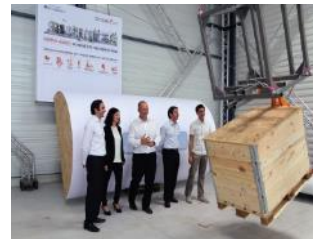


EARTO Webinar

Towards a Balanced Approach Between IPRs and Open Science Policy



16 November 2020



EARTO Recommendations for EU RD&I Policy Post-2020

- **Boost public investments in RD&I** as key driver of prosperous and sustainable growth, recognising that Europe's technological capabilities will be the decisive strategic factor to build Europe's future
- **Foster cross-border RD&I collaboration** as the solution to jointly face the global societal & industrial challenges of today, especially through the pillar II of Horizon Europe
- **Support a European RD&I ecosystem approach along strategic value chains**, boosting technology co-creation and (large & small) industry's uptake of innovative products and services
- **Ensure the right framework conditions** to stimulate knowledge and technology co-creation in Europe and prevent the creation of unwanted regulatory barriers hampering European innovation capacity. Taking into account the specificities of the RD&I sector in the revised EU state aid rules for RD&I will be key. **In addition, a balanced approach needs to be fostered between the EU Open Science and the Intellectual Property policies, focusing on the optimum dissemination and exploitation of research results.**

» EARTO RECOMMENDATIONS FOR EUROPEAN RD&I POLICY POST-2020

EARTO Paper on IPRs and Open Science Policy

EARTO set of recommendations to promote a balanced approach between IPRs and Open Science policy in Europe:

- **Ensure a stable and robust EU Regulatory and Policy framework recognising IP's crucial role in fostering knowledge co-creation, which is essential to boost technology development and industry's uptake of innovation, for high socio-economic impact.**
- **Foster a balanced approach between Open Science and IP policies in Europe. The concepts of Open Science and Open Innovation based on IPR should be promoted hand in hand. By ensuring that RD&I partners can capture part of the value created in common, Open Innovation enables to connect the fruits of Open Science to their efficient commercialisation in the market.**



**EARTO Paper:
Towards a Balanced Approach
Between IPRs and Open Science Policy**

31 July 2020

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Essential Role of IPRs in Open Innovation

Value Creation and Value Capture: both needed to enable collaborative risk-sharing

Open innovation is characterised by the simultaneous presence of:

- **“Value creation”** by the partners working in collaboration, co-creating knowledge to boost innovation output
- **“Value capture”** under conditions that enable each partner of the collaboration to capture a share of the economic value created in common

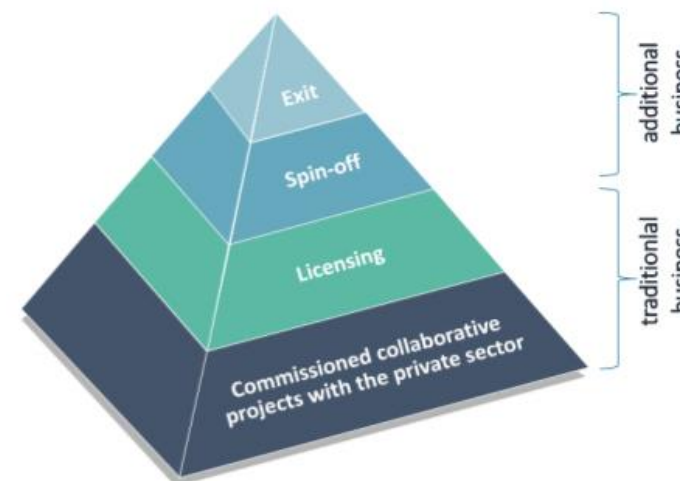
When both conditions, value creation and value capture, are met, collaborative risk-sharing is enabled and so powerful incentives exist for knowledge and technology creators.



