



Unpacking the possibilities
of Intellectual Properties
for Open Science

TURNING RESEARCH KNOWLEDGE INTO VALUE

THE IP4OS LEGACY BOOKLET



Funded by
the European Union

This project receives funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101188026. Views and opinions expressed are those of the authors only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the EU nor the European Research Executive Agency (REA) can be held responsible for them.



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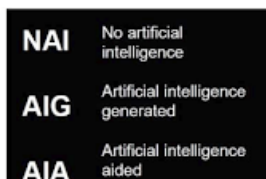
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IP4OS advocates for a concerted approach to integrating Intellectual Property (IP) and Open Science (OS). The project seeks a complementary and supportive link between agile and fitting IP management and OS practices to support transparency, accessibility, sharing and reuse of FAIR (Findable, Accessible, Interoperable, and Re-usable) research artefacts (data, results, codes, etc.).

The aim of IP4OS is to support researchers and Research Performing Organisations (RPO) with knowledge, skills, awareness, and advocacy to create the optimal value from their proprietary knowledge and translate it into social, economic, environmental, and digital benefits.



1

THE CHALLENGE: TURNING RESEARCH KNOWLEDGE INTO VALUE

Author: Julia Priess Buchheit, Coordinator CAU

Knowledge valorisation is key to solving economic and societal challenges and advancing Europe's digital and green transitions. Research generates far more than publications: it produces data, software, code, methods, designs, inventions, know-how and other intellectual assets. Their value depends on whether they can circulate, be reused and be translated into new research questions, knowledge, policies, services, technologies and societal solutions. Enhanced access to and sharing of data has been estimated to generate social and economic benefits equivalent to 1% of gross domestic product in the public sector and 2.5% in the private sector (1).

When access to intellectual assets is difficult, delayed or restricted more than necessary, research outputs remain underused. Opportunities for validation, interdisciplinary collaboration, cross-sector uptake, further research, and innovation are lost. Excessively tight protection through Intellectual Property Rights (IPR) ignoring adequate sharing options can impede dissemination and reuse, reducing scientific, societal, environmental, and economic impact (3, 4). At the same time, making every output immediately and unconditionally open can hinder strategic, IP-regulated sharing. Research may involve legitimate requirements relating to ownership, attribution, personal data,



confidentiality, security, competition, collaboration agreements or incentives for further investment.

The challenge is therefore not to choose between Intellectual Property and Open Science. It is to manage them together so that research knowledge circulates as widely as possible while justified interests remain protected.

Open Science (OS) strengthens knowledge production and dissemination by enabling access, scrutiny, reuse, validation and cumulative knowledge building. The FAIR principles — Findable, Accessible, Interoperable, and Reusable — help make research outputs usable by people and machines. Openness can improve reproducibility, research integrity and public trust while increasing the potential for knowledge valorisation. Yet “open” does not mean ignoring IPR, abandoning ownership or permitting every form of commercial use without conditions. Copyright, open-source and other licences, regulatory exclusivities and carefully designed agreements can provide legal clarity for responsible sharing and reuse.

Europe has developed substantial expertise in IP management and OS.

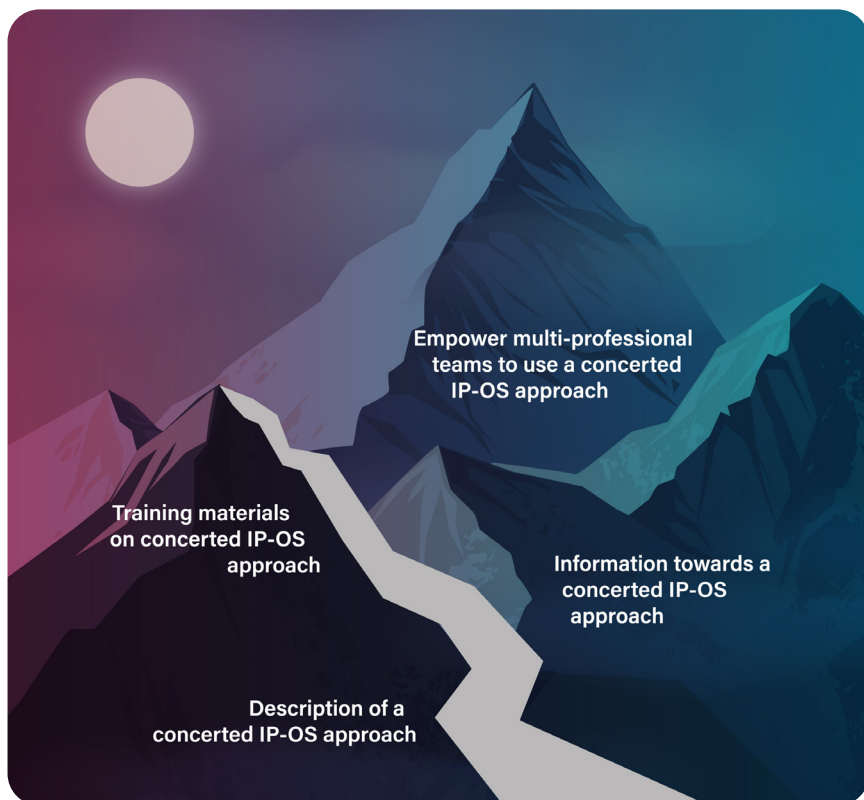
Higher Education Institutions (HEI), Research Performing Organisations (RPO) and companies employ knowledge and technology transfer professionals, IP managers, librarians, data stewards, research managers, legal advisers and OS specialists. *The European Commission's Code of Practice on the management of intellectual assets for knowledge valorisation* also recognises the importance of managing intellectual assets strategically and promoting their circulation and uptake (2).

Nevertheless, IP management and OS practices are still frequently organised in separate professional, institutional and policy domains. Practical methods and support structures for connecting them remain limited (3). Researchers and professionals may lack awareness, knowledge or application skills in one or both fields (4–6), and IP and OS are still sometimes presented as inherently incompatible (7). Certain tensions are real: trade secrecy restricts disclosure, and patenting may require confidentiality before filing. But these examples do not make every form of IP protection an obstacle to openness.

The central task is to make deliberate, context-sensitive valorisation

decisions throughout the research cycle (with institutional guidance and updates): What are the values for science, society, economy, etc. a research activity aims to create and for whom? Which intellectual assets will be developed throughout the research process? What should be shared, when and under which conditions? Which rights are needed, for whom and for what purpose? Which restrictions are genuinely necessary?

The principle “as open as possible, as closed as necessary” provides the starting point. It calls for gradual, fit-for-purpose openness without unnecessary barriers, while recognising that appropriate protection may sometimes enable future access, collaboration and impact.



2

THE IP4OS RESPONSE: BRINGING IP AND OPEN SCIENCE TOGETHER

Author: Julia Priess Buchheit, Coordinator CAU

IP4OS was created to address this challenge. The Horizon Europe project develops and promotes a **concerted IP-OS approach**: a complementary relationship between agile, fit-for-purpose IP management and the sharing of FAIR research outputs. Its overarching goal is knowledge valorisation, not protection or openness as ends in themselves, but the responsible transformation of research knowledge into scientific, societal, environmental, policy and economic value.

The IP4OS approach begins with the purpose and potential of a research output. Instead of automatically protecting first or opening everything by default, researchers and support professionals consider the research, innovation or societal goal and value; identify all relevant intellectual assets; examine ownership, rights and obligations; and assess suitable conditions for access, protection, licensing, collaboration, and reuse. Decisions can be revisited as a project develops because different assets and stages of research may require different degrees and forms of openness.

IPR can support OS when tools are selected appropriately. Copyright and open licences can clarify reuse conditions; open-source licensing can en-

able collaborative development; and broad or non-exclusive licensing may increase uptake. Regulatory exclusivity or selective protection can, in some settings, preserve incentives for development while findings remain available. Conversely, trade secrecy or overly restrictive exclusive arrangements may be unsuitable when they unnecessarily block access. The aim is to choose the most fitting strategy for the asset, context and intended benefit (2, 5, 8). Equally, the focus should extend beyond the intended end result to the assets that emerge along the way, each of which may warrant its own decision about sharing or protection.

