European Integration Policy
Horizon 2020 Research & Innovation funding

Three priorities

- Excellent science
- Industrial leadership
- Societal challenges
Context Horizon 2020

- Development European Single & integrated market.
  Unmet needs:
  - Smart innovation
  - Smart mobility
  - Smart governance

- US preferred partner (Roadmap for cooperation/TTip)
- EU and US count for 58% of all global R&D
- EU and US count for 18 of the top 20 knowledge regions in the world

Creating global competitive advantages through partnerships
Horizon 2020 compared to FP7 more complex!

EU Ambition
Innovation Union by 2020

Understanding EU complexity
Economic and Societal obligations, transdisciplinary collaboration, transsectoral collaboration

Strategic EU-agenda 2020
Smart, sustainable and inclusive growth.
Creating global competitive advantage.
IT main driver.

Institutional challenge
“Creating adaptive strategies for supporting EU-US research collaboration”
Relevance EU Globally Science & Research

Assessment, by NCPs, of the role of FP7 in global context - did FP7 provide ...:

- Effective balance between university, industrial (incl. SMEs), and research organisation sector
- Adequate stimulation of industry participation
- Adequate stimulation of participation of women
- Adequate stimulation of participation of young researchers
- Sufficient opportunity for science education and scientific literature
- Sufficient opportunity for the wide participation of all Member States
- Sufficient opportunities for international science, technology and innovation (STI) cooperation

Legend:
- 5 strongly agree
- 4 agree
- 3 neither agree nor disagree
- 2 disagree
- 1 strongly disagree
- 0 no opinion
Excellence under FP7

FP7 relevance, European Added Value, Scientific Excellence and shaping research policy

- Relevance – extent of achievement of FP7 strategic objectives
- Relevance – role of FP7 on positioning Europe on the global map of science and technology
- European Added Value/complementary to other Community funding programmes
- FP7 contribution to achieving scientific excellence
- Role of FP7 for shaping the national research policy

Legend:
- very high
- high
- average
- low
- very low
- No opinion
Success rates in FP7 dropped.
Researchers career development and complementary funding schemes

ERC AdG - Advanced
ERC CoG – Consolidators
ERC StG - Starters
Marie Curie
Erasmus

Students
Post Graduates
Post-docs
Junior Professor/
Junior Researcher
Associated Professor
Full Professor
Senior Professor
Institutional Research Strategy

**Gains working with EU grants**
1. Top transnational research collaboration globally
2. High output (ERC first year publication ratio 35%)

**Drivers for research policy**
1. Money
2. Research career development
   - Strengthening Research capacity
   - Strengthening Network capabilities.
ERC Grant schemes

**Starting Grants**
- starters
- (2-7 years after PhD)
- up to € 2.0 Mio
- for 5 years
- NSF supported

**Consolidator Grants**
- consolidators
- (7-12 years after PhD)
- up to € 2.75 Mio
- for 5 years
- NSF Supported

**Advanced Grants**
- track-record of significant research achievements in the last 10 years
- up to € 3.5 Mio
- for 5 years
- NSF supported

**Proof-of-Concept**
- bridging gap between research - earliest stage of marketable innovation
- up to €150,000 for ERC grant holders
ERC-NSF Arrangement: Types of visits

NSF CAREER Awardees:
- Single and long-term (6-12 months) or
- Multiple short-term visits: should aggregate to an agreed-upon minimum (e.g., 6 months).

NSF POSTDOCTORAL Fellows:
- Single and long-term research visits (6-12 months).
- Time spent in Europe will be in addition to (rather than in lieu of) their NSF-funded postdoctoral fellowship.
Marie Skłodowska-Curie Actions

Optimum development and dynamic use of Europe’s intellectual capital

Excellence
Research
Knowledge

Training
Innovation
Skills

Mobility

> € 6.16 billion in 2014-2020
(€ 745 million in 2015)
Marie Skłodowska Curie Awards

**Innovative Training Networks (ITN)**
- Job opportunities in a research/doctoral training programme offered by an international network of organisations
- Multidisciplinary approach
- Possibility for an industrial doctorate or a joint doctorate

**Your own fellowship (IF)**
- Directly to the annual IF call for proposals
- With a hosting institution in EU or AC that will manage the grant.

**Experienced researchers**

In possession of a doctoral degree, or have 4 years of full-time research experience at the time of the call deadline
Innovative Training Networks (ITN)

Creativity
Excellence
Entrepreneurship
Innovation

For doctoral candidates
Skilled
Employable
Mobile
How to select your partner in Europe?