Open Innovation: embedded in RTOs' business model

Different ways to develop new breakthrough technologies, with a market-oriented approach and the objective to develop strong IP:

- **Directly industry funded or co-funded collaborative RDI projects with private partner(s)**
- **IP licencing among various participating partners is an important model of "open innovation" collaboration**
- **Spin-off creation: RTOs provide essential support for the creation of these deep-tech start-ups (see more at [EARTO paper](#))**



IPRs: an essential part of the innovation cycle - 1

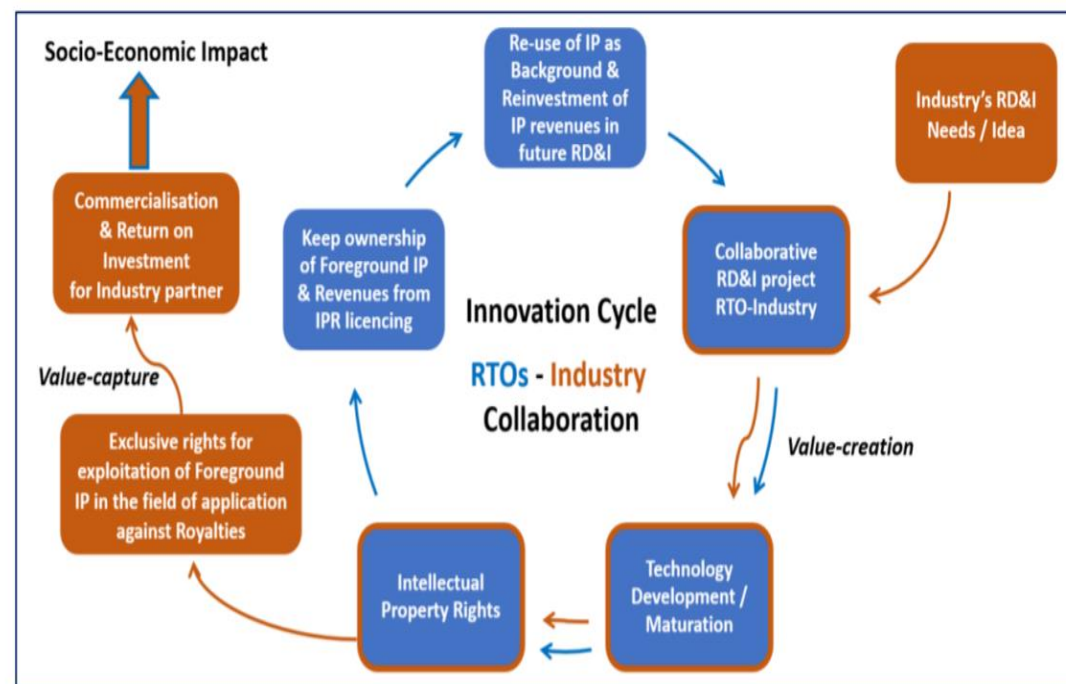
IP systems are designed with two goals:

- providing incentives for creators and inventors to invest in the production of novel ideas and content
- encouraging beneficial diffusion of knowledge

For the Innovation Cycle to be efficient (Figure 1):

- **RTOs' industry partner in general acquires exclusive rights for the generated IP in their field of application,** and benefits from the RTOs' existing IP on a non-exclusive basis, thereby gaining competitive advantages
- **RTOs retain ownership of the generated foreground IP,** which enables them to perform further RD&I work, often in very different fields of application (IP coordination role)
- All the parties benefit of this kind of operations model

Figure 1: The Innovation Cycle - RTOs-Industry Collaboration - Source: Fraunhofer (modified by EARTO)



IPRs: an essential part of the innovation cycle - 2

IPRs have important roles for RTOs in RD&I ecosystems :

- **A coordination and trust-creating role:**
 - IP can be used as a mean to create new collaborations with industry partners
- **An incentive role:**
 - IP provides legal certainty, enabling RTOs to mitigate the costs of patent filing by earning royalties.

These two roles of IP are deeply interconnected: royalties earned by an RTOs (incentive role) often follow a collaborative project with an industrial partner (coordination role).

The best way for research results to reach the market is rarely through non-exclusive royalty-free licensing. For the results of RD&I investments to be taken up by industry, conveying a form of exclusivity is essential for the industrial buyer or licensee to create a business case for further development.