Because these decisions cross professional boundaries, IP4OS places *multi-professional teams* at the centre of institutional practice. They bring together expertise from knowledge and technology transfer, OS, libraries, data stewardship, research management and, where needed, legal or ethical functions. Working with researchers, they identify relevant intellectual assets, clarify rights and reuse conditions, and combine protection, dissemination and collaboration. An OS ambassador helps the team keep FAIR outputs and the principle “as open as possible, as closed as necessary” in view.

IP4OS tackled this challenge by four connected forms of action:

WE DESCRIBED

The Synergy Framework maps the relationship between IP and OS, identifies fitting and non-fitting tools, and provides best-practice recommendations for agile knowledge valorisation. It complements the Code of practice on the management of intellectual assets for knowledge valorisation by explaining how a concerted approach can be implemented.

WE INFORMED

The project builds a Community of Practice and uses a Europe-wide Role Model Campaign, practical examples, facts, events and multimedia resources

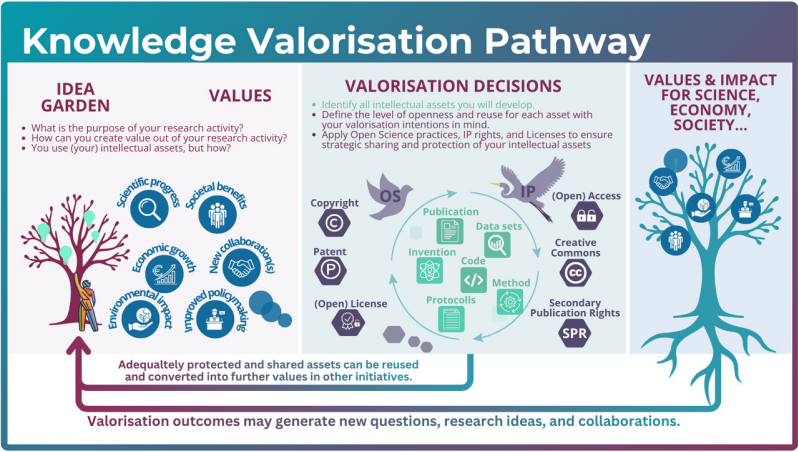
to challenge misconceptions and show how IP and OS can support knowledge valorisation.

WE TRAINED

The IP4OS Synergy Core Curriculum and openly accessible learning materials translate the Framework into learner-centred capacity building for professionals who advise researchers, perform research or train others. The FAIR-by-Design approach supports the accessibility, reusability and adaptation of these resources.

WE EMPOWERED

Through its Training Centre, Pilot Learning Labs and Train-the-Trainer approach, IP4OS supports professionals and organisations in applying



the concerted IP-OS approach, establishing multi-professional collaboration and embedding it in institutional practice.

Coordinated by Kiel University, IP4OS united eight European organisations with complementary expertise in IP, knowledge transfer, OS, research, education, libraries, law, stakeholder engagement and science communication. Together, they connect research and practice and engage a broad Community of Practice across the European Research Area.

Read below how we moved from concept to practice: described the relationship between IP and OS, informed and connected the community, trained the relevant professions, and empowered institutions to act.

IP4OS advocates neither openness at any cost nor protection by default. It provides the knowledge, tools and collaborative structures needed to make better decisions, so that intellectual assets can circulate, FAIR research outputs can be reused, and research knowledge can create the greatest possible value.

IP4OS

Unpacking the Possibilities of Intellectual Properties for Open Science

Twitter: ip4os.eu LinkedIn: IP4OS YouTube: IP4OS

IP4OS advocates for a concerted approach to integrating Intellectual Property (IP) and Open Science (OS). The project seeks a complementary and supportive link between agile and fitting IP management and OS practices to support transparency, accessibility, sharing and reuse of FAIR (Findable, Accessible, Interoperable, and Re-usable) research artefacts (data, results, datasets, etc.).

The aim of IP4OS is to support researchers and Research Performing Organisations (RPO) with knowledge, skills, awareness, and advocacy to create the optimal value from their proprietary knowledge and translate it into social, economic, environmental, and digital benefits.

Coordination
Prof. Julia Priess-Buchheit
Christian-Albrechts-Universität zu Kiel

Duration
1 January 2025 - 31 December 2026

Objectives

- Describe a concerted IP-OS approach in the Synergy Framework with recommendations on good practices on agile IP management to support OS practices.
- Establish and Inform the Community of Practice about the Synergy Framework via a Role-Model Campaign using advocates, facts, and figures.
- Train multi-professionals in agile IP management supporting OS practices with the Synergy Framework and Synergy Core Curriculum.
- Empower multi-professional teams in Higher Education Institutions (HEIs) and RPOs to use agile IP management to support OS.

Challenge
Bridging the gap between IP management and OS practices to enable effective knowledge circulation across disciplines and sectors in Europe.

Opportunities
Unlocking economic, digital, ecological, and social benefits through fostering FAIR research outputs and empowering multi-professional teams with innovative IP and OS approaches.

Aim
Establishing a synergistic IP-OS approach in HEIs and RPOs that promotes collaboration, knowledge circulation, valorisation of research, and sustainable innovation through training, advocacy, and stakeholder engagement.

IP4OS aims to transform knowledge valorisation into an impactful process by

- Sharing of research knowledge
Enhancing the circulation and reuse of FAIR research outputs across Europe.
- Professional empowerment
Establishing Europe-wide multi-professional teams in research organisations equipped with the skills, knowledge and advocacy to valorise FAIR research outputs effectively.
- Scientific impact
Increased transparency, accessibility, and sharing of scientific knowledge (data, methods, processes, etc.) among researchers, research collaborations, and the public.
- Economic impact
Creation of new career paths in knowledge and technology transfer, development of new products, services, and business opportunities, and promotion of commercialisation of research.

5 Inclusivity, integrity, and carbon footprint reduction
Progress in promoting gender equality, an inclusive innovation environment, responsible research practices, and ecological decision-making.

6 Educational impact
Adoption of IP4OS's open educational resources and trainings for consultations on a concerted IP-OS approach by HEIs and RPOs for improved, open-asset management. Increased knowledge among researchers and RPOs on how to create value from their research activities while protecting their research assets appropriately and disseminating them effectively through OS practices.

7 Social impact
Increase in educated trainers supporting social, environmental, and digital innovations driven by IP4OS multi-professional teams.

8 Community engagement
Establishing a Community of Practice through collaborations between academia, industry, and policymakers through IP4OS initiatives.

Funded by the European Union

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3

PEOPLE MAKE THE DIFFERENCE: MULTI-PROFESSIONAL SUPPORT FOR RESEARCHERS

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Knowledge valorisation is rarely the responsibility of one office or profession. A single research case can raise questions about ownership, publication timing, data protection, licensing, ethics, research integrity, collaboration agreements, commercialisation and OS. Most re-

search organisations already possess much of this expertise, but it is often distributed across separate services. Researchers may therefore receive fragmented advice, reach the right expert too late, or have to coordinate several offices themselves.

IP4OS responds by connecting existing expertise around the researcher and the intended value of the research. Multi-professional teams create a coordinated entry point, while the Community of Practice enables institutions and professions to learn from one another. The aim is not to create another isolated profession. While knowledge transfer remains a vital part of the picture, IP4OS takes a broader view: value created by research can be economic, societal, scientific, environmental, cultural, etc., and realising it requires the full range of expertise that research organisations already hold. This is also an opportunity. Bringing librarians, data stewards, research managers, knowledge and technology transfer professionals, OS specialists, researchers and, when needed, legal and ethics experts into timely, coordinated decisions together is not just a structural fix. It is a chance to build a more capable, connected, and value-aware research support culture across institutions.

