IST Impact Study

Strengthening Competitiveness through Knowledge

November 2004
Objectives of the Study

- Develop a pragmatic methodology for systematic impact assessment of IST RTD activities
- Implement the methodology on a sample of RTD projects of FP4 and FP
- Assess the scope and scale of impacts in order to enhance assessments of programme performance & suggest recommendations for the future
Study Authors

Databank Consulting, prime contractor

with empirica, Idate,

Teleport Sachsen Anhalt and Wise Guys Ltd
## Study Scope

<table>
<thead>
<tr>
<th></th>
<th>Framework Programme 4</th>
<th>Framework Programme 5</th>
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<tbody>
<tr>
<td>Health Applications</td>
<td>TAP: Telematics Applications for Healthcare</td>
<td>IST – Key Action I.1 and I.2 eHealth</td>
</tr>
<tr>
<td>Microelectronics &amp; Microsystems</td>
<td>ESPRIT IV: Domain II Technologies for Components and Subsystems</td>
<td>IST- Key Action IV.7 Subsystems and Microsystems and IV.8 Micro- and Opto-electronics</td>
</tr>
<tr>
<td>Mobile Communications</td>
<td>ACTS: Domain 4 Mobility and Personal Communication Networks</td>
<td>IST- Key Action IV.5 Mobile and Personal Communication and systems including satellite systems and services</td>
</tr>
</tbody>
</table>
The FP Programmes Role in the Innovation System

- **Catalytic role** at interface between industry, research & user communities
- FP funding = small compared to overall R&D investments
  → marginal impact on macroeconomic performance of EU
- Programmes = elements of a complex innovation system, flowing from basic to applied research, to innovation take-up
- Impacts materialise through effects on stakeholders, interaction with external environments & positive externalities
- FP direct impacts on knowledge, skills, research & business networks, leading to enhanced competitiveness for participants
  → important to investigate contributions to innovation system through stakeholders analysis
The IST Programme’s Role in the Innovation System

- Industry or organisations
- Research organisations
- User organisations

1st Circle
2nd Circle
3rd Circle

- INDUSTRIAL COMPETITIVENESS
- KNOWLEDGE
- NETWORKING
- MODERNISATION OF THE SOCIO-ECONOMIC SYSTEM

R&D COMPETITIVENESS

Macro Meso Micro
Main Impacts of IST projects in FP4 & FP5

- Increased knowledge base, skills of researchers & development of research networks of participants

  - Led to enhanced competitiveness for most participant organisations

  - Produced efficiency and competitiveness benefits for targeted users communities (e.g. industry and service sectors using ICT)

- Contributed to the creation of public value in terms of
  - Increased transparency & openness of public services
  - Improved access to information & services
  - Better achievement of public policies
Strategic Importance of the Programme
Projects Strategically Important for Participants

Priority Goals:

- Immediate outputs (prototypes, new tools, new products, services and processes)
- Improvement of knowledge & skills
- A range of networking goals (access to complementary expertise, creation of partnerships & networks, cooperation between university and industry)
- Exploitation of results within the organisation
- Improvement of reputation and competitiveness
Project Output Goals for Organisations

Average scores - scores: from 1 = not important to 5 = critically important
Exploitation & Competitiveness

Goals for Organisations

IST Impact Study, 2004

Average Scores - Base: 191

Average scores - scores: from 1 = not important to 5 = critically important
Projects interact with a network of users communities, in the sectors more closely related with their main activities.

The patterns of interaction seem best described as a network of research trajectories, pioneer experiences, and innovation islands.

Few participants seem to perceive the mass market as the key user constituency addressed.
A Network of Users Communities

Comparison between User Communities - RTD projects

- Research community
- Manufacturing sector
- Professionals & organisations
- Other industrial sectors
- Private service sector
- Public service sector
- Public administrations
- Citizens in general
- Other

Immediate users vs final users
Base: 191 resp. RTD projects
Important Benefits for Users & Policy Goals

Importance of Project Goals for Immediate Users - average scores

- Use results by project partners
- Use results by select users/customers
- Interoperability
- Functionality
- Access to info/sv.