- Institutional strategy.
- Excellence driven approach
- Transnational research networks
Collaborative density
2.4.2 Candidate and Associated Countries

For FP7, there are 14 Associated Countries, mainly European countries, currently associated, including all of the Western Balkan States. This makes FP7 a true Pan-European programme and strongly underpins the objective of building a wider ERA.

Figures 15-17 present the situation in terms of numbers of applicants and requested EU...
Thank you

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HORIZON 2020: SOME OBSERVATIONS
MAY, 2015
U.S. INSTITUTIONS/ENTITIES INVOLVEMENT IN FRAMEWORK PROGRAM 7 (FP)
PROJECTS/CONSORTIA FUNDED BY THE EUROPEAN COMMISSION BY SUBJECT AREA

FP7 (2007-2013): 408 Total involving U.S. institutions/entities

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP7-ENERGY</td>
<td>16</td>
</tr>
<tr>
<td>FP7-ENVIRONMENT</td>
<td>26</td>
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<tr>
<td>FP7-EURATOM-FISSION</td>
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<td>FP7-HEALTH</td>
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<td>FP7-ICT</td>
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<td>FP7-IDEAS-ERC</td>
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<td>FP7-INCO</td>
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<tr>
<td>FP7-INFRASTRUCTURES</td>
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<tr>
<td>FP7-KBBE</td>
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<tr>
<td>FP7-NMP</td>
<td>22</td>
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<tr>
<td>FP7-PEOPLE</td>
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<tr>
<td>FP7-SECURITY</td>
<td>7</td>
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<tr>
<td>FP7-SIS</td>
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<td>FP7-SME</td>
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<tr>
<td>FP7-SPACE</td>
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<tr>
<td>FP7-SSH</td>
<td>15</td>
</tr>
<tr>
<td>FP7-TRANSPORT</td>
<td>9</td>
</tr>
</tbody>
</table>

(Source: cordis.europa.eu/projects/result)
Downloaded: 29 April 2015)
DAVID VS. GOLIATH?

FP7
(2007 to 2013)

408 project all fields
(125 health area)

National Institutes of Health
FY2014

EU members: 3235 Projects
Non-EU members: 390
Israel: 185
Medical Projects involving U.S entities/institutions

125 with 156 partners cited

Public Universities: 35
Private Universities: 34
Private Sector: 34
Non-Academic Institutes: 49
(Includes U.S.-based Associations and U.S. Private Hospitals)

Non-U.S.: 4
(PAHO, UN Population Fund, Sihanouk Hospital, etc.)
$7.3 billion FY 2015 appropriation

94% funds research, education and related activities

48,100 proposals

11,000 awards funded

1,826 NSF-funded institutions

320,900 NSF-supported researchers

All S&E disciplines funded

Funds research into STEM education

214 Nobel Prize winners

Other than the FY 2015 appropriation, numbers shown are based on FY 2014 activities.
FY 2016 Budget Request

- NSF
  - FY 2016 Budget Request: $7723.55 Million
  - Increase over FY 2015 Est: $379.34 Million, +5.2%
  - FY 2016 request is shaped by investments in *core research, education, and infrastructure programs*, as well as critical investments *in NSF cross-directorate priorities and programs*. 
NSF Support of Academic Basic Research in Selected Fields
(as a percentage of total federal support)

- All Science and Engineering Fields: 24%
- Engineering: 40%
- Physical Sciences: 44%
- Social Sciences: 55%
- Mathematics: 59%
- Environmental Sciences: 60%
- Biology: 66%
- Computer Science: 87%

*Note: Biology includes Biological Sciences and Environmental Biology; excludes National Institutes of Health.*
National Priorities

Understanding the Brain

Risk & Resilience

Food-Energy-Water Systems

Health & Wellbeing

Manufacturing, Robotics, & Smart Systems

Secure Cyberspace

Education and Workforce Development

Broadband & Universal Connectivity

Image Credit: MicroStrain, Inc.

Image Credit: Texas A&M University

Image Credit: NASA

Image Credit: Image Credit: ThinkStock

Image Credit: Georgia Computes! Georgia Tech

Image Credit: Image Credit: Nicolle Rager Fuller, NSF

Image Credit: NASA
Qualities of NSF Supported International Activities

• Competitively reviewed for technical merit and broader impacts.
• Partnerships demonstrate true intellectual collaboration, balanced and benefiting both sides.
• Synergy from combined strengths, expertise, facilities, and data of counterparts.
• Integration of research and education by engaging students and junior researchers, our future.
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Thank you!

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