Learn more [here](#)

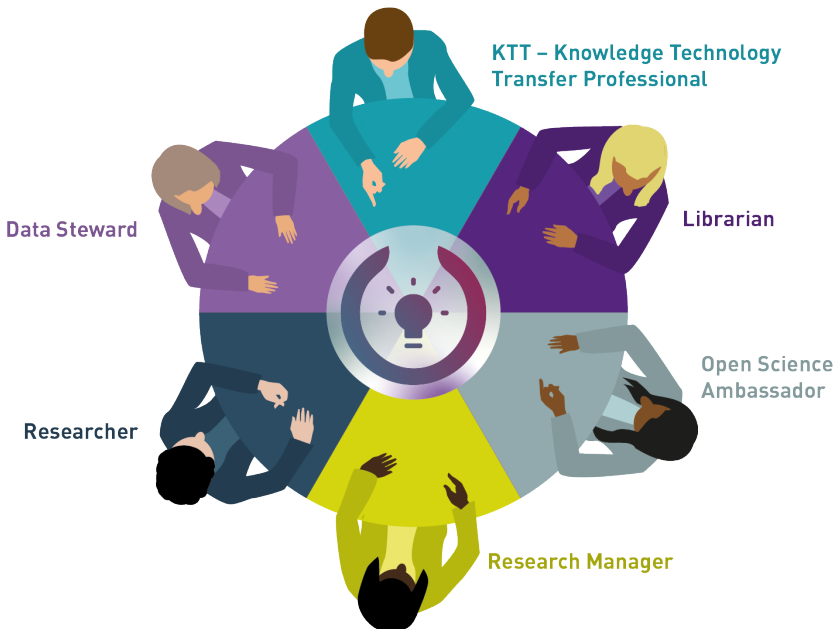
3.1 MULTI-PROFESSIONAL TEAMS

IP4OS multi-professional teams are a way of solving the challenge of knowledge valorisation in research. They enhance knowledge valorisation, moving beyond traditional notions of Intellectual Property Rights.

These teams consist of experts from various fields, from IP to OS, providing comprehensive support at every stage of the research cycle. The teams ensure efficient use of IP and follow the principle of optimal knowledge valori-

sation through a synergetic approach, in line with the “as open as possible, as closed as necessary” principle.

We at IP4OS support and empower these teams to consult effectively to achieve innovation and dissemination of research knowledge. Together with researchers, these teams evaluate research artefacts throughout the research cycle, determine which FAIR outputs to declare as IP, and assess openness



possibilities for effective valorisation with third-party collaborations and licensing agreements. The team composition is flexible and adapts to institutional needs. Expertise can be consolidated among individuals, and a team does not have to include all six personas. However, coverage of both IP and OS expertise is essential.

About each member

- **Data Steward**
Ensures data quality management by promoting the improvement of data usability and accessibility while ensuring compliance with standards.
- **KTT - Knowledge Technology Transfer Professional**
Facilitates knowledge and technology transfer between academia, industry and society to create real-world impact and innovation by aligning research output with market and societal needs and identifying IP assets suitable for both protection and open sharing.
- **Librarian**
Provides information on open licences, identifying which research artefacts or results are suitable for publication under open access/open licences and why.
- **Open Science Ambassador**
Advocates for open and accessible scientific practices, educates on OS principles and ensures that these are integrated into the team's working practices.
- **Researcher**
Consults the team on the best possible strategies to maximise the benefits, impact and reach of their research results/artefacts (valorisation of research knowledge).
- **Research Manager**
Oversees projects and considers long-term impact of research (especially in case of a concerted IP-OS approach) by aligning project results with the strategic goals of the organisation.

3.2 GUIDE TO MULTI-PROFESSIONAL TEAM ESTABLISHMENT

The IP4OS Guide on Multi-professional Teams and Consultations supports HEIs and RPOs in establishing a standing, researcher-facing structure for knowledge valorisation. It translates the project's concept into practical choices about team composition, governance, confidentiality, communication and consultation workflows. The Guide recommends a small core team with complementary IP and OS competence, including an

OS Ambassador, and the possibility to involve legal, ethics, data protection or other specialists for individual cases. A named contact or chair makes the team visible and accessible; clear rules on affiliations, conflicts of interest and confidentiality protect trust. An established team develops its own workflow, tailored to the organisation, and provides consultations to valorisation strategies to the organisation's researchers.

Who benefits and how?

Researchers gain a coherent and consolidated entry point and earlier access to relevant expertise. Research-support professionals gain a shared language and a defined process for coordinating advice. Institutional leaders can use the Guide to reduce reliance on informal personal networks, clarify responsibilities and build repeatable procedures without imposing one organisational model on every institution. Trainers and multipliers can also

use the materials to establish or strengthen teams in different legal, disciplinary and national contexts.

Read more in the
IP4OS Toolbox [here](#)

3.3 COMMUNITY OF PRACTICE

Throughout the project, IP4OS built a pan-European Community of Practice in Research & Innovation through targeted capacity building activities. A series of webinars, expert interviews, and masterclasses disseminated knowledge to the research community about a concerted IP-OS approach for impactful valorisation. A Europe-wide Pilot Learning Lab established multi-professional teams and trained professionals on strategic choices and consultations. The IP4OS Community of Practice Series offered a joint platform for knowledge exchange for established teams and interested individuals and Profession Deepening

Modules to further strengthen profession specific knowledge and enable cross-role collaboration.

Interested institutions and professionals are invited to take part in these activities and draw on the project's outcomes, empowering them to act as pioneers and multipliers of the IP4OS valorisation approach, contributing to making OS a standard *modus operandi* in research organisations while ensuring impactful IP management.

Read more about the IP4OS Community of Practice [here](#)

IP4OS

MONTHLY WEBINAR SERIES

18 June 2026

Understanding Patents in the Open Science Ecosystem



ONLINE

Dr. Julia Konrad

Speaker
COHAUSZ & FLORACK



Vanessa Guzek

Moderator
Miller International
Knowledge

4

THE IP4OS TOOLBOX: MAKING BETTER IP-OS DECISIONS

The IP4OS Toolbox turns the project's central proposition into practical decision support. It is not a single checklist and does not prescribe one ideal balance between openness and protection. Instead, its ten openly accessible resources help users define the intended valorisation pathway, identify intellectual assets, examine reuse conditions and timing, clarify legal and ethical readiness, organise multi-professional advice and test institutional implementation.

The components can be used independently, but they are strongest as a connected pathway. The Synergy Framework provides an overview of the IP and OS relationship; the FAIR-R²L Rubric examines data and other

research objects for responsible reuse; Knowledge Valorisation Rubric frames the case; the Knowledge Valorisation Consultancy Form structures the first conversation; shared Concepts and a Micro-level Resource Library build common understanding; the Multi-professional Teams and Consultation Guide supports teams and consultations; and the Pilot Learning Lab helps institutions turn the tools into routines. In June 2026, the European Commission's Knowledge Valorisation Platform featured the Toolbox as a best practice for combining IP and OS in everyday research support.

Explore the IP4OS
Toolbox [here](#)



4.1 SYNERGY FRAMEWORK

The Synergy framework is an openly accessible handbook that provides practical guidance on applying IP management and OS practices together to support knowledge valorisation. It addresses one of the major problems in research and innovation, in which openness and IP protection are treated separately or as conflicting. The Synergy Framework sets out a concerted IP-OS approach in which decisions about protection, sharing, and licensing are not considered separately but together and in relation to the purpose and potential value of a research output.

Synergy Framework operationalises the principle of “as open as possible, as closed as necessary”. The framework recognises that different intellectual assets and research stages require different forms and degrees of openness. IPRs can therefore be managed in ways that support dissemination and reuse while retaining the appropriate forms of control where they might be needed for scientific, societal, environmental or economic valorisation. The framework is structured so that it reads like a progressive guide. It first identifies the main barriers and problems that affect IP-OS synergy in research environments. These include IP literacy, un-

certainty around ownership and licensing, and access and reuse restrictions, incentive misalignment, and gaps or inconsistencies in institutional and legal frameworks. This diagnosis is then translated into recommendations for researchers, policymakers, and institutions. The recommendations covered in the framework range from early consideration of IP and valorisation goals, responsible licensing, data ownership, reuse conditions, institutional support, aligning IP and OS policies, research assessment, FAIR research assets, cross-border governance, and strategic collaborations.

Capacity building is also one of the important conditions for implementation as identified in the framework. It calls for training and support for all stakeholders in research and innovation so that they can make informed decisions on IP, licensing, openness, and knowledge valorisation throughout the research process. Synergy Framework thus provides a common reference point for understanding and applying IP and OS together. It supplements the EU Code of Practice on the management of Intellectual Assets for Knowledge Valorisation by providing guidance on how a concerted IP and OS approach can be put into practice.

Who benefits and how?