Base: 191 resp. RTD projects
Effectiveness of the Programme
A High Level of Effectiveness

Participants achieved important goals in line with or better than expectations for:

- Knowledge & Networking goals
- Implementation & Enhanced competitiveness
- Commercial exploitation (in most cases)

Disappointments (important goals achieved less than expected) were claimed by about 10-15% of respondents for:

- Development of new products & services
- Market exploitation especially in Health and Mobile
- Use by Customers in Micro and Health
High Effectiveness in Knowledge Creation

- Enhanced skills of staff
- Enhanced knowledge base
- New tools and techniques
- Prototypes etc
- Critical mass of research
- Models/simulations
- Publications

First Circle

IST Impact Study, 2004
Base: 191 resp. RTD projects
Effective Network Enhancements

![Bar chart showing access to complementary expertise, R&D partnerships/networks, and university-industry cooperation.

Access to complementary expertise: 80% important success, 20% not important goal, 0% disappointment, 0% na.

R&D partnerships/networks: 80% important success, 20% not important goal, 0% na.

University-industry cooperation: 80% important success, 20% not important goal, 0% na.

Base: 191 resp. RTD projects

First Circle
Boosting Competitiveness & Innovation

Attainment of Competitiveness & Innovation goals - % of respondents

- Enhanced reputation and image
- Enhanced competitiveness
- Reorientation commercial strategy
- Reduced commercial risks
- Patent applications
- Copyrights etc

IST Impact Study, 2004
Base: 191 resp. RTD projects
Attainment of Exploitation Goals

Attainment of Exploitation & Implementation goals - % of respondents

- Use within organisation
- New/improved processes
- Formation new business alliances
- New/improved products
- New/improved services
- Access to new markets
- Improved market shares
- Enhanced productivity
- Increased profitability
- Increased turnover
- Creation spin-off company
- Licence incomes

Legend:
- Important success
- Disappointment
- Not important goal
- Na

IST Impact Study, 2004
Base: 191 resp. RTD projects
Business Organisations & Exploitation Goals

IST Impact Study, 2004

Base: 80 respondents
Benefits for Immediate Users: High Effectiveness

Attainment of Implementation Goals - % of respondents

- Use partners
- Open access
- Knowledge mgt users
- Use customers
- Competitiveness users
- Productivity users

IST Impact Study, 2004
Base: 191 resp. RTD projects

Third Circle
Creation of Public Value

Attainment of Socio-economic & Policy goals - % of respondents

Enhanced information transfer
- Important success: [60%] Disappointment: [10%]

Improved access info/sv
- Important success: [80%] Disappointment: [5%]

Improved public services
- Important success: [70%] Disappointment: [10%]

Public policy development
- Important success: [65%] Disappointment: [15%]

IST Impact Study, 2004
Base: 191 resp. RTD projects
Knowledge & Competitiveness Impacts
Producing Technological Innovation

- Technological objectives = achieved by nearly all projects
- New products & services = developed by approximately half of respondents

- Most important RTD impacts: new models, tools & techniques, prototypes (about 80% of respondents)

- All domains produced new technologies and breakthroughs, but with different patterns:
  - Micro: more focused on process innovation for industrial users communities
  - Mobile: integrated technical solutions, relatively higher share of patents & copyrights
  - Health: more focused on applications & services
Producing Technological Innovation

**Fundamental Research**
- Scientific publication: 64%
- Models: 61%
- Prototypes: 80%

**Applied Research**
- Proof of concept: 80%
- Progressive know-how: 80%
- Improved methodologies: 48%
- Creation or improvement of processes: 80%
- Demonstrators or integration of technologies: 46%
- Products: 36%

**Experimental Development**
- Patents: 23%
- Licences: 22%
- Copyrights: 14%

**First & Second Circle**

IST Impact Study, 2004  
Medium to High Impact Achievements - % of respondents  
Base: 191 resp. RTD projects

