The EU Framework Programme for Research and Innovation

HORIZON 2020

Public Research for Open Innovation

Giorgio Clarotti, PhD
Senior Policy Officer
DG Research & Innovation
European Commission

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2. Horizon 2020: More than a Research and Innovation programme
Horizon 2020

• The European Union programme for research and innovation for 2014-2020 with a budget of €79 billion

• Rationale: R&D is increasingly complex, interdisciplinary, costly, requiring critical mass
• Europe = 28 countries: need for increased collaboration

• Overarching ambition of Horizon 2020:
  • Respond to the economic crisis to invest in jobs and growth
  • Address people’s concerns about their livelihoods, safety and environment
  • Strengthen the EU’s global position in research, innovation and technology
In addition 8% are invested in the EIT and in the JRC
Priority 1. 
Excellent science

• Why:
• World class science is the foundation of tomorrow’s technologies, jobs and wellbeing
• Europe needs to develop, attract and retain research talent
• Researchers need access to the best infrastructures
### Proposed funding (€ million, 2014-2020) = 31%

<table>
<thead>
<tr>
<th>Program</th>
<th>Proposed Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>European Research Council (ERC)</strong></td>
<td>13 095</td>
</tr>
<tr>
<td>Frontier research by the best individual teams</td>
<td></td>
</tr>
<tr>
<td><strong>Future and Emerging Technologies</strong></td>
<td>2 696</td>
</tr>
<tr>
<td>Collaborative research to open new fields of innovation</td>
<td></td>
</tr>
<tr>
<td><strong>Marie Skłodowska-Curie actions (MSCA)</strong></td>
<td>6 162</td>
</tr>
<tr>
<td>Opportunities for training and career development</td>
<td></td>
</tr>
<tr>
<td><strong>Research infrastructures (including e-infrastructure)</strong></td>
<td>2 488</td>
</tr>
<tr>
<td>Ensuring access to world-class facilities</td>
<td></td>
</tr>
</tbody>
</table>

### Contributions:
- **54%** for European Research Council (ERC)
- **11%** for Future and Emerging Technologies
- **10%** for Marie Skłodowska-Curie actions (MSCA)
- **25%** for Research infrastructures (including e-infrastructure)
Priority 2.
Industrial leadership

• Why:
  • Strategic investments in key technologies (e.g. advanced manufacturing, micro-electronics) underpin innovation across existing and emerging sectors
  • Europe needs to attract more private investment in research and innovation
  • Europe needs more innovative small and medium-sized enterprises (SMEs) to create growth and jobs
### Proposed funding (€ million, 2014-2020) = 22%

<table>
<thead>
<tr>
<th>Category</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leadership in enabling and industrial technologies (LEITs)</strong></td>
<td>13 557</td>
</tr>
<tr>
<td>(ICT, nanotechnologies, materials, biotechnology, manufacturing, space)</td>
<td></td>
</tr>
<tr>
<td><strong>Access to risk finance</strong></td>
<td>2 842</td>
</tr>
<tr>
<td>Leveraging private finance and venture capital for research and innovation</td>
<td></td>
</tr>
<tr>
<td><strong>Innovation in SMEs</strong></td>
<td>616</td>
</tr>
<tr>
<td>Fostering all forms of innovation in all types of SMEs</td>
<td>4% - 20%</td>
</tr>
</tbody>
</table>

* Additional funding for nuclear safety and security from the Euratom Treaty activities (2014-2018)
Priority 3.
Societal challenges

• Why:
  • Concerns of citizens and society/EU policy objectives (climate, environment, energy, transport, etc) cannot be achieved without innovation
  • Breakthrough solutions come from multi-disciplinary collaborations, including social sciences & humanities
  • Promising solutions need to be tested, demonstrated and scaled up
Proposed funding (€ million, 2014-2020) = 39%