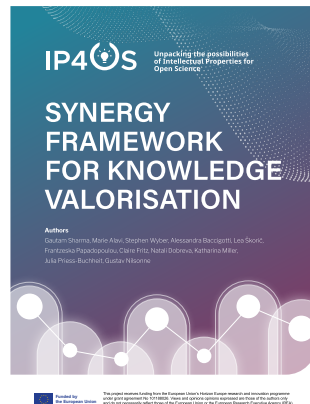
The Synergy Framework is intended for stakeholders who make, advise on, support or shape decisions about research outputs specifically related to openness and IP. The Synergy Framework is relevant across the research and innovation system, from researchers to institutional and policy-level actors.

Researchers will benefit by making practical decisions about their intellectual assets throughout the research process. The Framework encourages researchers to consider issues related to ownership and reuse conditions with collaborators early on. It also provides practical guidance on obtaining support for copyright, licensing, IP options, and on coordinating the timing of the protection and dissemination of research results.

Similarly, professionals who support researchers can use this Framework to develop coordinated approaches to IP and OS. These include librarians, research managers, knowledge transfer professionals, data stewards and managers, OS specialists, innovation managers, and legal or IP professionals. One of the recommendations of the Synergy Framework is multi-professional support for researchers, which can bring expertise together. Researchers can

receive more integrated advice from these multi-professional teams on topics such as licensing, data governance, collaboration, protection, and openness.

Industry actors, SMEs, and entrepreneurs who are involved in translating and reusing research can also benefit from the Framework. They can receive greater clarity about rights, licenses, and access and reuse conditions. Lastly, policymakers from research institutions and funding organisations can benefit from the recommendations on aligning IP and OS policies and on recognising responsible openness and IP management within research assessment.



Read more about the Synergy Framework [here](#)

4.2 FAIR-R²L RUBRIC

Description

The FAIR-R²L Rubric extends the familiar FAIR principles towards responsible and legally usable reuse. FAIR makes research objects Findable, Accessible, Interoperable and Reusable, but technical accessibility alone does not show whether a dataset can be lawfully, ethically and sustainably reused, particularly in artificial-intelligence and machine-learning workflows. Building on work on AI-readiness, FAIR-R²L adds the requirement that research objects are **Responsibly Licensed** and accompanied by the information needed to understand what reuse is permitted (Miller, K., & Hernando-Guzek, V. (2026). *IP4OS Toolbox: FAIR-R²L Ru-*

bric (Version 2). Zenodo. <https://doi.org/10.5281/zenodo.18231655>).

The Rubric guides users through questions concerning licence presence and suitability, copyright and database rights, third-party material, provenance, ethical and data-protection constraints, persistent identifiers, documentation, machine-readable rights information and long-term stewardship. It also asks whether restrictions are justified and clearly expressed. Controlled access can be appropriate; the objective is not indiscriminate openness, but transparent conditions that allow legitimate users to understand and exercise their rights.

How can it be used?

A researcher, data steward or multi-professional team can apply FAIR-R²L before data collection, before repository deposit, when preparing a Data Management Plan, when selecting a licence, or when evaluating an existing dataset for reuse. Testing FAIR-R²L on real research objects has

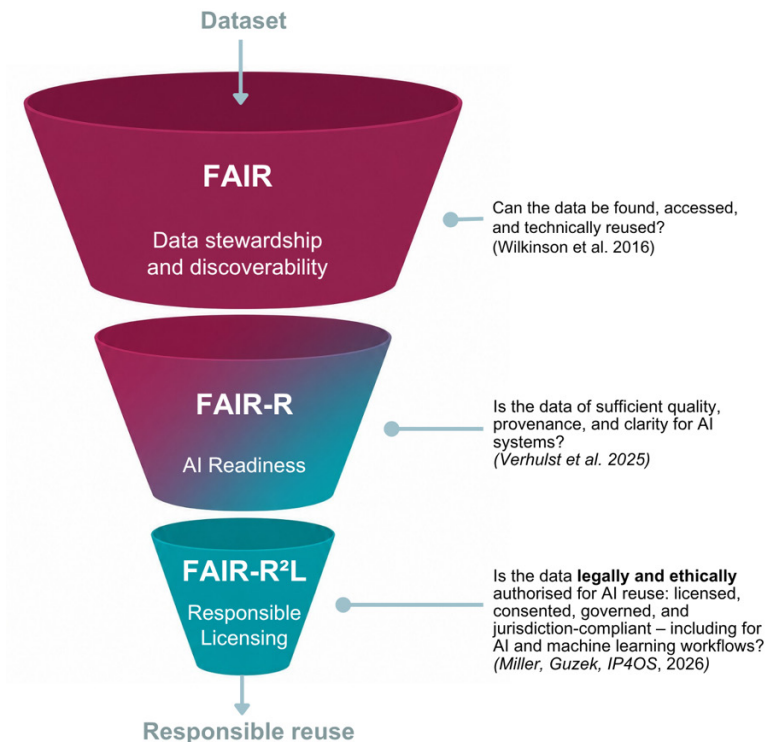
highlighted recurring weaknesses such as absent or scattered licence information, unclear third-party rights, uncertain provenance, restrictive non-commercial or no-derivatives terms, and missing machine-readable licence metadata. Identifying these gaps early makes them easier to correct.

Who benefits and how?

Researchers receive a practical way to move from “FAIR in principle” to responsibly reusable in practice. Data stewards, librarians, repositories, legal advisers and knowledge-transfer professionals can coordinate technical and legal checks. Research organisations and funders can use the Rubric to im-

prove guidance and infrastructure requirements, while downstream users, including AI models, gain clearer information about provenance, permissions and responsibilities.

Read more about the FAIR-R²L Rubric [here](#)



Wilkinson, M., Dumontier, M., Aalbersberg, I., et al. (2016). The FAIR guiding principles for scientific data management and stewardship. *Scientific Data*, 3, Article 160018. <https://doi.org/10.1038/sdata.2016.18>
Verhulst, S., Zahuranec, A., Chafetz, H. (2025). Moving toward the FAIR-R principles: Advancing AI-ready data. SSRN. <https://doi.org/10.2139/ssrn.5164337>
Miller, K., Hernando-Guzek, V. (2026). IP4OS Toolbox: FAIR-R²L Rubric. Zenodo. <https://doi.org/10.5281/zenodo.2330519>

4.3 KNOWLEDGE VALORISATION RUBRIC

The Knowledge Valorisation Rubric is a simple framing tool for discussing how a research output can create value. It deliberately precedes the selection of a patent, licence or OS practices such as preregistration. The first question is not “Should this be open or protected?” but “What value should this intellectual asset create, for whom, and what pathway could make that possible?” The Rubric then organises reflection around three dimensions (Alavi, M., Baccigotti, A., Ćizmin, I., Fritz, C., Hernando-Guzek, V., Miller, K., Skoric, L., Wyber, S., & Priess-Buchheit, J. C. (2026). IP4OS Toolbox: Knowledge Valorisation Rubric. Zenodo. <https://doi.org/10.5281/zenodo.18214839>).

- **Focus:** Is the case producing new intellectual assets, reusing existing assets, or combining both?
- **Conditions of reuse:** Should reuse be open, subject to attribution or reciprocity, limited to defined users, temporarily controlled, or governed by another proportionate condition?

- **Timing:** Which decisions are required before disclosure, publication, repository deposit, collaboration, licensing or downstream development?

These dimensions prevent teams from treating valorisation as a decision taken only at the end of a project. For example, a team producing software and a dataset may decide to release documentation openly, manage sensitive data through controlled access, retain copyright, use a standard open-source licence for code, and review patentability before public disclosure of a technical invention. A team reusing external material may instead focus on licence compatibility, text-and-data-mining rights, permissions and attribution. Moreover, the rubric encourages users to consider not only intended project results but all relevant research artefacts arising during the project (data, protocols, methods, code, etc.) as part of the valorisation process, making valuable knowledge available for reuse while ensuring the strategic management of IPRs.

Who benefits and how?

Researchers can use the Rubric to prepare for consultation and make their intended impact explicit. Multi-professional teams can use it to structure a first meeting and identify which expertise is needed. Research managers, KTT professionals, librarians, data stewards and legal advisers gain a shared map for discussing the same case without reducing it to one professional perspective. Institu-

tions and funders can use the three dimensions to connect OS planning, intellectual-asset management and impact pathways from the proposal stage onwards.

