ENRIITC

«Mapping Industry as a supplier and a user of Research Infrastructures»

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15/10/2020, Virtual «Network Meeting in Granada»
• Introduction to, and objectives of the ENRIITC (WP2) mapping exercise

• Preliminary Results from the surveys

• Next steps
ENRIITC will build a permanent pan-European network of Industry Liaison and Industry Contact Officers (ILOs/ICOs) facilitating relations of Research Infrastructures (RIs) with industry, be this industry in the form of a user, a supplier or a co-creator of innovation."
Introduction: ILOs and ICOs

The Industry Liaison Officer
Typically based in public organizations, with a main role to ensure financial return on the national investment in RIs, while stimulating and facilitating contracts between RIs and national industries.

The Industry Contact Officer
Typically employed at RIs, with responsibility for increasing the use of their services by the private sector and for developing relations with industrial users and co-creators.
Objectives of the ENRIITC mapping (WP2)

- Map the “Industry as an RI supplier” relationship, including key actors, sectors, technologies and area of competence;
- Investigate the nature and extent of access and usage of the RI services and products by companies;
- Analyse the choice and effectiveness of current ILO and ICO performance indicators;
- Seek to gain better insight from real-life experiences of what really drives or hinders the development of closer Industry collaboration with Ris;

ENRIITC SURVEY

Two on-line questionnaires, separately addressing the ILOs and the ICOs.
ILOs Survey

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Preliminary results and conclusions
## Results | ILO Survey

### 21 Countries, 47 Responses

<table>
<thead>
<tr>
<th>Country</th>
<th>N. ILOs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>1</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>1</td>
</tr>
<tr>
<td>Denmark</td>
<td>6</td>
</tr>
<tr>
<td>Estonia</td>
<td>1</td>
</tr>
<tr>
<td>France</td>
<td>2</td>
</tr>
<tr>
<td>Germany</td>
<td>4</td>
</tr>
<tr>
<td>Hungary</td>
<td>1</td>
</tr>
<tr>
<td>Ireland</td>
<td>1</td>
</tr>
<tr>
<td>Italy</td>
<td>2</td>
</tr>
<tr>
<td>Lithuania</td>
<td>1</td>
</tr>
<tr>
<td>Norway</td>
<td>1</td>
</tr>
<tr>
<td>Poland</td>
<td>2</td>
</tr>
<tr>
<td>Portugal</td>
<td>1</td>
</tr>
<tr>
<td>Romania</td>
<td>1</td>
</tr>
<tr>
<td>Spain</td>
<td>5</td>
</tr>
<tr>
<td>Sweden</td>
<td>5</td>
</tr>
<tr>
<td>Switzerland</td>
<td>1</td>
</tr>
<tr>
<td>Netherlands</td>
<td>6</td>
</tr>
<tr>
<td>Turkey</td>
<td>1</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>4</td>
</tr>
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ENRIITC is funded by the European Framework for Research and Innovation Horizon 2020, under grant agreement 871112
ILO's employment institutions:

- 40% in Government Agency
- 40% in Public Research Organisations
- 20% in Private Not-for-profit Associations
- A handful in RIs (6%) or in private Commercial Institutions (4%)

Type of RIs being supported

- 80% support International RIs (60% exclusively support International RIs)
- 40% support National RIs
Relevance to ILOs of Research Domains supplied by Industry

<table>
<thead>
<tr>
<th>Domain</th>
<th>Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Sciences and Engineering</td>
<td>98%</td>
</tr>
<tr>
<td>Data Computing and Digital Research...</td>
<td>91%</td>
</tr>
<tr>
<td>Energy</td>
<td>91%</td>
</tr>
<tr>
<td>Social and Cultural Innovation</td>
<td>38%</td>
</tr>
<tr>
<td>Environment</td>
<td>79%</td>
</tr>
<tr>
<td>Health and Food</td>
<td>62%</td>
</tr>
</tbody>
</table>

Physical SC & Engineering is the highest rated research domain in terms of relevance. The less-often supplied domains — Health & Food and Social & Cultural Innovation, have also been given the lowest rating in terms of relevance.
Industry Sectors being served

- Electrical and electronic engineering: 74%
- Mechanical engineering: 74%
- Energy: 55%
- ICT/data: 53%
- Space: 45%
- Aeronautics: 40%
- Construction: 38%
- Pressure equipment and gas: 36%
- Defense: 28%
- Automotive: 26%
- Other: 26%
- Environment, metals: 23%
- Chemicals: 23%
- Medical devices: 17%
- Biotechnology: 15%
- Cultural Heritage: 11%
- Health: 9%
- Maritime: 9%
- Cosmetics: 6%
- Food and beverages: 2%
- Social economy: 2%
General characterisation of ILOs