- Almost all (71-90)
- Majority (51-70)
- Half (35-50)
- A quarter (21-34)
- Minority (<20)
Building Competitiveness through Knowledge

- Research & Knowledge impacts =
  - transversal
  - common to almost all respondents
  - rated as high or very high

- Knowledge & Network impacts: peak in the Micro domain, especially for university-industry cooperation (78%)

- About half of organisations declare impacts on competitiveness, reputation & image

- Health domain: highest frequency of tacit know-how transfer (passage of R&D staff from academia to industry)
Building Competitiveness through Knowledge

First Circle

- Reduced/Shared Technical Risk: 54%
- Critical Mass Research: 61%
- Skills of Staff: 86%
- Knowledge Base: 83%
- Access to Complementary Expertise: 74%
- R&D Partnerships: 76%
- Access to Additional Funding: 66%
- Re-oriented R&D strategy: 49%
- University-Industry co-operation: 67%

IST Impact Study, 2004

Medium to High Impact Achievements:
- % of respondents

Base: 191 resp. RTD projects
Competitiveness Impacts

IST Impact Study, 2004 | Medium to High Impact Achievements % of respondents | Base: 191 resp. RTD projects

- Enhanced reputation & image: 55%
- Enhanced competitiveness: 50%
- Reduced commercial risks: 25%

Second Circle

Almost all (71-90) | Majority (51-70) | Half (35-50) | A quarter (21-34) | Minority (<20)
Exploitation & Implementation of Results

- Implementation impacts declared by more participants than exploitation impacts

- Majority of project partners use research results

- Competitiveness enhancement: thanks to new business alliances, access to new markets, increase of market shares, improvement of productivity

- Commercial exploitation impacts:
  - for less than a third of participants (more in Health)
  - for majority (not all) of those who aimed for it
  - For most of business organisations

- Universities: higher impacts for business alliances & creation of spin-off companies
Exploiting & Implementing Results

**Exploitation**
- Business alliances: 39%
- Improved market shares: 33%
- Access new markets: 33%
- Enhanced productivity: 28%
- Re-oriented commercial strategy: 27%
- Increased turnover: 22%
- Increased profitability: 22%
- Spin-off company: 18%

**Implementation**
- Use results in org.: 72%
- Improved market shares: 33%
- Access new markets: 33%
- Enhanced productivity: 28%
- Re-oriented commercial strategy: 27%
- Increased turnover: 22%
- Increased profitability: 22%
- Spin-off company: 18%

IST Impact Study, 2004 Medium to High Impact Achievements - % of respondents
Base: 191 resp. RTD projects
Impacts on Business Organisations

Medium to High Impacts related to Important Goals - Business Organisations

- use in org.
- reputation
- new products
- competitiveness
- new processes
- business alliance
- new markets
- reoriented commercial strategy
- new services
- spinoff

0% 20% 40% 60% 80% 100%

IST Impact Study, 2004

Second Circle

Base: 80 resp. RTD projects
Impacts on Universities

Medium to High Impacts related to Important Goals - Universities

- use in org.
- reputation
- business alliance
- new processes
- competitiveness
- new services
- new products
- spinoff
- new markets
- reoriented commercial strategy

IST Impact Study, 2004

Base: 51 resp. RTD projects

Second Circle
Users Benefits & Public Value

- Immediate users = research community, manufacturing & service industries, in a few cases professionals and citizens

- Impacts on users: achieved by approximately half of respondents for ability to access & manage information and knowledge

- Slightly less frequent improvements of efficiency for users (improved competitiveness & access to information and services)

- Creation of public value: achieved by a third of respondents, i.e. improvement of public services (Health), standards & public policies

- Impacts on standards: particularly relevant for Mobile in FP4 - less strong in FP5
User Benefits & Efficiency