Read more about the Knowledge Valorisation Rubric [here](#)



4.4 MULTI-PROFESSIONAL CONSULTATION GUIDE

Within the Toolbox, the Multi-professional Consultation Guide functions as the operating manual that connects the Knowledge Valorisation Rubric and other resources to an actual researcher case. It frames consultation as a constructive dialogue, not as a one-directional legal clearance or a late-stage decision about commercialisation.

The Guide supports a consistent sequence: The case is received through the Valorisation Consultancy Form; a consultation begins with listening to the researcher's goals, relevant outputs, and intended scientific, societal or economic values rather than with a predetermined IP instrument; the team then helps identify all relevant intellectual assets and clarifies whether the case concerns the production of new intellectual assets, the reuse of existing assets, or both; it then reflects the relevant outputs and contributors as well as values for society or research; it examines ownership, contractual obligations, third-party rights, licences and data, ethical or security constraints; it dis-

cusses the desired level and timing of reuse and/or protection to shape impactful valorisation pathways, agrees actions, and schedules review points. Appropriate options may include open dissemination, controlled access, copyright and open licensing, patenting before disclosure, non-exclusive licensing, collaboration or material-transfer agreements, or a combination of approaches.

The consultation is iterative. Decisions made at the project design stage may need to be revisited before a publication, repository deposit, partnership, prototype, dataset release or commercialisation step. The Guide therefore encourages teams to document agreed actions, responsibilities and review points. The accompanying Valorisation Consultancy Form provides a structured entry point for researchers requesting consultations, records the information needed for a focused first meeting with the team, helps avoid repeated requests to the researcher, and frames the pathway for the consultation, while the Knowledge Valo-

risation and FAIR-R²L Rubrics can be applied when a case requires deeper analysis and check for datasets and AI-enabled reuse.

The Guide also makes room for institutional diversity. A small organisation may convene a virtual team

or draw on regional services, while a larger university may establish a standing committee with a rotating case team. What matters is a visible entry point, complementary expertise, confidentiality, transparent roles and a process that reaches researchers early enough to preserve options.

Who benefits and how?

Researchers receive more timely, coordinated and comprehensible advice. Support professionals can identify overlaps and gaps, share responsibility and learn from cases. Institutions gain a reusable workflow that can be translated into service descriptions, standard operating procedures or referral pathways.

The Guide is also useful to trainers, coaches and network organisations that want to reproduce the IP4OS consultation model.

Discover the Multi-professional Consultation Guide [here](#)

4.5 REAL-WORLD SCENARIOS IN KNOWLEDGE VALORISATION

Real-world scenarios illustrating how IP challenges arise in everyday research contexts, from licensing decisions to data-sharing practices and rights retention strategies.

Real-world scenarios for the valorisation platform present ten exam-

ples showing how IPR and OS practices can be strategically combined to support knowledge valorisation. The output addresses a recurring assumption that protection of intellectual assets and openness necessarily work against each other. Instead, the cases demonstrate different ways in

which licensing, selective protection, controlled sharing, pre-competitive openness and access-oriented IP strategies can be designed to enable collaboration, reuse, innovation and societal benefit.

The ten cases are organised into three broad categories according to the main mechanism through which IPR and OS are combined.

The first category focuses on open licensing for ecosystem building. The CERN (European Organization for Nuclear Research) demonstrates how tiered open hardware licences can provide legal certainty while enabling reuse, modification and industrial uptake. Arduino combines open hardware and software licensing with trademark protection to support an open technological ecosystem while retaining a sustainable organisational model. The Open University's OpenLearn initiative uses Creative Commons licensing to make educational materials widely reusable while maintaining defined conditions around commercial use.

The second category examines pre-competitive research platforms. The Structural Genomics Consortium (SGC) makes foundational re-

search outputs openly available to accelerate downstream drug discovery. The Foundation for the National Institutes of Health Biomarkers Consortium (FNIH BC) uses structured pre-competitive collaboration and data-sharing arrangements to develop validated research tools and biomarkers. Project Data Sphere (PDS) enables controlled sharing and reuse of de-identified clinical trial data. The Open Discovery Innovation Network (ODIN) separates early-stage open research from later proprietary development by applying a no-IP approach to foreground knowledge generated during the pre-competitive phase.

The third category is related to strategic IPR for global health access. The Drugs for Neglected Diseases initiative (DNDi) uses access-oriented licensing and selective defensive patenting to support affordable access to treatments. The AI-driven Structure-enabled Antiviral Platform (ASAP) Consortium combines rapid disclosure of research with narrowly targeted defensive patents and permissive access conditions. M4K Pharma demonstrates an alternative model based on regulatory exclusivity rather than patents while maintaining broad dissemination of research data.

Who benefits and how

The scenarios are intended for stakeholders who need practical examples of how IPR and OS can be combined in real research and innovation settings. Their main benefit is that they move the discussion from general principles towards concrete organisational and governance models that can be examined, adapted and applied in different contexts.

Researchers can use the cases to understand that openness and protection can be managed differently across stages of research. SGC and the ODIN, for example, show how early research can remain open while later applications retain possibilities for proprietary development. The DNDi initiative and the ASAP show how selective IP protection can be linked to access conditions and public-interest goals. These examples can help researchers consider licensing, protection and dissemination as part of a broader valorisation strategy.

Research institutions, technology and knowledge transfer professionals, research managers, legal advisers and OS professionals can use the cases as reference models when developing institutional approaches to IP man-

agement, collaboration and knowledge sharing. Policymakers and RFOs can use the cases to examine how funding conditions, legal frameworks and research policies can support different forms of responsible knowledge valorisation. The cases illustrate approaches ranging from open licensing and pre-competitive collaboration to selective patenting, defensive protection and regulatory exclusivity. This provides a wider evidence base for policies seeking to support research dissemination, innovation and societal use of publicly funded knowledge.

Industry partners, SMEs, entrepreneurs and other downstream users can benefit from examples showing how clearly defined rights and licensing conditions can make collaboration and reuse more predictable. Several cases demonstrate that openness can reduce duplication, support access to foundational research, lower transaction costs and create opportunities for downstream innovation.

Discover the real-world scenarios [here](#)

5

BUILDING THE CAPACITY TO APPLY THE APPROACH

Frameworks and rubrics cannot change institutional practice by themselves. People need a shared language, the confidence to work across professional boundaries and opportunities to test new routines in their own context. IP4OS therefore combines conceptual learning with action, reflection and local adaptation.

The capacity-building architecture has two complementary levels. The Pilot Learning Lab enables multi-professional teams to experiment together with real cases and

institutional workflows. Profession Deepening Modules strengthen the contribution of individual roles through short expert videos and guided exercises. Both are anchored in the Synergy Core Curriculum and supported by a Train-the-Trainer approach so that participating professionals can become multipliers and sustain the concerted IP-OS approach for impactful valorisation. Materials are designed as Open Educational Resources and can be reused, translated and adapted while preserving their core learning logic.

5.1 SYNERGY CORE CURRICULUM

The Synergy Core Curriculum is the educational backbone of IP4OS. It translates the Synergy Framework into a structured programme for developing knowledge, skills, awareness and advocacy at the interface of IP, OS and knowledge valorisation. The Curriculum is designed for three broad groups: IP experts and intermediaries; people who perform research in public or private settings; and trainers or multipliers who teach or support research. Across these groups, it speaks to fifteen professions and roles represented in the research and innovation ecosystem

(Priess-Buchheit, J. C., Alavi, M., & Fritz, C. (2026). IP4OS Deliverable 4.1 - Synergy Core Curriculum. Zenodo).

Its learning architecture is organised around the rubric triad from above.

Producing or using: learners distinguish between creating new intellectual assets and reusing assets owned by others.

Level and conditions of reuse: they consider open, limited and controlled forms of access and the licences or agreements that make them workable.

Timing: they identify decisions that must be made before disclosure, publication, sharing, collaboration or exploitation. These questions help participants connect intellectual asset management and OS practices to an intended valorisation pathway rather than learning them as isolated topics.

The Curriculum uses learner-centred and dialogical methods. Participants compare perspectives, analyse cases, ask questions, make decisions and reflect on the insti-

tutional conditions required for implementation. The development process drew on the ADDIE logic—analysis, design, development, implementation and evaluation—and the FAIR-by-Design method to make the learning materials findable, accessible, interoperable, reusable and adaptable. The Curriculum therefore provides a common structure rather than a rigid course: institutions can combine the Pilot Learning Lab, profession-specific modules, Toolbox resources and their own cases according to local needs.