IPRs in Open Innovation

Recognising the complementarity between patents and standards

- **Standardisation is costly and time-consuming:** Standardisation should be further supported and incentivised at EU level, especially in the frame of EU Framework Programmes.
- **Technology providers and research organisations should be encouraged to file SEPs and to licence them on FRAND conditions.**
- **EC should not weaken IPRs in standardisation activities because IPRs structure and coordinate the standardisation process which is also an OPEN INNOVATION activity.**

Role of IPR: the example of pre-commercial procurements

- **Providing the possibility to have only one call for tender for both phases would provide additional incentives for companies to take part in the RD&I phase**
 - **Assurance to get an opportunity to recover part of their RD&I investment made during the RD&I phase in the commercialisation phase by bringing their innovation to the market**
 - **Assurance to get an opportunity to make sound IPR management in PCPs, compliant with the coordination and incitation roles of IPRs, allowing therefore to create real OPEN INNOVATION conditions in PCPs.**

IPRs in Open Innovation

Fostering the exploitation of research results

- **Flexible approach needed:** Conveying a form of exclusivity is essential for the industrial buyer or licensee to create a business case for further development.
- **Reciprocity at global level:** EU should also seek to ensure reciprocity between the EU RD&I policy rules and measures and those of the third countries with which the EU has RD&I partnership agreements.
- **HEU AGA should state that:**
 - **in principle, an appropriate compensation should be provided for the economic use of not-for-profit research organisations' research results, and of the background needed to commercially exploit those results.**
 - **Similarly, a joint owner should provide an appropriate compensation for the economic use of joint results**

A Balanced Open Science Policy Focused on the Optimal Reuse of Research Results

EARTO Achievements on Openness

2015: EARTO had a positive and successful impact on ERAC's opinion on Open Research Data

2016:

- Conference "Amsterdam call for Open Science": EARTO succeeded to modify the proceedings of the conference
- Council conclusions on Open Science

2017:

- Impact on EC's recommendation for SEPs
- Impact on JRC's [report](#) : EARTO participated as speaker in the conference and had an impact on the very good conclusions of that workshop and report

2018: EARTO had a powerful achievement on the revision of the PSI Directive

2019 and 2020:

- Impact on HEU AMGA on Open Science issues
- Impact on OSPP reports
- Impact on COVID-19 IP Manifesto

Complementarity between Open Science and IPRs

- **Open Science ≠ free of charge access for all** - an unbalanced one-size-fits-all European Open Science policy would be highly detrimental to European RD&I ecosystems
- **An IPR framework is essential to facilitate, regulate and secure Open Science** - key to offer balanced rights to both the users and creators of Open Science content
- **Part of the public mission of non-profit research organisations like RTOs is to strategically decide what to do with their know-how**
- **Open Science must be Excellent Science.** For example for scientific publications, the quality of scientific publications needs to be addressed together with the issue of accessibility. Making the existence of the generated RD&I results immediately available can be important to foster fast collaboration, especially in times of public emergency, but it should not be promoted at the expense of quality.
- **Open Science should ensure reciprocity at Global Level**



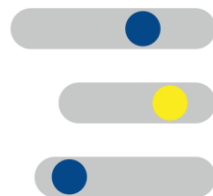
Balance Data Sharing - optimising the re-usability of research data

- **“As open as possible, as closed as necessary”** - EU policy should focus on the optimum re-use of research data
- **FAIR is not Open** - FAIR data can be either open or closed, but open data needs to be FAIR first in order to be re-usable
- **A cost/benefits analysis should be undertaken by data creators**
 - **Make sure that the potential benefits from making data accessible over a long-term period outweighs the costs that making such data accessible under FAIR conditions would entail.**
 - **Moreover, regardless of the access issue (to Whom and How?), some of the data does not deserve to be stored at all (What? e.g. intermediate results)**



An Efficient European Open Science Cloud (EOSC)

- **The EU should favour a bottom-up approach**, encouraging the establishment of a technical interface to enable interoperability and data exchange between the existing RD&I data repositories, platforms and storages that are already in use, including national ones
- **The EOSC should aim to integrate and adapt to the needs and use of the different scientific and research fields** and focus first on those with the greatest needs
- **EOSC should have sound business models in order to be sustainable**
- **EOSC should ensure Reciprocity at Global Level**



EOSCsecretariat.eu

Setup and management of the EOSC Secretariat supporting the EOSC Governance

Open Source: balanced approach needed

- **Open Source should not be considered as a suitable generic replacement for the existing IP-based processes**
- **Supporting Open Source licences as the preferred licensing model for technology transfer in the software field:**
 - **Could hamper the development of the Digital Single Market**
 - **Would prevent the creation of technology-based start-ups in the digital field**



Open Source: balanced approach needed: Example of OSS in standardisation activities

Open Source is primarily a business model for the exploitation of software.