- **Knowledge management users**
  - 51%

- **Open access to project results**
  - 57%

- **Improved information transfer / exchange**
  - 57%

- **Use results by customers**
  - 52%

- **Compatibility technologies**
  - 49%

- **Functionality technologies**
  - 55%

- **Improved access info/services**
  - 41%

- **Competitiveness users**
  - 41%

- **Productivity users**
  - 35%

- **User Efficiency**

**User Benefits: Managing Information**

**Medium to High Impact Achievements - % of respondents**

- **Almost all (71 - 90)**
- **Majority (51 - 70)**
- **Half (35 - 50)**
- **A quarter (21 - 34)**
- **Minority (<20)**

**Base:** 191 resp. RTD projects

**Third Circle**
Public Value

Improved public services 33%

Security technologies 33%

Improved public policy development 25%

Standards EU 31%

Standards national 17%

IST Impact Study, 2004  Medium to High Impact Achievements - % of respondents  Base: 191 resp. RTD projects

Third Circle
Conclusions by Domain: Micro

- Highest knowledge & networking impacts and highest European added value

- Focused on process innovation for industrial user communities

- Microsystems, a diverse sector with many small players: strong impacts on university-industry alliances & users’ competitiveness

- Microelectronics, a concentrated industry with very high R&D investments: some flaws in effectiveness, (disappointments in customers’ use of results & products development)

- Combination IST & EUREKA Programmes considered very effective; IST should focus on basic, longer-term research
Conclusions by Domain: Health

- Many polarisations:
  - strong orientation to services development – but also very innovative projects
  - some very successful stories - also relatively high share of low-value added projects

- High profile of knowledge generation proven by scientific & technical breakthroughs (medical imaging, intelligent biomedical clothing, etc.)

- Use of Grid technologies investigated in four exploratory IST projects - originated a Health Grid community of technology developers & end-users, among the forerunners of its type in the world

- Improved awareness of potential benefits & contribution to give priority to e-health in the policy agenda

- BUT Exploitation & implementation lower than expected; orientation towards user needs disappointing; mainly national nature of markets created barriers to the success of open standards
Conclusions by Domain: Mobile

- Focus on **integrated solutions & technologies** - relatively higher share of patents & copyrights

- Includes most of the large projects of the sample & relies more than the others on **EU funding** (“pure” EU chains)

- FP4: developed high profile standards (e.g. the Third generation Mobile - UMTS & the digital broadcasting standard -DVB)

- FP5: high expectations but some lack of focus; globalisation of standards organisations weakened ability of EU industry to drive developments

- Implementation & exploitation diluted: critical phase of the market, revision of main actors’ strategies, delayed take-off of UMTS networks

- Disappointments in near-term impacts - expectations of longer-term impacts of FP5 results by many actors
When Risk Pays: A Project Cluster with High Impacts
Project Typologies & Impacts

• Survey respondents gave a description of the main characteristics and strategic positioning of their projects (the ‘nature of projects’)

• Correlation of projects characteristics & impacts leads to designing projects typologies

• Two main typologies emerged:
  o **core projects** with a stronger impact on R&D networking and knowledge
  o a smaller group of **complex-risky projects**, with a stronger impact on commercial and financial performance of respondents
2 RTD Project Typologies

‘Core’ projects

- highly interesting & necessary, high impacts on networks
- strategically important
- occurring in core technology areas of the respondents
- about 40% of respondents in each domain, slightly more in Micro

Complex/risky projects

- long-term, higher exploitation impacts
- technically complex
- risky from commercial and technical point of view.
- About 25% of respondents, slightly more present in Mobile
## Project Typologies by Action Line

