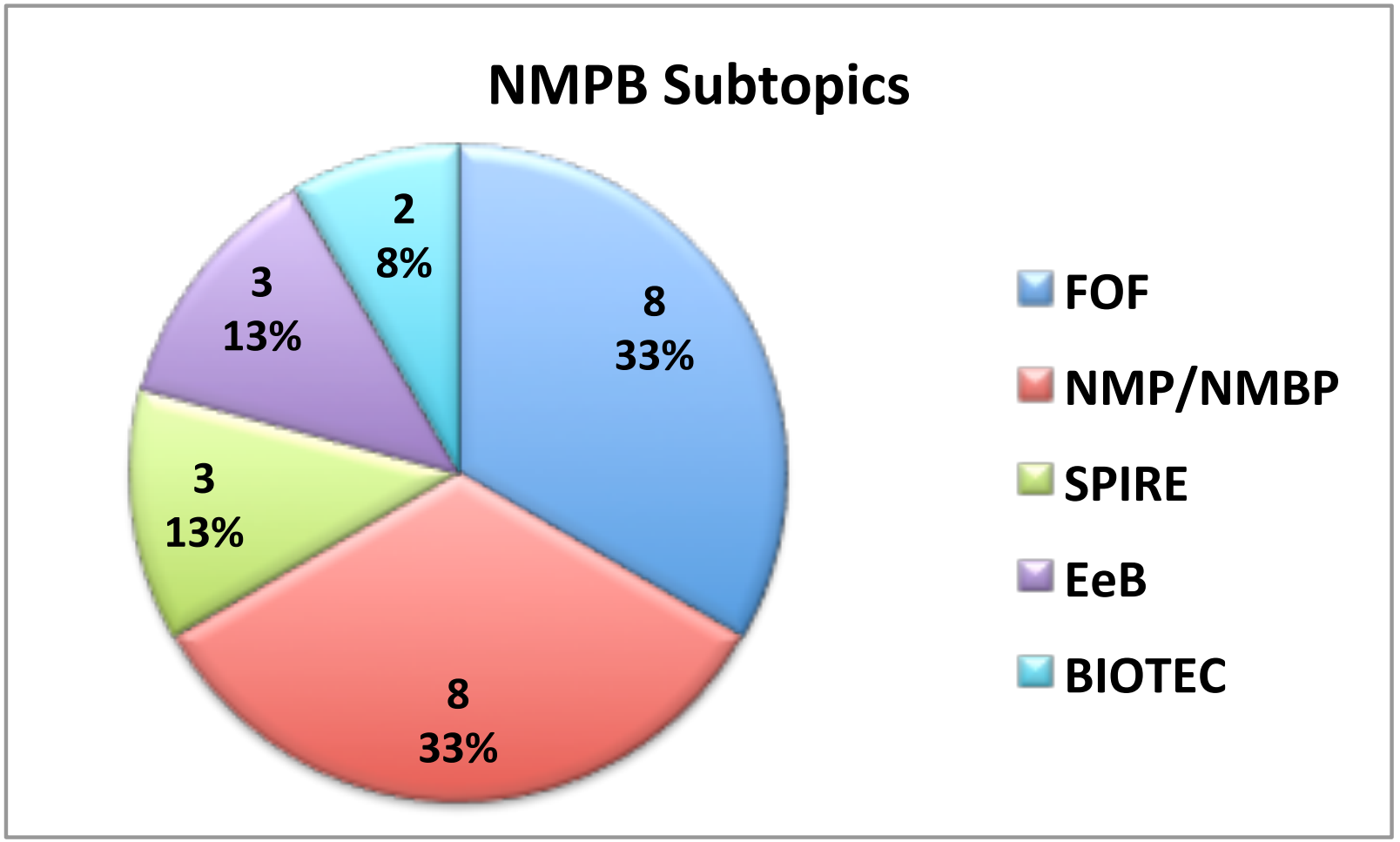

Turkey: New projects per year
140
120
100
80
60
40
20
0
10
102
119
89
0
0
0
2014
2015
2016
2017
2018
2019
2020


40%
35%
30%
25%
20%
15%
10%
5%
0%
2014
2015
2016
2017
2018
2019
2020
Turkey
All Countries