In digital fields, a standard is often a technical specification and not a software per se. Therefore, there is no reason to impose the business model of the means to govern a technical specification.

In supporting Open Source licences as the preferred licensing model for software involved in digital standards, the EC would therefore be too restrictive in its analysis. This could hamper the development of the Digital Single Market by hampering/complicating innovation in Europe done by:

- 1. the software industry itself (i.e. software publishing), as well as by**
- 2. the RTOs' performing software and digital activities for and with the digital industry.**

Open Source: balanced approach needed: Example of OSS in standardisation activities

In addition, there are some technical standards that cannot be described in plain language, but are themselves formulated as software, often as commented (C) source code. These are in fact “essential copyrights”. It is no more than logical to treat these “essential copyrights” in the same way as SEP’s. Being part of a standard, such sources should be published but not *per se* be available for free of charge use.

Open Source in standardisation can have some similarities with “license to all”, especially OSS involving restrictive Open Source licences having a “viral effect” like the GPL (General Public License).

- Such licenses have the effect of contaminating proprietary code used in combination therewith.
- Furthermore, for similar reasons they tend to be exclusive and cannot be easily be combined with code under other OS-licenses.
- Therefore, these GPL - like licenses, may in fact hamper innovation. They also may disturb existing value chains, and therefore RTOs licensing schemes.

Open Source: balanced approach needed: Open Innovation and Open Source Software

Henry Chesbrough:

« Open Innovation is sometimes conflated with Open Source methodologies for software development. There are some concepts that are shared between the two, such as the idea of greater external sources of information to create value. However, Open Innovation explicitly incorporates the business model as the source of both value creation and value capture. This latter role of the business model enables the organization to sustain its position in the industry value chain overtime. While Open Source shares the focus on value creation throughout an industry value chain, its proponents usually deny or downplay the importance of value capture ».

□ **Reference:** "Open Innovation: a new paradigm for understanding Industrial Innovation " ; Center for Open Innovation; IMIO; University of California, Berkeley; 26/10/2005 (chapter 1)

Joel West (Chesbrough's staff):

« OPEN SOURCE is only Open Innovation if it has a business model »

«There are tens of thousands of OPEN SOURCE projects created and used for non-commercial reasons, like the work of the GNU Project, which are driven by strong ideology ».

□ **Reference:** "patterns of open innovation in open source software"; Joel West; college of business; San José State University; Scott Gallagher, college of business, James Madison University; 26/10/2005; chapter 5

Open Source: balanced approach needed: Tech Transfer modes from research organisations to industry for OSS

Reminder: "They recall that 90% of software publishers have chosen the proprietary model to finance their R&D"

□ *Source: Digital organisations call French MPs to reject provisions that would weaken French Tech and digital economy (see [press release](#))*

There is no "one size fits all" Tech Transfer mode from research organisations to industry for OSS. There are at least three families of modes:

- 1. Pure OSS per se**
- 2. Pure proprietary software per se**
- 3. Mixed models:**
 - **Dual licensing**
 - **Mixed modes integrating an Open Source kernel with proprietary add-ons.**

Open Standard

- **Open Standard is:**
 - **The opposite of proprietary standard where one big company imposes to the whole value chain and industry its own standard.**
 - **A standard elaborated in common in compliance with the Open Innovation requirements (value creation and value capture)**
 - **Structured by IPRs (SEPs and essential copyrights)**
- **A “one size fits all” approach would be detrimental:** Open Standard should in no way be associated with weakening of IPRs and with promoting automatically OSS..

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