<table>
<thead>
<tr>
<th>Core</th>
<th>Especially but not only in ...</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH</td>
<td>‘Intelligent systems for patients’ &amp; ‘Intelligent systems for professionals’</td>
<td>ARGONAUTA, GAIT, HECTOR, IGOS1, MITTUG, OTELO, PROMPT, SYNAPSES, VEPSY UPDATE, WOMAN II</td>
</tr>
<tr>
<td>MICRO</td>
<td>Micro-electronics</td>
<td>ASMED, EUCLIDES, FUSE, HELICOS, MAGIC_FEAT, MAGNOISE, PRO3, RESPONSE, SATURN, WILD</td>
</tr>
<tr>
<td>MOBILE</td>
<td>‘FP4 - Broadband access networks’ &amp; ‘Beyond 3G’</td>
<td>ARROWS, BRAHMS, BRAIN, CREDO, METRA, MIND, SUITED, VALIDATE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Complex/risky</th>
<th>Especially but not only in ...</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH</td>
<td>‘Intelligent environment for the health of citizens’</td>
<td>BODY LIFE, DynCT, E-REMEDY, GEMSS, HEARTS, PARREHA, REAL-PROF, WARD-IN-HAND, WEIGHT-INFO</td>
</tr>
<tr>
<td>MICRO</td>
<td>Micro-systems</td>
<td>ADEPT, AUTHENTIC, CIRRUS, GSQ, INSONET, MELODICT, MESMERIC, PALOMAR</td>
</tr>
<tr>
<td>MOBILE</td>
<td>‘Re-configurable radio systems &amp; networks’ &amp; ‘Telecommunications’</td>
<td>ANTIUM, iTTi, MOBIVAS, PASTORAL, VIRTUOUS, WIND-FLEX</td>
</tr>
</tbody>
</table>
Complex-Risky Projects present Higher Impacts for Main Actors

High impacts - complex-risky projects

Research network
Research know-how
Commercial performance
Financial performance

- Business
- University
- Research

IST Impact Study, 2004
Base: 49 resp.
Project Chains & Technological Trajectories
EU projects: linked in a chain

- Majority of EU projects fit into a flow of research initiatives combining different funding sources at national/international level

- Scope of follow-up projects: further research or commercialisation-implementation

- Some chains appear of little value - many develop technologies/applications further - adapt them to national or European markets

- Best cases: chains sustain stable knowledge & network development

- National funds: in Health more often after the EU projects; in Micro before the EU projects; almost never by Mobile projects

Technical trajectories must be better understood: they also indicate a relevant continuity between Programmes
Project Chains – Preceding Projects

Source: IST Impact Study, 2004
Project Chains – Follow-up Projects

Source: IST Impact Study, 2004
Scope of Follow-up Projects

Scope of the RTD follow-up projects

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Health</th>
<th>Micro</th>
<th>Mobile</th>
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<tbody>
<tr>
<td>n.a.</td>
<td>27%</td>
<td>31%</td>
<td>16%</td>
<td>31%</td>
</tr>
<tr>
<td>commercialisation</td>
<td>13%</td>
<td>17%</td>
<td>20%</td>
<td>6%</td>
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<tr>
<td>implementation</td>
<td>44%</td>
<td>47%</td>
<td>20%</td>
<td>31%</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>38%</td>
<td>25%</td>
<td>47%</td>
<td>44%</td>
</tr>
</tbody>
</table>

IST Impact Study, 2004
Base: 191 resp. RTD projects
European Added Value
Additionality

- **High Added Value of European funding:**
  
  Funding projects of high strategic importance, which would not have taken place without EU money: *55% of respondents*

  This level of additionality is positive compared to:
  
  TAP II = 25%  CRAFT = 61%  BRITE-EURAM: 49%

  Better for Micro, lower for Health, almost average for Mobile

- **Low Added Value:**

  Funding projects of low strategic importance, which would not have taken place without EU money: *18% of respondents*
Additionality

**All Domains**

<table>
<thead>
<tr>
<th>Strategic Importance</th>
<th>Additionality</th>
</tr>
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<tbody>
<tr>
<td>High</td>
<td>19%</td>
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<tr>
<td></td>
<td>Pure additionality 55%</td>
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<tr>
<td>Medium</td>
<td>7%</td>
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<tr>
<td>Low</td>
<td>18%</td>
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Other forms of additionality

IST Impact Study, 2004 % of resp. - Base: 191 resp. RTD

**Micro**

<table>
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<tr>
<td>High</td>
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</tr>
<tr>
<td></td>
<td>Pure additionality 69%</td>
</tr>
<tr>
<td>Medium</td>
<td>2%</td>
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<tr>
<td>Low</td>
<td>10%</td>
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</table>