<table>
<thead>
<tr>
<th>Area</th>
<th>Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health, demographic change and wellbeing</td>
<td>7 472</td>
<td>24%</td>
</tr>
<tr>
<td>Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the Bioeconomy</td>
<td>3 851</td>
<td>12%</td>
</tr>
<tr>
<td>Secure, clean and efficient energy *</td>
<td>5 931</td>
<td>19%</td>
</tr>
<tr>
<td>Smart, green and integrated transport</td>
<td>6 339</td>
<td>20%</td>
</tr>
<tr>
<td>Climate action, environment, resource efficiency and raw materials</td>
<td>3 081</td>
<td>10%</td>
</tr>
<tr>
<td>Inclusive, innovative and reflective societies</td>
<td>1 310</td>
<td>4%</td>
</tr>
<tr>
<td>Secure societies</td>
<td>1 695</td>
<td>5%</td>
</tr>
<tr>
<td>Science with and for society</td>
<td>462</td>
<td>1%</td>
</tr>
<tr>
<td>Spreading excellence and widening participation</td>
<td>816</td>
<td>3%</td>
</tr>
</tbody>
</table>

* Additional funding for nuclear safety and security from the Euratom Treaty activities (2014-2018)
Horizon 2020 and partnering

Public private partnerships:
• Through Joint Technology Initiatives or other formal structures (Art. 187)
• Through contractual agreements, which provide inputs for work programmes
• Only when criteria met, e.g. clear commitments from private partners

Public public partnerships:
• Through ERA-NET COfund action for topping up individual calls/actions (replacing current ERA-NET, ERA-NET Plus, Inco-NET, Inno-NET)
• Through participation in joint programmes between Member States (Art. 185)
• Supporting agendas of Joint Programming Initiatives when in line with Horizon 2020
• Only when criteria met, e.g. financial commitments of participating countries

European Innovation Partnerships:
• Not funding instruments, but for coordination with broader policies and programmes
Benefits of Partnerships

Joint Technology Initiatives (with industry)
• Industry driven research agenda
• Fixed budget for 7 years to leverage more industry investment
• Sector structuring to achieve impact
• Coverage of longer value chains and interrelated sectors
• Higher level of SME participation (30%) than in FP7
• Links and synergies with Structural and Investment Funds

Joint programmes (with Member States)
• Link to national programmes
• Leverage effect
• Industry involvement
• Cross-border collaboration
Research and innovation – a growing priority for the EU

"Horizon 2020 must deliver"

- You should perform EXCELLENT research and innovation
- Your project must have an IMPACT
- Show ADDED VALUE, be multidisciplinary and well-implemented

Reflected in the evaluation criteria
There are many ways to measure impact

Evidence based policy making
- Medicines for children
- Health Technology Assessment
- ATMP
- and many others...

Taking the lead in new areas of growth
- Personalised medicine

Responding to emergencies

Knowledge creation and exploitation

SME (Small & Medium Enterprises)
Health R&D in Europe and in US

- US - Health R&D = 30% of Civil public R&D
- EU – Health R&D = 8% of Civil public R&D
- H2020 – Health (SC1) = 10% of H2020 total

- H2020 SC1 Health: 12.5% of EU total
- EU total: 31.1% of US total
Health research in Horizon 2020

Collaborative health research (SC1)
## Health research in Horizon 2020

<table>
<thead>
<tr>
<th>Collaborative health research (SC1)</th>
<th>Public-private partnership</th>
<th>Frontier research</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME Instrument</td>
<td>Human Brain Project</td>
<td>Public-public partnerships</td>
</tr>
<tr>
<td>EASME</td>
<td>InnoLife Health</td>
<td></td>
</tr>
<tr>
<td>EIT Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JPND research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loans for de-risking R&amp;I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health research infrastructures</td>
<td></td>
<td>Deployment of innovative solutions</td>
</tr>
</tbody>
</table>

**Support to innovation**

**Modelling & predictive (neuro)sciences**

**Research Education Innovation**

**European Strategy Forum on Research Infrastructures**

**InnoVFin** EU Finance for Innovators
Health Research in H2020

Excellent science €24bn*

Future and Emerging Technologies
Marie Skłodowska Curie

Research Infrastructures

European Research Council

Industrial leadership €17bn*

Financial instruments

Fast Track to Innovation
Eureka Eurostars-2
LEIT Biotech

SME instrument

SC1 Health €7.3bn (of €31bn*)

IMI-2
Collaborative projects
AAL-2
EDCTP-2

* Figure to be updated following EFSI investments in 2016-2017 and FP7 recovery in 2016
Various instruments along the value chain
SC1 Investment Plan: impact of the EFSI* plan

Impact on 2016-2017 work programme (15% for RTD, 20% for CNECT) (Mio€)