H2020 with Turkish participation



H2020 with Turkish participation



Some formal points

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

Evaluation 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

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

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

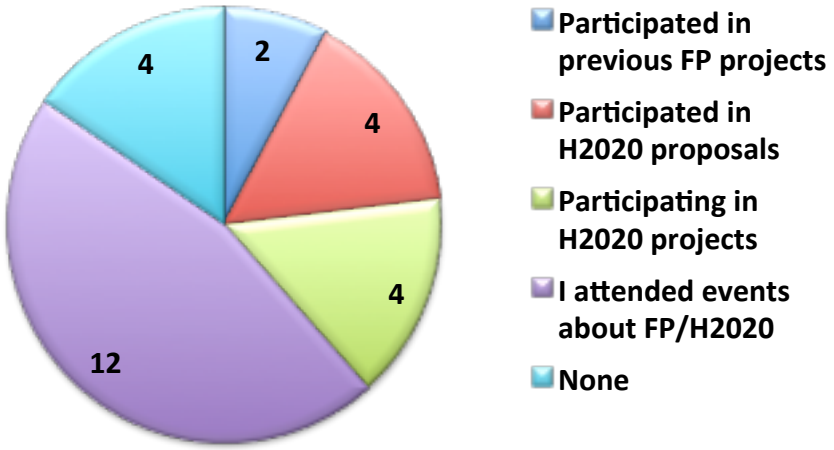
Eligible costs

Main cost categories:

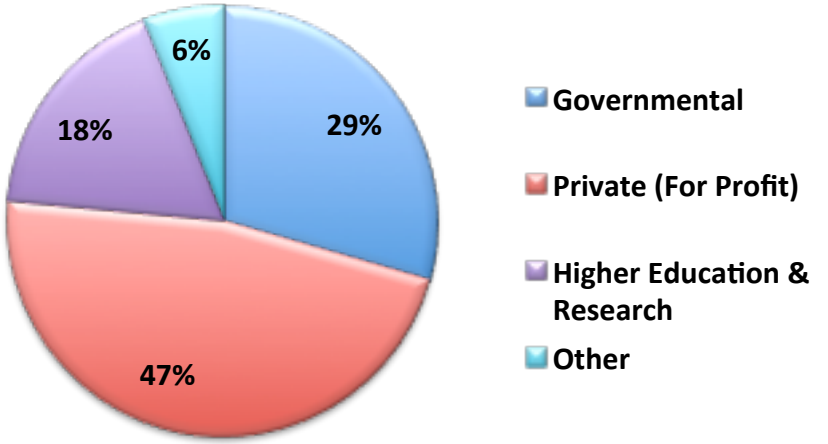
- Personnel costs
- Costs of subcontracting
- Other direct costs
  - Travel costs and subsistence allowances
  - Depreciation costs of equipment
  - Costs of other goods and services (including non-deductible VAT)

Our Event today:

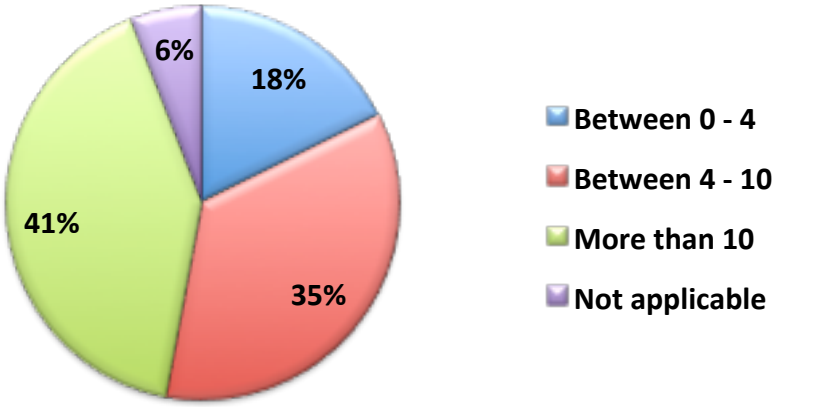
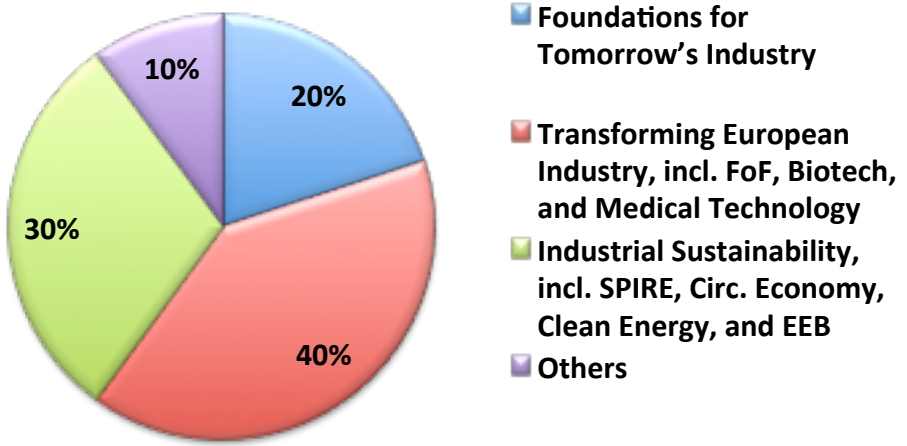
Participation in FP/H2020



Type of Organisation



For how many years have you been a researcher?



Focus of research