IES
ISOM
TRANSyt
CEIGRAM
ETSI Telecom
ETSI Caminos
ETSI Aeronáuticos
ETSI Navales
ETSI Agrónomos
ETS Arquitectura
ETSI Montes

INEF
EUIT Forestal
EUIT Aeronáutica
EUIT Agrícola
EU Arq. Técnica
CIME
Inst Sist Optoelec y Microtec
Inst Energía Solar
ICE   CEMDATIC

Robótica-CSIC
Acústica-CSIC
CIME-CSIC
CEI
(CITEF)
(Vivero)

campus
MONCLOA

City Center
Madrid

Alcobendas
(under construction)

Montegancedo

Campus Sur

CBGP
CEDINT
CITA
IMDEA SW
CTB
Facultad Informática
CESVIMA
Centro empresas
Instal deportivas
Inst Microgravedad
E-USOC
CESVIMA

Aeronáuticos
FGUPM
LCOE
LOM
LOEMCO
IES
CENTESIL
IMDEA Materiales
Tecno-Fusión
Vivero

Getafe

INSIA
Centro Láser
Vivero
ETSI Topografía
EUIT Telecom
EU Informática
Diseño de moda
Biblioteca
Inst Automóvil
CITSEM

5
Sites around Madrid

2
International Campuses of Excellence

20
Engineering Schools

19
Research Institutes and Centres

37.000
Undergraduate students

6.700
Postgraduate students

338 M€
Budget 2015

75 M€
R&D&I funding

R&D STRUCTURE

Voluntary grouping of researchers

2,500 Individual researchers

215 research groups
(min. 6 permanent researchers)

20 **Engineering Schools & Faculties**
+
19 **Research Centres & Institutes**

FRAGMENTATION IS A WEAKNESS...

✓ No hierarchical structure

Research...

Academic... } ... freedom

Grouping...

✓ Competitiveness between research groups

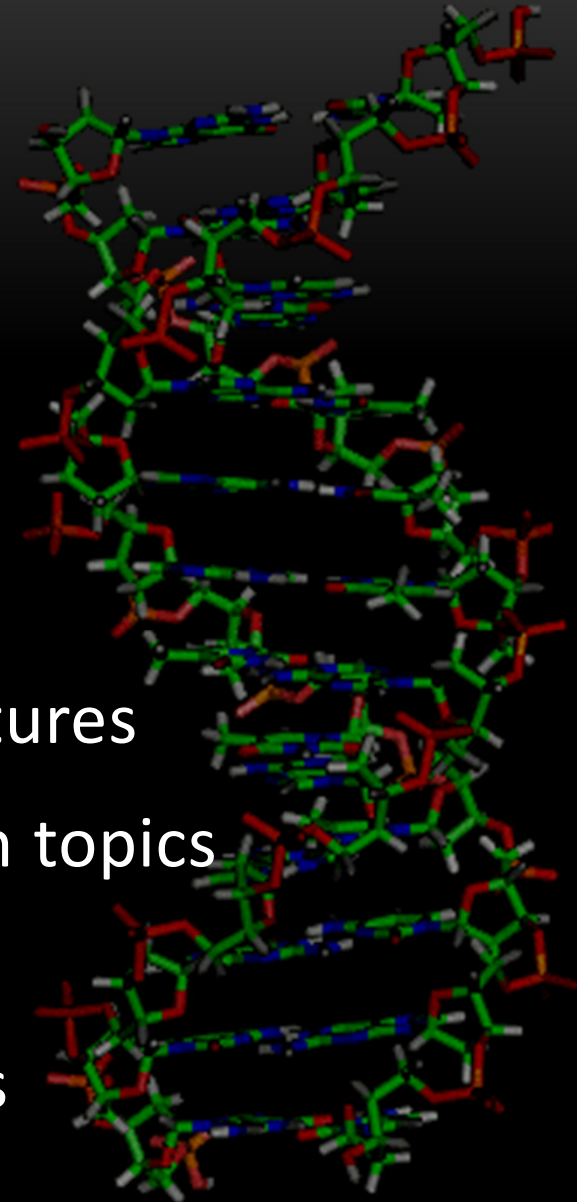## ... BUT FLEXIBILITY IS A STRENGHT

✓ Flexible structure

Freedom for
- Researching
- Entering in new structures
- Defining new research topics