Other forms of additionality

IST Impact Study, 2004 % of resp.- Base: 49 resp. RTD
## Additionality

### Mobile

<table>
<thead>
<tr>
<th>Strategic Importance</th>
<th>Additionality</th>
<th>Percentages</th>
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</thead>
<tbody>
<tr>
<td>High</td>
<td>Pure additionality</td>
<td>52%</td>
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<tr>
<td></td>
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<tr>
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<tr>
<td>Low</td>
<td>Other forms of additionality</td>
<td>8%</td>
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IST Impact Study, 2004 % of resp. - 71 resp. RTD

### Health

<table>
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<tr>
<th>Strategic Importance</th>
<th>Additionality</th>
<th>Percentages</th>
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<td>Other forms of additionality</td>
<td>21%</td>
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<tr>
<td>Medium</td>
<td>Pure additionality</td>
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<td>10%</td>
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IST Impact Study, 2004 % of resp. - 71 resp. RTD
Impact Assessments: Conclusions & Recommendations
IST Programme = an element of a complex innovation system:

its impacts materialise through interaction of main stakeholder participants with external constituencies & market developments

Type & intensity of impacts = different at micro, meso & macro level; a mix of methodologies needed to capture them, taking into account likely predominance of knowledge, learning & skills effects

Focus of impacts assessments must be on innovation processes rather than on innovation products (number of publications, or new products... )
Conclusions - II

- The **mix of methodologies** used by this study (questionnaire survey of participants & key stakeholders interviews)
  - is **effective** to analyse impacts at micro & meso level
  - should be **complemented** by a competitive analysis study of the different sectors

- Self-assessment survey of participants = a **valid instrument** for investigation of the profile, strategic positioning, relative impacts of projects on project teams & organisations, providing input on value for participants

- Survey allows also to measure **additionality levels and links** between projects, providing input for strategic guidance of Programme
## Impact Assessment Methods

<table>
<thead>
<tr>
<th>Level of analysis</th>
<th>Target of analysis</th>
<th>Subjects of analysis</th>
<th>Type of indicators</th>
<th>Methodology and tools</th>
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<tbody>
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<td>Micro level</td>
<td>Project participant</td>
<td>RTD teams in projects</td>
<td>Outputs and Outcomes</td>
<td>Questionnaire surveys – self assessment</td>
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<td>Single project</td>
<td>Parent organisation</td>
<td></td>
<td>Case studies</td>
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<tr>
<td>Meso level</td>
<td>Domain / Area (ex. EGovernment)</td>
<td>Immediate target users / audiences</td>
<td>Impacts</td>
<td>Monitoring of users</td>
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<td>Market sectors</td>
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<td>Organisations assessment</td>
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<td>Macro level</td>
<td>EU social and economic system</td>
<td>Society at large</td>
<td>Indirect Impacts</td>
<td>Macroeconomic and social studies</td>
</tr>
</tbody>
</table>


Lessons Learned

- Focus on type of actors (first, second, third circle) & type of organisations = effective: helps to understand innovation process

- Scope and range of impacts = influenced by profile of stakeholder constituency → should be analysed through objective classifications (including market sector: ICT industry, government…)

- Normalisation of variables through the importance scores = important methodological tool to allow horizontal & vertical comparability

- Effectiveness indicator, or goals attainment, allows to distinguish between achievement of strategic goals & level of impacts (whether or not planned)
Recommendations - I

Impact Assessment studies should use mixed method approaches & retain combination of macro, meso & micro level tools to capture the different impacts of the programme, taking however into account the likely predominance of knowledge, learning and skills effects.

Monitoring and Impact Assessment activities should focus on the process of innovation. This includes:

- dynamic management of strategic portfolio of projects,
- investigating technical trajectories of projects chains as well as
- interactions of participant stakeholders between themselves & with the external environment.