*European Fund for Strategic Investment (President Juncker Investment Plan)

Total Operational budgets (mio€)

*100 m€ Grifols Bioscience - ES
*150 m€ UK Hospitals
*70 m€ IE Primary Care
*??? Life Science RDI

*European Fund for Strategic Investment (President Juncker Investment Plan)
SC1 Investment: a balanced portfolio, innovative solutions

Leveraged Investment in various type of instruments (Mio€, 2014 to 2017)

- PPP = Public-Private Partnership (IMI-2) = ~24% to date, +100% from industry
- P2Ps = (JPIs, Art.185, ERA-NETs, EJP) = ~14% to date, + at least 100 % by partners
- SME Instrument and Financial Instruments (FTI, EFSI, InnovFin ID) = ~7% to date
- Rest of Work Programme = 49 % to date
IMI2:
- Covers the entire medical research and innovation value chain
- Strategic Research Agenda is based on the WHO Priority Medicine Report renewed in July 2013
- Involves pharmaceutical industries as well as others (diagnostics, imaging, animal health, ICT etc.)
- Supports World class research and innovation leading to breakthrough vaccines, medicines and treatments
SC1 Investment: public-public partnerships with countries

EDCTP supports clinical trials and related research activities on PRDs, as well as capacity development for clinical trials and related research in sub-Saharan Africa.

• Launched in December 2014
• Almost €700 million EU co-funding, matching the same Member States contribution
• Broader scope: including HIV, TB, malaria, neglected infectious diseases, all clinical phases, diagnostics and delivery optimisation
• Longer duration: 10 years

EDCTP 2: ~€1.37 Billion
EC: €683 mio + MS: €683 mio
Public Public Partnerships in H2020, SC1

**Overall investment by Member States:** More than 2500 M€, 7 actions (Feb'16)

<table>
<thead>
<tr>
<th>JPIs</th>
<th>TOTAL INVESTMENT in JOINT Calls and Actions (MS+EC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurodegenerative Diseases (+CSA/ERA-NET)</td>
<td>27 Countries, 2009-2020, ~130 M€ + 10 M€ EC</td>
</tr>
<tr>
<td>Anti-Microbial Resistance (+CSA/ERA-NET)</td>
<td>22 Countries, 2011-2020, ~50 M€ + 7.8 M€ EC</td>
</tr>
<tr>
<td>More Years, Better Life (+CSA)</td>
<td>19 Countries, 2011-2020, &lt; 10 M€ + 2 M€ EC</td>
</tr>
<tr>
<td>Healthy Diet for a Healthy Life (+CSA/ERA-NET)</td>
<td>25 Countries, 2010-2020, &gt; 30 M€ + &gt; 5 M€ EC</td>
</tr>
</tbody>
</table>

| Total Investment                                                   | 4 JPIs: ~200 M€ + > 25 M€ from EC                     |

<table>
<thead>
<tr>
<th>Art.185 Initiatives</th>
<th>TOTAL INVESTMENT in JOINT Calls and Actions (MS+EC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient Assisted Living (AAL)</td>
<td>22 Countries, 2006-2024, ~0.7 B€ + 0.5 B€ EC + Industry</td>
</tr>
<tr>
<td>EU &amp; Dev. Cy Clinical Trials Partners. (EDCTP)</td>
<td>14+14 Countries, 2006-2024, ~1 B€ + 1 B€ EC + BM Gates</td>
</tr>
<tr>
<td>EU Metrology Pgm for Inno &amp; Research (EMPIR)</td>
<td>28 Countries, 2006-2024, ~0.6 B€ + 0.6 B€ EC</td>
</tr>
</tbody>
</table>

| Total Investment                                                   | 3 Art.185: ~2.3 B€ + > 2 B€ from EC + Others         |
ERP-Net Cofund actions in H2020, SC1