✓ More competitive research groups

EUROPEAN BATTLEFIELD

- More quantitative competence

  - Newcommers from Eastern countries

  - Newcommers from Western countries

- More qualitative competence

  - More experience of usual participants

- More relevance to test infrastructure

  - For Innovation Actions

  - For piloting

- More relevance to strategic alliances with industry

THE FRAMEWORK PROGRAMME TENDS TO BIG INITIATIVES
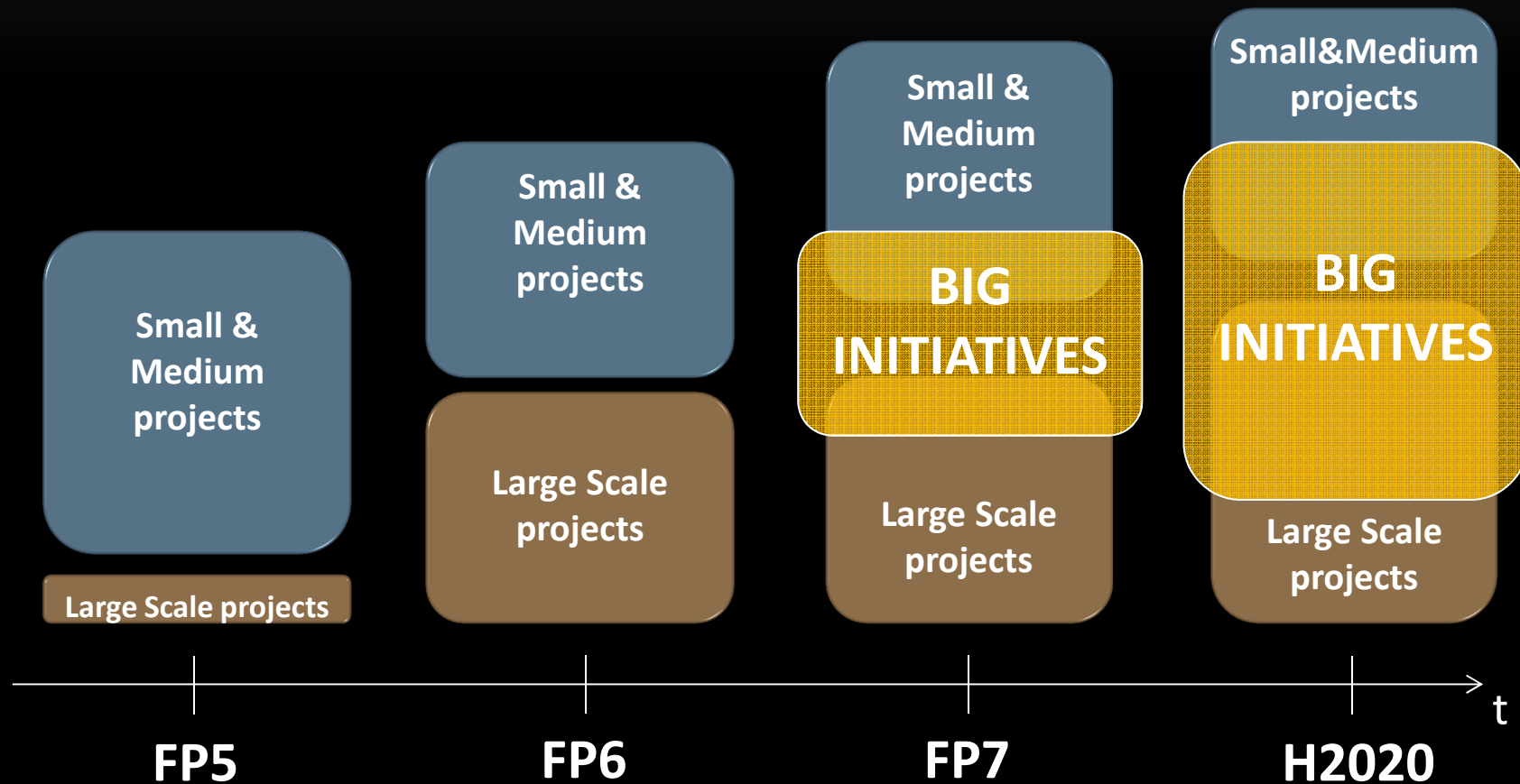
# UPM PARTICIPATION IN EUROPEAN INITIATIVES