The most important organisations employing ILOs are Government Agencies and Public Research Organisations. ILOs most often work for international RIs and are almost always associated with an ILO Network. In conclusion, their work is international, non-profit and public in nature.
Engagement with industry

- ILOs use various tools in their communication with industry, they tend to not use just one, but rather to combine them.
- The most important and most frequently used tools in communication with industry are **events** and **company databases**.
- The least used are **newsletters** and **web portals targeting industry**. These may represent **areas of improvement for the ILO practices**.
Key Industry Sectors

• ILOs are working predominantly in engineering-intense sectors, e.g. Electrical and electronic engineering, Mechanical engineering, Energy, ICT/data, Space, Construction, Aeronautics, Pressure equipment and gas appliances, Defense, Automotive.

• Less frequent industry sectors are: Environment, Raw materials, Metals, Minerals and forest-based industries, Chemicals, Medical devices, Biotechnology. Potential growth area of ILOs activity?

• The key RI domains supplied by Industry are in: Physical Sciences & Engineering, Energy, and Data Computing & Digital Research.

• The least often supplied domain are Health & Food, and Social & Cultural Innovation. Potential growth area of ILOs activity?
Drivers and Barriers in RI relations with Industry (ILO views)

• The main **obstacles** in achieving stronger relations between RIs and Industry are:
  - Understanding the market and commercialisation issues,
  - Communication with RIs and
  - Formal issues on tenders.

• The strongest **drivers** of more robust RI industry linkages are:
  - Activities in support of the tendering process,
  - Liaison meetings
  - Retrieving information on funding opportunities (portals could be of use here?)
  - Other forms of support in engagement with industry.
ICO's Survey

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Preliminary results and conclusions
51 ICOs participated in the survey, representing at least 44 organisations in the various ESFRI scientific Domains.

RI status and year of establishment

Surveyed RI’s are:

- 56% in “Full Operation” (Operating for more than 3 years)
- 16% in “Operation Spin-Up phase”
- 16% in “Implementation Phase”
- 14% in “Preparatory Phase”

More than half of the respondent RIs were established between 2011-2020, 30% between 2000-2010, 15% before year 2000
RIs Type of Organisation

<table>
<thead>
<tr>
<th>Type of Organisation</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>Single-sited facility</td>
<td>35%</td>
</tr>
<tr>
<td>Distributed facility</td>
<td>65%</td>
</tr>
</tbody>
</table>
33% of ICOs declared Physical Sciences & Engineering as their RI’s ESFRI scientific domain, 27% identified Health&Food as their domain. Only 12% pointed to Social and cultural Innovation and 6% of ICOs to Digital.
RI's budget components are: Members contributions (57%), EU projects (26%), income from services (8%) and others (9%).
Differential Analysis of Distributed Vs Single-sited RIs
RI Domains for Single-Sited and Distributed RIs

- **Energy**
  - Distributed RIs: 9.1%
  - Single-sited RIs: 11.1%

- **Environment**
  - Distributed RIs: 0.0%
  - Single-sited RIs: 18.2%

- **Health & Food**
  - Distributed RIs: 5.6%
  - Single-sited RIs: 39.4%

- **Physical Sciences & Engineering**
  - Distributed RIs: 9.1%
  - Single-sited RIs: 77.8%

- **Social & Cultural Innovation**
  - Distributed RIs: 0.0%
  - Single-sited RIs: 18.2%

- **Digital**
  - Distributed RIs: 6.1%
  - Single-sited RIs: 5.6%
Approximate annual budget of the RI
(including Member contributions, EU projects and income from services)

- **0 to 1 M-EUR**
  - Distributed RIs: 18.2%
  - Single-sited RIs: 5.6%

- **Between 1 M-EUR and 5 M-EUR**
  - Distributed RIs: 27.8%
  - Single-sited RIs: 51.5%

- **Between 5 M-EUR and 10 M-EUR**
  - Distributed RIs: 6.1%
  - Single-sited RIs: 16.7%

- **Above 10 M-EUR**
  - Distributed RIs: 24.2%
  - Single-sited RIs: 50.0%
Single-Sited RIs (SSRIs)

- Mainly ‘Physical Sciences & Engineering’ domain (90% of Single-sited RIs)
- Typically with >11 employees (80%), half of the SSRIs with >100 employees
- Majority with budget >€10M