**Overall investment by Member States:** More than 350 M€, 9 actions (Jan '17)

<table>
<thead>
<tr>
<th>Co-Fund: ERA-NET &amp; EJP</th>
<th>TOTAL INVESTMENT in JOINT Calls and Actions (MS+EC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-RARE 3 Rare Diseases Runs from ('15-'19)</td>
<td>17 Countries (19.5 + 5.8 + ~30 Additional Own calls) ~50 M€ (48M€ - 95% done)</td>
</tr>
<tr>
<td>JP cofund, Neurodegenerative diseases ('15-'19)</td>
<td>20 Countries (35 + 10 ? + ? additional) &gt; 40 M€ (46 M€ done, more to do)</td>
</tr>
<tr>
<td>TransCan2 Translational Cancer ('15-'19)</td>
<td>19 Countries (17 + 6.7 + ~30 Additional Own calls) ~50 M€ (47 M€ - 95% done)</td>
</tr>
<tr>
<td>ERA-Co-Sysmed System Biology Medicine ('15-'19)</td>
<td>13 Countries (10 + 4 + Additional Own calls?) &gt; 15 M€ (21 M€ -- More to do)</td>
</tr>
<tr>
<td>ERA-NET NEURON Brain diseases ('16-'20)</td>
<td>17 Countries (17 + 6.8 + ~40 Additional Own calls) ~60 M€ (40 M€ - 66% done)</td>
</tr>
<tr>
<td>ERA-NET JPI Anti-Microbial resistance ('16-'20)</td>
<td>18 Countries (21 + 7.8 + Additional Own calls?) &gt; 26.4 (43 M€ done + more to do)</td>
</tr>
<tr>
<td>ERA-CVD Cardiovascular Runs from ('16-'20)</td>
<td>18 Countries (11.4 + 2.5 + Additional Own calls?) ~20 M€ (14M€ --&gt; More to do)</td>
</tr>
<tr>
<td>PM-05-2016 EJP Human Biomonitoring Initiative</td>
<td>26 Countries, 2017-2022, &gt; 25 M€ + 50 M€ EC (70% fund.)</td>
</tr>
<tr>
<td>HCO-03-2017 ERA-NET Personalised Medicine</td>
<td>&gt; 20 Countries, 2018-2023, &gt; 12 M€ + 5-6 M€ EC</td>
</tr>
<tr>
<td><strong>Total Investment</strong></td>
<td><strong>8 ERA-NET + 1 EJP:</strong> ~250 M€ + 100 M€ from EC</td>
</tr>
</tbody>
</table>
Multi-lateral health research activities

IRDiRC
www.irdirc.org/

InTBIR
http://intbir.nih.gov/

IHEC
http://ihec-epigenomes.org/

GACD
www.gacd.org/

GloPID-R
Global Research Collaboration for Infectious Disease Preparedness
http://www.glopid-r.org/

International Cancer Genome Consortium
https://icgc.org/

Global Genomic Medicine Collaborative
The SC1 Work Programme 2016-17 in brief

Published on 14/10/15 on the Participant Portal, Updated on http://ec.europa.eu/research/participants/portal/desktop/en/funding/reference_docs.html#h2020-work-programmes-2016-17

Call 'Personalised Medicine'

including 'coordination activities'

SME Instrument: 2 Topics
Other Actions: 12 items (incl. InnovFin ID & "Birth Day Prize")
Focus Area Digital Security: 1 Topic
Focus Area Internet of Things: 1 Topic

€ 935 million
Our priorities

Personalised medicine

Call 2014-15: EUR 1.4 B

Call 2016-17: EUR 1.3 B

Healthy ageing (2014-2017)


Infectious Diseases (2014-2017)

Human biomonitoring (2016-2017)

Maternal and child health (2016-2017)
3. Open Innovation for Investing in Industry
The Economic Case of R&I Funding
Economic Case of R&I Funding – DG RTD 2017

The meta-analysis finds positive and significant returns to R&D investment…

- 62% of economic growth in EU 1995 – 2007
- R&I key investment driving productivity growth

Investment by contribution factors to labour productivity growth, 2000-2013

- Private returns 10% - 30% (54% if R&D large investor)
...and detects a "productivity paradox"

Source: OECD, STI Outlook 2016

Source: EC, SRIC Report 2016
Looks at what influences that impact…

1. Macroeconomic stability
2. Framework conditions/ financial conditions
3. Availability of human capital
4. Distance to the technological frontier

...at what slows down productivity...