- Identification of R&D initiatives with high UPM interest.
  - Usually from the institutional side (contact with National Representatives, knowledge of the battlefield…).
  - Based on UPM research capacities.
    - Research background.
    - Research Centres or Institutes in that area.
- Appointment of one UPM representative.
- Coordination of UPM capacities.
  - Collaboration among research groups is encouraged.
  - Information at early stages.
  - Presentation of UPM Research Capacities as a whole.
- Positioning at National and European level.
  - Participation (if possible) in the ETP or Association behind.
  - Strategic Alliances with Spanish industry related.

ANALYSIS OF UPM PARTICIPATION IN BIG INITIATIVES
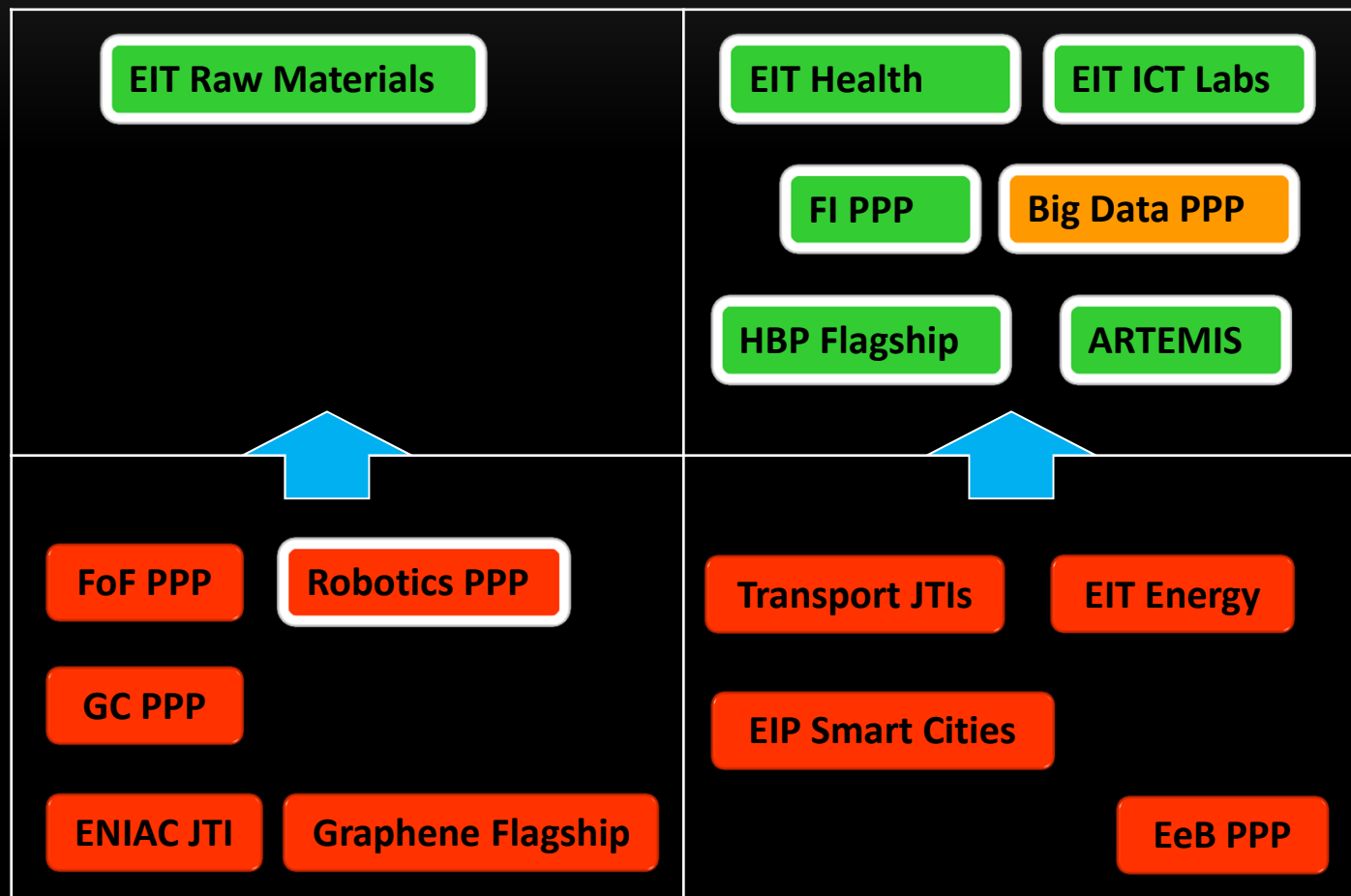
USE CASE

- Excellent participation in call 1 FP7-ICT.

- Participation in cross-platforms meetings.

  - Members of NESSI and NEM Steering Boards.

- Strategic Alliance with big Spanish companies.

  o UPM has a deep background as technological partner.

- Hosting of key events:

  o At National Level: Infoday call 3 ICT with 280 attendees (Jun 2009).

  o At International Level:

    - Future Internet Assembly and ServiceWave (Dec 2008)

    - W3C world congress (Apr 2009)

UPM European Projects Office

The European Projects Office at the Universidad Politécnica de Madrid is the unit in charge of promoting research activities of the University in order to foster participation of the UPM researchers in the European R&D Programmes such as 7th Framework Programme, Competitiveness & Innovation Framework Programme, Joint Technology Initiatives, ERA-NET, initiatives based on article 169 (AAL), EUREKA, COST and ESA contracts.

POLITÉCNICA

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Universidad Politécnica de Madrid