Distributed RIs (DRIs)

- Mainly ‘Environment’, ‘Social & Cultural Innovation’, and ‘Health and Food’ domains (75%)
- Typically 1-100 employees (84%), with half of the DRIs with 1-10 employees
- Majority with budget €1M-5M
• Both SSRIs and DRIs engage industry largely at precompetitive research levels

• SSRIs appear more active towards industry than DRIs (question of budget or mindset?);
  • All of large majority of SSRIs have on-line information for industry, a strategy to approach industry; and a Database of industry contacts; Industry DB with >100 contacts (62%)
  • Majority of DRIs have an Industry Advisory Committee or are engaged in greentech advocacy programmes; Industry DB with <100 contacts (73%)
  • Half of the ILOs and half of the ICOs did not know or could not quantify the average number of annual industry contracts;
    • 33% of DRIs report 0-10; 33% of SSRIs report >10
Realities of the RI’s actual or potential industrial user

- Aeronautics
- Automotive industry
- Biotechnology
- Chemicals
- Construction
- Cosmetics
- Cultural heritage
- Defence industries
- Electrical and Energy
- Environment
- Firearms
- Food and drink
- Gambling
- Healthcare industries
- ICT / data
- Maritime industries
- Mechanical devices
- Medical devices
- Medical services
- Postal services
- Pressure
- Raw materials
- Social economy
- Space
- Textiles, fashion
- Tourism
- Toys
- Other

**Differentials - ICO Survey**

**SingleSited Vs Distributed**

**Business areas of the RI’s actual or potential industrial user**
Differentials - ICO Survey | SingleSited Vs Distributed

Business areas of the RI’s actual or potential industrial user

- Distributed RIs

Areas: Aeronautics, Automotive industry, Biotechnology, Chemicals, Construction, Cosmetics, Cultural heritage, Defence industries, Electrical and... Energy, Environment, Firearms, Food and drink..., Gambling, Healthcare industries, ICT/data, Maritime industries, Mechanical..., Medical devices, Postal services, Pressure..., Raw materials, Social economy, Space, Textiles, fashion, Tourism, Toys, Other.
General Characteristics of RIs

• Most of the respondent ICOs are in RIs which are fully in operational phase of development. While the “Physical Sciences & Engineering” is the most represented scientific domain among the surveyed RIs, Health&Food and Environment domains are becoming more visible especially among RIs in early stages of development. *(the ESFRI landscape is diversifying, it may be a relevant message for ILOs)*

• Single Sited RIs are mostly (80%) in the Physical&Engeneering domain and Energy. All others domains are represented by either only ditributed RIs (Environment and Social-Cultural Innovation) or largely so (Health & Food); Digital and Energy have almost equal shares of the two forms of organisation. The majority of single-sited RIs have typically more than 100 employees, whereas the distributed have between 1-10.
Engagement with industry

• Despite disproportion of budget, workforce and length of their establishment, the development of industry-engagement processes, services and tools appears still underway for most RIs.

• Although RIs with larger budgets (e.g. Physical Sciences and Engineering) tend to be use more active and better users of tools and processes to engage industry, nearly a quarter of them do not have a strategy of collaboration with industry nor do they employ an ICO.

• RIs with budgets lower than 5 M Euro most often describe the nature of collaboration with industry clients as mainly one-off impromptu, hardly have records of current and prospective industry clients (suppliers, users, partners. A portion of the larger RIs industry relations is also based on impromptu exchanges.
Drivers and Barriers in industry relations with Ris (ICO's views)

- Possible barriers can be identified in the lack of a clear strategy for industry engagement, the lack of an ICO and the one-off/impromptu relationship. A correlation which indicates that future activities should focus on improving quality of RI-industry relation for this group.

- A substantial driver for RIs towards industry engagement is the policy/stakeholder pressure to transform the investment into the development of the Infrastructures into substantial value for the European Community and National Governments, unlocking under-exploited innovation potential among industrial actors across Europe, therefore maximising societal and economic benefits across the whole innovation value chain.
With thanks to ILOs and ICOs for their participation, answers to the questionnaires are being used to **develop an effective strategy and methodology to establish, train and empower a pan-European network of coordinated RI ILOs and ICOs** - one that will truly take RI-Industry dialogues to a new level.

**Special thanks to the T2.1 T2.2 Task Leaders and the whole ENRIITC Consortium for their dedication towards the success of this initiative**
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