Who benefits and how?

Research-support professionals gain a common foundation across IP and OS; researchers learn when and how to seek support; and trainers receive a coherent didactical structure for multi-professional learning. HEIs, RPOs, networks and professional associations can integrate individual units into staff development, doctoral education, research-management training or institutional implementation programmes.

Read about the Synergy
Core Curriculum [here](#)

5.2 TRAIN-THE-TRAINER

The IP4OS Train-the-Trainer approach turns participants into institutional and national multipliers. Trainers do not merely reproduce presentation slides. They learn how to convene complementary professions, introduce the common valorisation language, facilitate case-based dialogue, use the rubrics and consultation tools, support a safe-to-fail field test and guide teams from reflection towards a concrete next step.

The multiplier pathway follows the same learning cycle used in the Pilot Learning Lab: prepare the team and select a case; clarify roles and friction points; test communication and decision routines; document what happened; adapt the materials to the local

context; and convert useful practices into consultation pathways, team principles or draft procedures. Trainers are encouraged to retain the core IP4OS questions while adapting examples, terminology and delivery to disciplinary, legal and organisational circumstances.

Train-the-Trainer is therefore both a capacity-building and a sustainability mechanism. It reduces dependence on the original project team, creates local ownership and enables institutions to repeat the programme for new colleagues or neighbouring organisations. Peer exchange within the Community of Practice gives trainers a place to compare adaptations and update materials as policy and practice develop.

Who benefits and how?

Institutional trainers, research managers, KTT professionals, librarians, data stewards and Open Science ambassadors gain a reusable facilitation model. HEIs, RPOs and professional networks can build internal or regional training capacity, while researchers benefit indirectly from more consistent and locally available support.

Curriculum: [here](#)

Implementation materials: [here](#)

5.3 PILOT LEARNING LAB

The **IP4OS Pilot Learning Lab** is a practical implementation format developed to help HEIs and RPOs establish and test multi-professional approaches to knowledge valorisation.

Rather than treating IP, OS, and knowledge valorisation as separate areas of expertise, the Pilot Learning Lab brings together professionals from different research support functions and enables them to explore how their complementary expertise can work together around institutional and research-related challenges.

The format is structured as a **three-session, action-oriented learning sprint**, complemented by practical experimentation between sessions. Participants move from understanding roles and identifying institutional friction points, through testing cross-functional collaboration, to translating their experience into concrete institutional action. The process can result in practical next steps such as new communication routines, team principles, action plans or building blocks for institutional Standard Operating Procedures (SOPs).

This distinguishes the Pilot Learning Lab from a conventional training course. Its

focus is not only on individual learning, but on **testing how collaboration can work within the participants' own institutional setting**. Teams are encouraged to identify barriers and enabling conditions, experiment with new ways of working and reflect on what would be required to make multi-professional collaboration sustainable.

Within the wider IP4OS capacity-building approach, the Pilot Learning Lab forms part of the **Training Centre and European roll-out**. It translates the Synergy Framework and Synergy Core Curriculum into practical application and supports the project's wider ambition to establish multi-professional approaches to IP and OS across European research organisations. IP4OS formally implements interactive training and a Train-the-Trainer approach for multi-professional teams across the EU.

Ultimately, the Pilot Learning Lab aims to move capacity building **from one-off training towards institutional practice**: helping organisations develop more co-ordinated ways of supporting researchers in making informed decisions about openness, protection, reuse and knowledge valorisation.

Who benefits and how?

The Pilot Learning Lab is particularly relevant for **HEIs and RPOs seeking to strengthen collaboration between existing research support functions**. It can be used by institutions that already have expertise in areas such as technology and knowledge transfer, research management, OS, data stewardship, libraries, ethics, legal support or science communication, but where this expertise is not yet systematically connected.

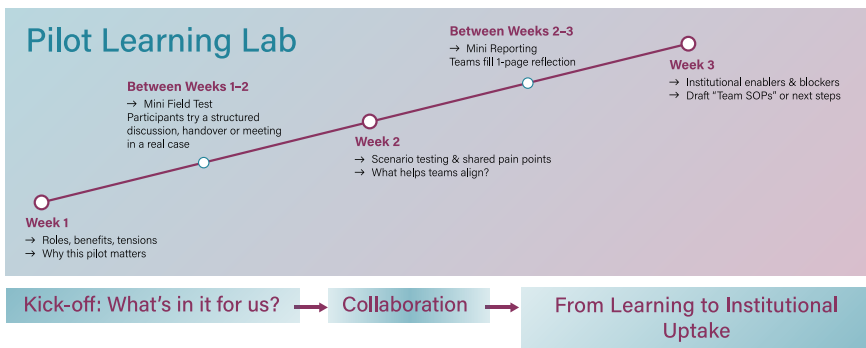
For participating professionals, the Lab creates a structured opportunity to understand each other's roles, identify overlaps and gaps, and develop clearer pathways for collaboration. For researchers, this can ultimately mean **more coordinated and timely support**, rather than having to navigate IP, OS, data management and valorisation questions separately. The broad-

er IP4OS capacity-building approach explicitly positions multi-professional consulting teams as a way of bringing complementary institutional expertise together around researchers' valorisation needs.

The format is also designed for **trainers and multipliers** who want to reproduce or adapt the approach in their own institutions. Its modular structure, practical exercises and templates make it possible to tailor the Pilot Learning Lab to different institutional settings while retaining the core idea: connecting existing expertise and turning it into a collaborative institutional capacity for knowledge valorisation.

Read about the
Pilot Learning Lab [here](#)

Timeline



5.4 PROFESSION DEEPENING MODULES

The Profession Deepening Modules recognise that a multi-professional team becomes effective only when each member understands both their own contribution and the perspectives of others. Each self-paced module combines a short, moderated expert-panel video with guided exercises. The videos use a fishbowl-inspired format: experts discuss a realistic IP-OS problem from their professional viewpoint, while learners use prompts to transfer the discussion to their own role, institution and team. The accompanying exercises revisit the core IP-4OS questions of timing, conditions of reuse and whether intellectual assets are being produced or used (Alavi, M., Errington, T., Miller, K., Morrison, C., Priess-Buchheit, J. C., Secker, J., & Sharma, G. (2025). *Teaching & Learning Report for Intellectual Property and Open Science*. Zenodo. <https://doi.org/10.5281/zenodo.17069794>).

The open educational resources focus on four support professions:

- **Librarians:** copyright and open licensing in commercialisation

strategies, funder compliance and Open Access obligations, secondary publication rights and embargo periods, (open access) publishing choices, data management plans and informed researcher decisions, connection between Open Access and valorisation.

- **Data stewards, data managers and data architects:** data-lifecycle planning and DMP as IP-OS tool, documentation and meta-data, GDPR compliance, integrated decision tools for IP, data, privacy, and ethics, data architecture and interoperability standards, responsible data sharing and systemic data integration.
- **Knowledge and technology transfer professionals:** publication and patent timing, commercialisation, patenting, and open access publishing, researcher consultation, connecting IP, OS, legal and data support, breaking down institutional silos, impact maximisation through protection and openness.

- **Research managers:** valorisation strategy from project outset, DMPs as early IP-OS reflection tools, translation and coordination between services, collaborators, partners,

and funders, multi-professional consultation teams, tailored protection and dissemination strategies, IP-OS alignment embedded in institutional workflows.

Who benefits and how?

Individuals can deepen role-specific knowledge at their own pace; team members can use the modules before or between Pilot Learning Lab sessions; and trainers can incorporate them into workshops, staff onboarding or continuing professional development. Because the resources combine videos and editable exercises, institutions can contextualise cases without rebuilding the didactical concept from the beginning.

Access the IP4OS Profession
Deepening Modules [here](#)

6

CHANGING MINDSETS: AWARENESS, ROLE MODELS AND COMMUNITY

Institutional change requires more than technical knowledge. Researchers and support professionals also need to see that a concerted IP-OS approach is possible, useful and already practised by credible peers. IP4OS therefore combines formal capacity building with informal learning, public examples and professional dialogue.