Building Internet of the Future

UPM vision and research potencial

POLITÉCNICA

RESULTS IN THE FUTURE INTERNET PPP

- Participation in the FI Platform:
  - FIWARE
  - FI-CORE
- Participation in Pilots:
  - FI-CONTENT
  - FI-SPACE
  - SmartAgriFood
- Participation in CP/CSA:
  - FI-ADOPT
- Participation in Support Actions:
  - INFINITY (coordinated)
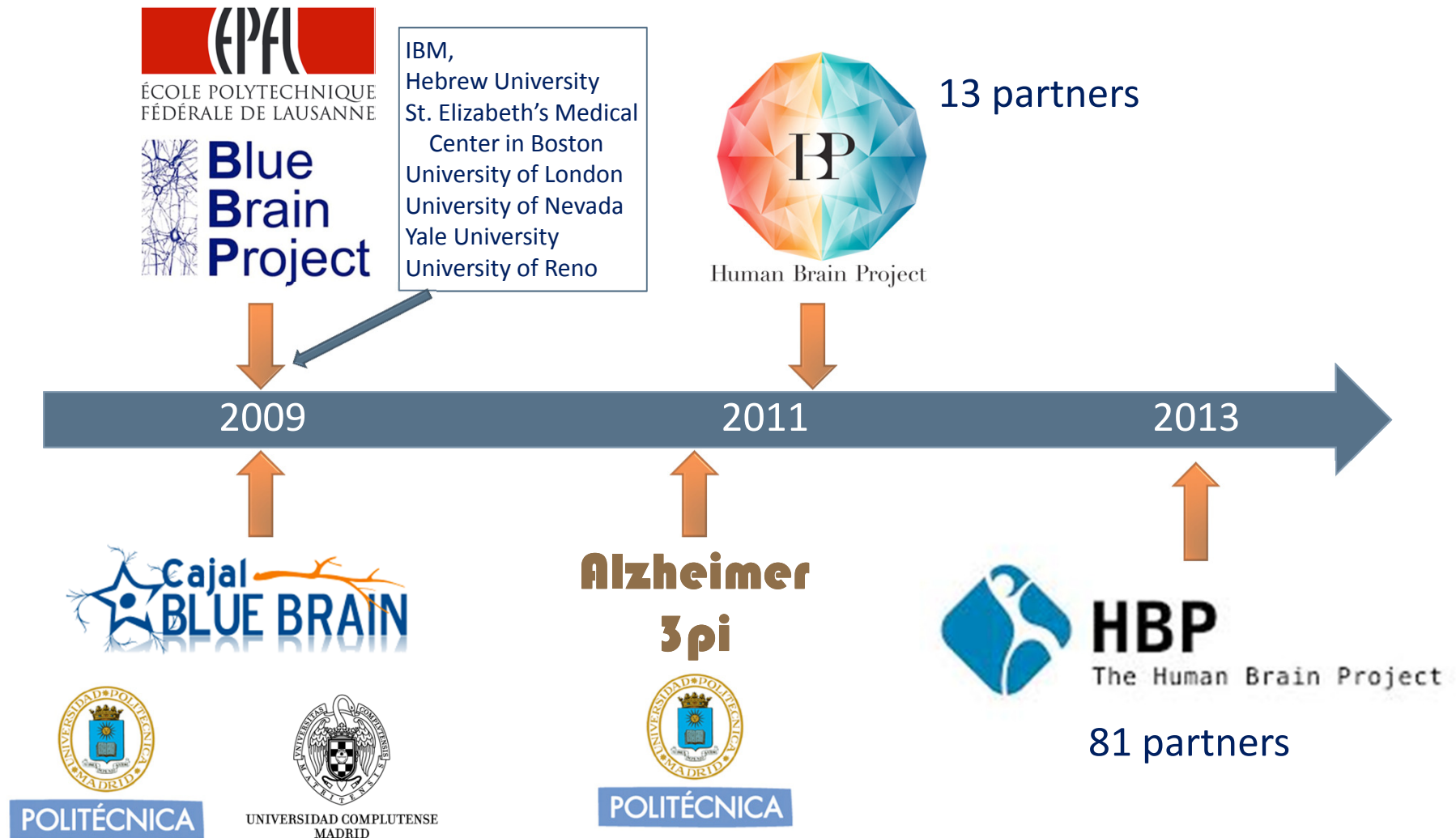 - XiFi
  - FI-LINKS (coordinated)

TOTAL FUNDING: 5 M€

International positioning

Improvement of research excellence

Human Brain Project

USE CASE

EPFL — ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

Blue Brain Project

IBM,
Hebrew University
St. Elizabeth's Medical
    Center in Boston
University of London
University of Nevada
Yale University
University of Reno

Human Brain Project

13 partners

2009   **2011**   **2013**

Cajal BLUE BRAIN

**Alzheimer
3pi**

HBP
The Human Brain Project

81 partners

POLITÉCNICA — UNIVERSIDAD POLITÉCNICA MADRID

UNIVERSIDAD COMPLUTENSE MADRID

POLITÉCNICA — UNIVERSIDAD POLITÉCNICA MADRID

- UPM member of the NESSI ETP from 2005 (15-25 partners)

  o 3 different representatives at the Steering Committee.

- Working group on Big Data in 2012.

  o December 2012: White paper "Big Data: A New World of Opportunities".

- Contacts with the EC in early 2013: opportunity for a cPPP.

- UPM founding member of BDVA: July 2014

- Hard work in 2014:

  o 30+ telephone calls, 10+ physical meetings, hundreds of emails…

  o Close collaboration between EPO and NESSI representative.

  o 4 UPM people involved ~ 1 FTE

CHANCES AND CHALLENGES OF PARTICIPATING IN BIG INITIATIVES

- We need to turn FRAGMENTATION into FLEXIBILITY and INTEGRATION.

- We need to push collaboration between research groups.
  - Competence between them has been very important for success in the past…
  - …but the new playground implies other needs.

- We need to encourage our positioning.
  - Just from the very beginning.