1. Low innovation diffusion: frontier to laggards
2. Insufficient structural change
3. More negative spillovers due to fast pace and high complexity of innovation dynamics
…and points to a changes in innovation that affects innovation diffusion

1. Celerity of change
2. Complexity of innovation process
3. Concentration of innovation benefits
4. Consumers as innovators
The rationale for public R&I funding

Traditionally:
1. Address market failures
2. Maximise positive spillovers (social returns estimated to be 2-3 times higher than private)

Now (in addition to traditional arguments):
1. Shape/ create markets
2. Support impacts all along the research-innovation process: from basic research to market-creating innovation
The economic impact of public R&I funding

Econometric studies
• + impact on productivity (Guellec, 2004) and positive return 10%-15% (Sveikaukas, 2012)

Case studies
• Rate of return 20% - 50% (Georghiou, 2015)

Macro-economic modelling
• Some studies show high economic returns
• Misspecification and under-measurement
• Work on QUEST and other models on-going
The eco impact of EU R&I funding (FP7)

Large and positive economic impacts
- Growth: €50bn led to €500bn estimated effects from innovations, new techs/products
- Jobs: 130000 direct (10 yy) and 160000 indirect (25 yy)

Better conditions for business R&I investments
- Improved scientific excellence and skills
- Leveraged industrial participation
- Improved knowledge flows and networks
- Large research infrastructures

Addressed societal challenges
- Supported the creation of new tech markets
- Boosted SME's to do groundbreaking innovation
- Enabled impactful public-private partnerships
First conclusions

✓ Public R&I policy is fully justified by market failures, positive spill-overs and need to shape/create markets for innovation

✓ Its economic impacts are large and significant

✓ It needs to target faster and more effective the creation and diffusion of innovation
**Procurement for Innovation**

- PCP to steer the development of solutions towards concrete public sector needs, whilst comparing/validating alternative solution approaches from various vendors
- PPI to act as launching customer / early adopter / first buyer of innovative commercial end-solutions newly arriving on the market

Objectives:
- Price/quality products that better fit public sector needs
- Earlier customer feedback for companies developing solutions
- Better take-up/Wider commercialisation of R&D results
A New Financial Instrument for Infectious Diseases R&D

• Jointly developed by EC and EIB

• Provides loans between EUR 7.5m and EUR 75m to innovative players active in developing vaccines, drugs, medical and diagnostic devices, and research infrastructures for combatting infectious diseases.

• No calls – demand-driven

• Launched 15 June 2015, 3 deals signed since
Why Infectious Diseases?

- Infectious Diseases (IDs) pose a major global health threat
- 2\textsuperscript{nd} leading cause of mortality: approx. 17\% of all deaths globally
- Uncertain ID market perspective deters investment
- The support for the fight against ID constitutes a key public health priority

**Policy Aims**

- Support EC President Juncker's agenda for Jobs, Growth, Fairness and Democratic Change and his investment plan.
- Contribute to effective use of public finance and mobilise the private sector.
- Contribute to Europe's leadership in addressing global challenges.
- Ensure that new drugs, vaccines and medical and diagnostic devices are made available faster to people who need them.
InnovFin - EU Finance for Innovators

http://www.eib.org/products/blending/innovfin/
Eligible Projects...

- ...must be in pre-commercial phase with proof-of-concept and pre-clinical research phases completed and clinical validation required for further development.
- ...must have proven public health impact and potentially have market prospects.
- ...should provide for the intellectual property created in the course of the project to remain in the EU

Pipeline YTD

56 proposals submitted since launch:

- 18 Vaccine
- 20 Drugs
- 14 Devices
- 4 Other

- 8 projects rejected
- 24 projects on hold (can be re-activated)
- 21 projects under further consideration
  - 16 at first interaction currently established/early evaluation
  - 5 are in the assessment process (at various stages)

3 projects signed
THE INVESTMENT PLAN FOR EUROPE

EUROPEAN FUND FOR STRATEGIC INVESTMENTS (EFSI)
EU INVESTMENT PLAN: RATIONALE

EU INVESTMENT & COMPETITIVENESS GAP

HIGH LIQUIDITY IN THE MARKET

PUBLIC BUDGET CONSTRAINTS

FINANCIAL AND NON-FINANCIAL BARRIERS TO INVESTMENT

EU Investment Plan
EU/MS policy action + EU budget + EIB capacity to mobilise private sector funds towards strategic investments.
EU INVESTMENT PLAN: 3 PILLARS

