The Proposed European Institute of Technology

Positioning and Complementarity with Respect to Other European R&D Instruments

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Introduction - I

EARTO: The European Association of Research and Technology Organisations

- 300 Research and Technology Organisations in Europe
  - 100,000 scientists, engineers, technicians
  - €10 billion turnover per annum
  - 100,000 clients per year in government, industry, services

- Collaborative and contract research, strategic research agendas, precautionary and other public-interest research
- Multi-disciplinary skills, critical mass, special facilities, long-term partnerships
- Technology transfer through licensing and spin-offs
- Postgraduate training in technology and innovation
Introduction - II

- EIT is not the solution
- EIT must be seen in context, i.e. the evolving European Innovation System (European Research Area too restrictive a concept)
- EIT, properly configured, has a valuable complementary role to play
- EIT has to find its place: positioning, complementarities, e.g. to Technology Platforms, FP Thematic Priorities, ERC...

Easy to criticise details in the Commission’s EIT proposal
Grave danger of throwing the baby out with the bathwater
The False Opposition between Basic and Applied Research

Donald E. Stokes

Brookings Institution Press, 1997

Louis Pasteur
The False Opposition between Basic and Applied Research

Vannevar Bush, “Science the Endless Frontier”, 1944

- “Applied science invariably drives out pure”

- “Basic research is the pacemaker of technological progress”
  - “A nation which depends upon others for its new basic scientific knowledge will be slow in its industrial progress and weak in its competitive position in world trade”

- Separation of basic and applied research

- “Superiority” of basic research

- “Automaticity” of use, subsequent in time and space
The False Opposition between Basic and Applied Research

- What is basic research?
  - Research primarily motivated by a quest for understanding

- What is applied research?
  - Research primarily motivated by considerations of use
## Quadrant Model of Scientific Research

<table>
<thead>
<tr>
<th>Quest for fundamental understanding?</th>
<th>Pure basic research</th>
<th>Use-inspired basic research</th>
<th>Pure applied research</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>❌</td>
<td>False</td>
<td>True</td>
<td>False</td>
</tr>
</tbody>
</table>

Source: Donald E. Stokes, *Pasteur’s Quadrant*, p. 73
## Quadrant Model of Scientific Research

<table>
<thead>
<tr>
<th>Quest for fundamental understanding?</th>
<th>Considerations of use?</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Niels Bohr</td>
<td>✓ Louis Pasteur</td>
</tr>
<tr>
<td>× Carl Linnaeus</td>
<td>✓ Thomas Edison</td>
</tr>
</tbody>
</table>

Source: Donald E. Stokes, *Pasteur’s Quadrant*, p. 73
Adding a Third Dimension

Cost, Risk, Duration
Critical Mass

Understanding?

Use?

[Diagram showing the relationship between Cost, Risk, Duration, and Critical Mass with understanding and use indicators]

[Portraits of individuals, possibly representing historical figures related to the topic]
Positioning of EIT

Cost, Risk, Duration
Critical Mass

EIT

JETIs
Conclusion

• Bohr, Edison, Pasteur – we need them all!

• There is a need and a place for a well configured EIT
  – Strategic, longer-term, high-risk

• Overlaps between EIT, ERC, TPs etc. are not a problem, they are essential!
  – Ideas and people must flow
  – ERC, FP Thematics co-fund EIT projects
  – EIT projects contribute to TP programme objectives

• The EIT must be allowed to find its place
  – German Presidency compromise is pragmatic and wise

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