Impact studies need to be situated in the broad policy, socio-economic and technological context. Combinations of ex-post evaluation and foresight can be particularly useful in the IST area.
Recommendations - II

Meso-level impacts best investigated through competitive sector analysis, market studies & opinion leaders interviews.

Stakeholder sample for qualitative interviews should be segmented in order to represent the main constituencies of the analysed sectors.

Composition of Programme portfolio of projects & type of stakeholders represented will influence nature & scope of impacts.

Commission should use database of participants’ characteristics to estimate potential gaps or unbalances in presence of different stakeholders categories, in function of specific objectives of different areas of the Programme.

The Commission should consider how best to situate impact assessments within its evaluation and performance monitoring activities. A better organisational memory would be of enormous benefit to evaluators.
How to Improve Response Rates of Questionnaire Surveys

- Better management of contact database by Commission
- Carry out telephone recalls
- Manage timing of survey to avoid major holidays
- Shorten questionnaire
- No need for separate questionnaires for different typologies of projects (but elaboration must use some normalisation criteria such as the goals importance scores)
- Questions on longer-term socioeconomic impacts probably not appropriate & could be better answered through the stakeholders interviews
Study Target & Sample
Study Sample

- **Target study**: group of 619 projects, almost evenly distributed across domains

- **Survey Questionnaire**: sent to 4133 participants, 260 complete answers, representing 193 projects

- **FP4 & FP5 respondents**, RTD projects & Support Measures

- Response rate of 6.3% in line with many assessment studies (Five-year Assessment Survey FP5 in 2004: response rate around 8%)

- Sample structure reflects closely structure analysed universe (type of organisations & projects), improving qualitative value of results

- Survey not including positive bias (only happy respondents answering): 16% complained project generated more costs than benefits & 28% that they were equal

  In line with most impacts assessment studies, e.g. those carried out by GOPA on the Growth programme
### Structure of the Sample

- **Total projects:** 619
- **Partner Organisations contacted:** 4133
- **Questionnaires return rate:** 6.3% (260 respondents)

<table>
<thead>
<tr>
<th></th>
<th>MICRO</th>
<th>MOBILE</th>
<th>HEALTH</th>
<th>TOTAL</th>
</tr>
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<tbody>
<tr>
<td>Projects</td>
<td>261</td>
<td>98</td>
<td>260</td>
<td>619</td>
</tr>
<tr>
<td>Projects represented in the sample</td>
<td>73</td>
<td>50</td>
<td>70</td>
<td>193</td>
</tr>
<tr>
<td>Response rate of projects</td>
<td>28%</td>
<td>51%</td>
<td>27%</td>
<td>31%</td>
</tr>
</tbody>
</table>

IST Impact Study 2004
Sample Reflects the Universe

Distribution Respondents across Domains - Impact Study

- Mobile 30%
- Health 35%
- Micro 35%

IST Impact Study, 2004 Base: 260 respondents

Distribution Respondents across Domains - Universe of Study

- Mobile 25%
- Health 42%
- Micro 33%

IST Impact Study, 2004 Base: 4133 organisations
A Balanced Sample

Ratio Costs Benefits

- Benefits higher than Costs: 48%
- Costs equal Benefits: 28%
- Costs higher than Benefits: 16%
- n.a.: 8%

Base: 191 resp. RTD projects

IST Impact Study, 2004
Typologies of Organisations

- University: 21%
- Public LME: 23%
- Private SME: 18%
- Public primary/private: 14%
- Private research: 12%
- Public administration: 2%
- Other: 6%
- n.a.: 1%

IST Impact Study, 2004
Base: 260 respondents
Participant Organisations

Typologies of Organizations - Universe of Study

- Research centres: 27%
- Public non research: 6%
- Private non research: 47%

Typologies of Organizations - Impact Study

- Research centres: 27%
- Public non research: 6%
- Private non research: 47%
- Higher education: 20%

IST Impact Study, 2004
Base: 2225 org.

IST Impact Study, 2004
Base: 185 resp.