The Role Model Campaign gives a human face to the project's central message, while the IP & OS Mas-

terclasses create space for detailed questions and debate. Interviews, expert panels, posters, quotations, webinars and reusable media show how people in different roles manage real tensions around copyright, patents, licensing, disclosure, data sharing and collaboration. These formats also sustain the Community of Practice: participants are not only recipients of information but contributors whose cases, questions and experience feed back into the project's tools and recommendations.

6.1 ADVOCATES FOR A SYNERGETIC IP-OS APPROACH

The IP4OS Role Model interviews showcase researchers, legal experts, librarians, Open Science advocates and research support professionals who demonstrate how Intellectual Property and Open Science can work together in practice. Their testimonials explore personal experiences, practical examples and reflections on navigating IP decisions within Open Science environments.

The interviews highlight recurring themes including the importance

of IP literacy, informed decisions on copyright, licensing and patents, appropriate timing of disclosure and openness, and the need for capacity building across the wider research ecosystem. The role models demonstrate that IP and OS aren't necessarily opposing approaches, but can be used strategically and complementarily to support research, knowledge sharing and valorisation.

Who benefits and how?

The interviews support researchers, research support professionals, librarians, legal and knowledge-transfer specialists, research managers, trainers, policymakers and students. By presenting real experiences from professionals working at the intersection of IP and OS, the interviews help audi-

ences recognise common challenges, challenge misconceptions and understand how IP considerations can be integrated into Open Science practices.

Find all IP4OS
interviews [here](#)

6.2 ADVOCATING FOR A SYNERGETIC IP-OS APPROACH

The IP & OS Masterclass series is the project's open, expert-led forum for examining the difficult questions that sit behind the slogan "as open as possible, as closed as necessary". Rather than presenting a single legal answer, the webinars connect legal rules, research workflows and valorisation goals.

The series has addressed copyright for libraries; IP and OS in university knowledge transfer; opening the research process while considering IP; secondary publication rights; copyright and lawful knowledge sharing; misuse of IP systems in academic reputation markets; OS as an IP

strategy; Creative Commons public licences; and patents in an OS ecosystem. Speakers such as Alessandra Baccigotti, Tim Errington, Frantzeska Papadopoulou, Till Kreutzer, Richard Gold, Fabian Rack and Julia Konrad bring perspectives from knowledge transfer, metascience, copyright, licensing and patent practice.

Across the sessions, several messages recur.

- Publication and disclosure timing matter.
- Legal clarity is necessary for meaningful reuse.

- Standard licences can reduce transaction costs, but licence choice must fit the intended pathway.
 - Patents and openness can be sequenced rather than treated as mutually exclusive.
 - IP strategy should be adapted to the goals and participants of each project.
- The question-and-answer format also reveals where researchers and institutions need clearer guidance.

Who benefits and how?

The Masterclasses support researchers, librarians, KTT and legal professionals, data stewards, research managers, trainers, policy-makers and students. Recordings can be used for self-study, team preparation, classroom discussion or continuing professional develop-

ment. The series also enables institutions that could not participate in the Pilot Learning Labs to engage with the IP4OS knowledge base.

Find all videos part of the IP4OS Masterclass series [here](#)



7

EVIDENCE AND RESEARCH ON A CONCERTED IP4OS APPROACH

IP4OS did not begin with a fixed claim that every form of IP supports every OS practice. It built an evidence base to identify where tensions are real, where synergies are possible and what institutions need in order to make better decisions. The research programme combines a scoping review, a cross-sectional stakeholder survey, expert webinars, consultations, Community of Practice exchanges, real-world case analysis

and implementation learning from the Pilot Learning Labs.

These sources answer different questions. The review maps published knowledge; the survey captures perceptions and reported barriers; the cases show organisational models; and the pilots reveal how collaboration works inside institutions. Together they support the Synergy Framework and policy recommendations.

7.1 A SCOPING REVIEW ON IP AND OS

Research question

The scoping review asked how IPRs and OS interact in research and innovation: where they create tensions,

where they can be mutually supportive, and which pathways or practices help align them.

What the review found

The literature does not support a simple binary between protection and openness. Tensions arise when publication prevents later patenting, contracts or exclusive licences limit access, ownership is unclear, data cannot be reused lawfully, or institutional incentives privilege ei-

ther patent counts or publication counts without considering actual use and impact. These tensions are intensified by fragmented legal frameworks and unequal access to specialist advice.

At the same time, the review iden-

tified important alignment mechanisms. Copyright and standard open licences can provide permissions and attribution; non-exclusive or access-oriented licensing can widen downstream use; pre-competitive research models can keep foundational knowledge open while later applications follow different routes;

controlled-access arrangements can enable responsible sharing; and selective or defensive protection can preserve public-interest access or investment pathways.

Ten case examples illustrate several of these models [here](#)

Why it matters

The key conclusion is that no single IP or Open Science instrument is universally fitting. Alignment depends on the intellectual asset, research stage, collaborators, intended beneficiaries and valorisation pathway. The evidence therefore supports early, lifecycle-based decisions, strategic licensing,

multi-professional advice and institutional policies that do not force researchers to choose between two disconnected agendas.

Read more [here](#)

7.2 MINDSETS ON IP AND OS

Research question

The IP4OS stakeholder survey examined how people working in and around research perceive the relationship between IP and OS, which barriers they encounter and what support they consider useful. The first published version reported

177 valid submissions; following revision, one blank submission was excluded, and 176 respondents were retained in the analytic sample. Respondents came primarily from European academic and research-management settings.

What the survey found

Respondents were generally optimistic that IP and OS can be combined, but concrete examples of successful implementation remained uncommon. Frequently reported barriers included unclear institutional guidance, limited familiarity with open licensing, uncertainty about how to apply IP and OS concurrently, differing objectives in multi-partner projects and national legal differences. Knowledge-transfer offices and Open Science ambassadors were repeatedly identified as important sources of support.

The results also reinforce the structure of the IP4OS tools: 77% of respondents considered the intended level of reuse important when selecting IP and OS approaches, while 72% highlighted the importance of knowing at which stage of the research cycle IP measures should be considered. These findings align closely with the Knowledge Valorisation Rubric's focus on reuse conditions and timing.

How the evidence should be read

The survey used purposive recruitment and its sample is weighted towards respondents already engaged with research, IP or OS. Its percentages should therefore not be treated as population estimates for the whole European Research Area. The study is most useful as evidence of

recurring perceptions and implementation problems within the participating stakeholder community.

Read more [here](#)

7.3 A CONCERTED IP-OS APPROACH IN INDUSTRY: ACADEMIA COLLABORATIONS

Industry-academia collaborations are essential for turning research knowledge into practical value. Universities and research organisations contribute scientific expertise, data, methods, software, early-stage technologies, infrastructures and highly qualified people. Companies contribute application environments, investment, production capacity, regulatory and market knowledge, and routes through which research results can be developed and scaled. When these capabilities are successfully combined, research can lead to new technologies, products, services, standards, policies and societal solutions.

At the same time, collaboration between academia and industry brings different expectations together. Researchers may need to publish, exchange results and make data available. Companies may require confidentiality, legal certainty and sufficient control over particular assets to justify further investment. Problems arise when IP and OS are addressed

separately, when important decisions are delayed until the end of a project, or when openness and protection are treated as mutually exclusive choices.

Two IP4OS policy briefs examine this challenge from complementary perspectives. *Open Technology, Protected Value: Industrial Alliances for the New Digital Economy* draws on a high-level multi-stakeholder dialogue held in Madrid on 12 February 2026. The dialogue brought together representatives from industry, AI companies, research, finance, infrastructure providers and public authorities. It identified organisational and regulatory bottlenecks affecting European competitiveness and highlighted the need for coherent governance of data ecosystems, trusted infrastructures, approaches that are workable for SMEs and human-centred innovation strategies. Its central proposition is that open technology and protected value can reinforce one another when they are supported by suitable governance and strong alliances.

The second brief, *Innovation, Sovereignty, and Open Science*, considers how countries and regions can benefit from the knowledge, talent and intellectual assets they generate while remaining open to international research collaboration. It cautions against equating innovation success simply with the accumulation of patents. Pat-

ents may be important, but value is only realised when knowledge is used, developed, licensed, transferred or translated into wider impact. The brief also stresses that innovation policy, investment, trade, AI governance, OS and technological sovereignty cannot be addressed in isolation.