1. MOBILISING FINANCE FOR INVESTMENT
   - Mobilise at least €315bn over 3 years for investment in strategic projects and access to finance via the European Fund for Strategic Investments (EFSI) within EIB(EIF)
   - Cooperation with National Promotional Banks

2. MAKING FINANCE REACH THE REAL ECONOMY
   - European Investment Project Portal
   - European Investment Advisory Hub: technical assistance

3. IMPROVED INVESTMENT ENVIRONMENT
   - Predictability and quality of regulation
   - Removing non-financial, regulatory barriers in key sectors within EU Single Market
   - Structural reforms at national level
1. European Fund for Strategic Investments (EFSI)

- **EFSI risk-bearing capacity**
  - € 21 bn

- **EIB / EIF financing**
  - ~ € 61 bn

- **Investments value over 3 years**
  - ~ € 315 bn

**SME window**

**Infrastructure & Innovation window**

**EU Budget Guarantee**

**Own resources**

**EIB**
KEY FEATURES OF EFSI /1

- Focus on investments in real economy
  - Results on growth and jobs
  - Market-driven, no political interference
  - No geographic or sector pre-allocation

- Consistency with EU policies

- Leverage / crowd-in private sector and third parties

- Economic and technical viability

- Additionality vs existing instruments
  - Market failures and sub-optimal investment
  - Higher risk-taking than EIB normal activity in EFSI timeframe
KEY FEATURES OF EFSI /2

Size of investments

- EIB uses min €25m for individual loans
- Smaller schemes can be grouped into framework loans
- No size restriction for operations via Fin. Intermediaries (e.g. for SMEs)

Geographic scope

- EU28
- Projects involving an entity in a MS and extending to Enlargement (Western Balkans, Turkey), EU East/South Neighbourhood, EEA/EFTA (Norway, Switzerland, Liechtenstein), Overseas Countries and Territories.
EIB Project cycle for an EFSI project

- **STEP 1: Proposal**
  - financial
  - economic
  - social
  - environmental
  - and technical assessment

- **STEP 2: Appraisal**
  - EIB Management Committee
  - Investment Committee (for operations potentially benefiting from an EU guarantee under EFSI)
  - EIB Board of Directors

- **STEP 3: Approval**
  - Financing contract is agreed

- **STEP 4: Signature**

- **STEP 5: Disbursement**

- **STEP 6: Monitoring and reporting**

- **STEP 7: Repayment**
EFSI State of Play at July 2016 (1st Year)

- Investments in line with plans – 30% investments made/approved
  - 97 Infrastructure and innovation projects – €13.5 billion
  - 192 SME Financing Agreements, 200,000 SMEs – €6.8 billion

EFSI INVESTMENT BY SECTOR

- Transport 6%
- Digital 12%
- Environment and resource efficiency 5%
- Social infrastructure 4%
- RDI 25%
- Smaller companies 26%
- Energy 23%
ROLE OF DG RTD-E

1. Providing some of the budget Guarantee

2. Assessing projects in the RDI area
   - Grifols Bioscience - ES
   - Primary care – IE (Bed washing facilities)
   - RDI in Life Sciences – IE-UK (early-stage companies)
WHY INDUSTRIAL RESEARCH

• STRONG TRADITION and SKILLS
• STANDARDS and MANUFACTURING are an integrated system
• RESHORING due to increasing transport costs + local markets
• TECHNOLOGY (3D printing) reduces printing costs
• Benefit from European strength in VOCATIONAL TRAINING, DESIGN and PATENTING
• Would allow "TAMING THE ELEPHANT" which produced much insecurity in western societal and political structure
TAMING THE ELEPHANT

Who Has Gained from Globalization
The global 1% and the Asian middle class.

REAL INCOME GAINS IN PERCENTAGE, 1988 TO 2008

100% -

80 -

60 -

40 -

20 -

0 -

5th 20th 40th 60th 80th 95th 100th

Poorer  GLOBAL POPULATION BY INCOME DISTRIBUTION PERCENTILE  Wealthier

Asian middle class

U.S. and Western lower middle class

Top 1%

Top 2–5%

NOTE INCOMES ARE REAL, PPP-ADJUSTED, IN 2005 DOLLARS.

SOURCE BRANKO MILANOVIC