UPM STRATEGY

1 Internationalization of Research Groups, Institutes and Centres.

- o New regulations

- o New rewards

UPM STRATEGY

2 Institutional Initiatives as umbrellas:

o BIOTech, NanoTech, SpaceTech, cityofthefuture-upm.com, Future Internet, Big Data

UPM STRATEGY

3 Institutional support to researchers:

- o At programme/initiative level

- o At project level

UPM STRATEGY

4 Strategic positioning:

- o With Spanish blue-chips: Telefonica, Santander, Repsol, Indra…

  - Joint Research Centres, Joint Research Units, long-term alliances, University-Industry Chairs…

- o Participation in European Initiatives

EUROPEAN PROJECT OFFICE AT UPM

PROMOTION

- Director
- Deputy: ICT, SPACE, ESA
- P. Manager 1: AGRO, ENVIRONMENT, ENERGY
- P. Manager 2: HEALTH, ICT, TRANSPORT, SECURITY
- P. Manager 3: NMBP, Social Sciences, ERC, INCO, SMEs
- P. Manager 4: MARIE CURIE, INFRASTRUCTURES

PROMOTION ←

TRAINING ← →

INFORMATION ←

PROPOSALS ←

PROJECTS →

MANAGEMENT

- Responsible
- Technician 1: Legal/IPR advise (CA) + Marie Curie support
- Technician 2: Negotiation and declaration of costs
- Technician 3: Negotiation and declaration of costs
- Technician 4: Negotiation and declaration of costs
- Tecnhnician 5: Contract management

EPO-PROMOTION

Our mission: Increase UPM participation in International R&D Projects

To know our researchers and their research capacities "OUR CLIENTS"

EPO-Promotion

To know the "Context" "THE MARKET"

- The **Programmes:**
  - Funding opportunities, Work Programmes, Rules for participation
- The **players:**
  - European Commission, National Representatives & NCPs
  - Participants: Research Institutions, Private Sector and European Technology Platforms
- The **initiatives**:
  - PPPs, JTIs, EIPs…

EPO STRATEGY

- HR investment in initiatives identified as key for UPM.
  - o Co-working with researchers and UPM representatives in these initiatives.

- Follow up of participation in ETPs of interest by UPM as institution.
  - o Even funding of fees.

- Participation in European networks:
  - o For partner search: Vision 2020 (http://www.2020visionnetwork.eu)
  - o For best practices exchanges: ULAB (FP7), BESTPRAC (COST), ELIARE (SUDOE-INTERREG).

- Training:
  - o Post-graduate course for European R&D promoters and managers (160h)
  - o Training seminars for external UPM community…

- NCPs: FET and TRANSPORT

UPM PARTICIPATION IN INTERNATIONAL PROGRAMMES (2007-2013)

	Proposals	Projects approved
FP7	**1275**	**288**
Coordinated by UPM (colaborative)	*286 (24%)*	*82 (28%)*
FP7 EC Funding received		**83.266.939,45 €**
FP7 success rate		**22,5%**
Other international programmes (ESA, EUREKA, Interreg, CIP, etc.)	**705+**	**208**

⇨ More than double of FP6 funding per year

⇨ Ranked **first Spanish University** in funding granted in FP7 (CDTI, 2014)

CONCLUSIONS/LESSONS LEARNT

- **Institutional commitment** is key.

- Participation **as a whole** is critical for success.

- **Positioning** is not enough... but it's needed.

- Research **quality** is needed... but it's not enough.

- Build upon the existing close cooperation with **private sector**.

- Close cooperation between **EPO and researchers** is a must.
  - Mutual confidence is absolutely needed.

OPEN FOR FUTURE COLLABORATION

- Collaboration in flagship initiatives such as PPP, EIT, FET-F, EIP…

- Exchange of good practices: processes, methodologies, tools…

- Exchange of information and opportunities between EU offices.

    o Exchange of good practices: processes, methodologies, tools…

    o Questions and answers on administrative, legal, financial issues…

    o Set up of joint proposals at early stage.

    o Search for partners exchanges.

    o Joint Thematic workshops or training for Researchers, networking.

- Mobility of Programme Managers and Technicians.

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