Begin with the intended value

A concerted IP-OS approach starts neither with a predetermined IP instrument nor with an automatic decision to open every research output. It begins by asking what value the collaboration is intended to create, for whom and through which pathway.

Possible pathways include open scientific reuse, joint research and development, standardisation, policy or clinical uptake, licensing, commercialisation, spin-off creation, education or a combination of these. The partners can then identify the intellectual assets involved: data, software, publications, protocols, algorithms, designs, inventions, models, know-how, training materials or research infrastructures.

This assessment should include both background assets brought into the

collaboration and foreground assets generated during it. Partners should clarify ownership, access rights, confidentiality, publication arrangements, licensing possibilities and potential downstream uses. These decisions should not be treated as a one-off contractual exercise. They need to be reviewed as the research and the intended valorisation pathway develop.

The IP4OS Knowledge Valorisation Rubric supports this reflection by considering whether partners are producing new or reusing existing intellectual assets, which level and conditions of reuse are appropriate, and when protection, disclosure and sharing should occur. IP4OS therefore places the intended value and the research objective before the selection of a particular legal tool.

Coordinate protection, publication and sharing

Timing is particularly important in industry-academia collaborations. Publication, conference presentations, repository deposits, data sharing and discussions with potential partners can influence later options for protection or commercialisation. Conversely, outputs may remain closed for longer than necessary because no process exists for reviewing whether restrictions are still justified.

A concerted approach establishes decision points throughout the project. Some assets may require temporary confidentiality or protection before disclosure. Other outputs may be suitable for im-

mediate sharing. Once necessary protection has been secured, related publications, data, software or methods may still be disseminated under appropriate conditions.

Pre-competitive collaborations offer another possibility. Partners can share foundational knowledge, research tools, data, standards or methods while retaining options for proprietary downstream development. This can reduce duplication, distribute risk and create a shared basis for further innovation. The correct sequence will differ between projects, but it should be deliberate rather than accidental.

Use licensing as a bridge

Licensing is one of the most important bridges between openness, protection and reuse. Open licences can enable broad access and ecosystem development. Non-exclusive licences can allow several organisations to build on the same knowledge. More tailored agreements can define commercial conditions, access rights, attribution, reciprocity, public-interest re-

quirements or responsibilities for further development.

The choice is therefore not simply between making an asset fully open and keeping it entirely closed. Different assets within the same collaboration may require different approaches. A publication may be openly accessible, while associated software is distributed under an open-source li-

cence, data is made available under controlled-access conditions and an invention is licensed for commercial development.

Clear and interoperable rights information is especially important in data-intensive and AI-supported collaborations. Partners need to understand not only whether data

are technically accessible, but also who owns them, how they were generated, which permissions apply and which forms of reuse are allowed. The IP4OS FAIR-R²L Rubric and the wider Toolbox support responsible knowledge sharing and valorisation by making these questions explicit.

Establish shared governance

Effective industry-academia collaboration requires more than a well-drafted contract. It also requires an ongoing process for jointly making and reviewing decisions.

IP4OS recommends multi-professional support that connects researchers with knowledge and technology transfer professionals, data stewards, librarians, research managers, OS specialists and legal or ethics expertise. Industry representatives and, where appropriate, SMEs, investors, infrastructure providers or regulatory specialists should be part of this dialogue.

Such coordination can prevent contradictory advice and identify tensions before decisions become difficult to reverse. It can also provide

researchers and companies with a shared language around value, risk, openness, protection and responsibility. This support is particularly important for SMEs and smaller research organisations. They may not have internal access to every form of legal, data, licensing and knowledge-transfer expertise. The first policy brief consequently emphasises implementation arrangements, trusted infrastructures and governance models that smaller actors can realistically use, not requirements that can only be fulfilled by large organisations with extensive resources.

Openness as part of competitiveness and sovereignty

The policy briefs also challenge the assumption that economic and technological sovereignty requires general knowledge closure. Openness can attract collaborators and talent, accelerate validation, reduce duplication and enable organisations to build on shared foundations. Strategic IP management can complement these benefits by clarifying ownership, preserving investment opportunities and defining how assets may be accessed and reused.

The greater risk is often not openness itself, but insufficient capacity to identify and manage intellectual assets; weak coordination between researchers and support services; poorly sequenced publication and protection decisions; unclear agreements; or the inability to translate research into scalable applications.

IP4OS Policy Briefs

**Open Technology,
Protected Value:
Industrial Alliances for the
New Digital Economy:**

READ HERE

**Innovation, Sovereignty,
and Open Science:**

READ HERE

7.4 LESSONS FROM IMPLEMENTATION – A FIRST GLIMPSE

The Pilot Learning Labs and consultation activities provide practice-based evidence about what happens when institutions try to connect IP and OS support with a multi-professional team. Following the open call, 33 pilot teams from 24 EU Member States were selected for the 2026 learning programme. The project's later public capacity-building overview reports that multi-professional teams were established in almost all EU Member States and lists 14 first-certified European champion institutions.

Preliminary implementation lessons

- **Expertise often exists, but coordination is missing.** The recurring challenge is less a complete absence of knowledge than the distribution of expertise across libraries, legal services, data stewardship, research management, integrity functions and technology-transfer offices.
- **A visible entry point and early timing preserve options.** Researchers benefit when support is available before publication, disclosure, repository deposit or agreement-signing, not only after a problem has emerged.
- **Real cases reveal institutional friction.** Working on an actual scenario makes unclear responsibilities, conflicting advice, missing information and referral gaps visible in a way that a lecture rarely can.
- **Safe-to-fail experimentation supports change.** Short field tests allow teams to try a meeting routine, form, referral pathway or decision sequence without first redesigning the entire institution.

- **Local adaptation is essential.**

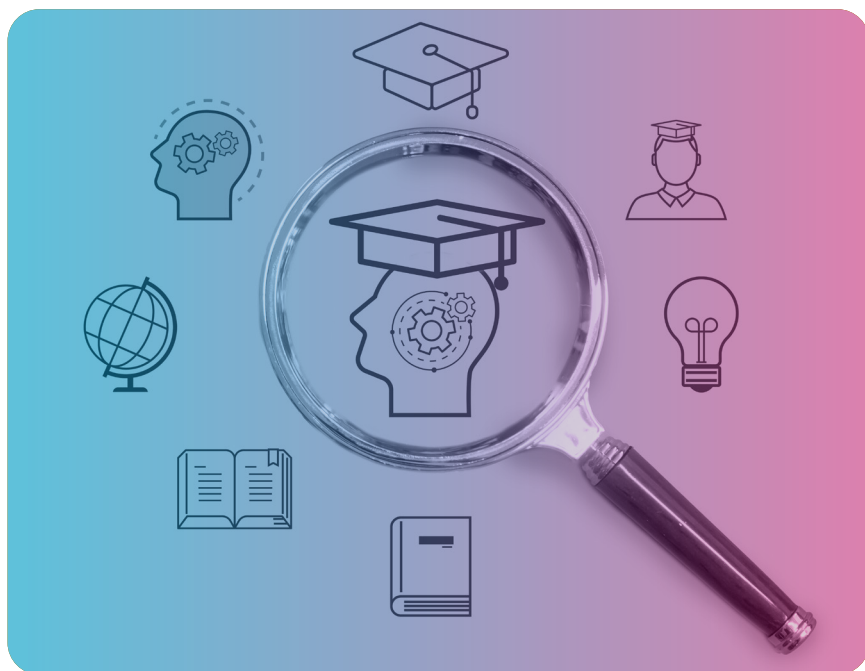
Team composition, legal responsibilities and available resources differ. The transferable element is the process: value first, complementary expertise, documented decisions and review, not one mandatory organisational chart.

- **Institutionalisation requires resources and recognition.**

Teams need time, leadership support, communication infrastructure

and clarity about how consultation work is recognised. Personal commitment alone is not a sustainable service model.

These lessons underpin the IP4OS move from training as knowledge transfer towards training as institutional implementation. They also explain why the project links individual modules, team learning, consultation tools and policy recommendations rather than treating them as separate outputs.



7.5 RECOMMENDATIONS

The Synergy Framework and the IP-4OS White Paper translate the research and implementation evidence into a shared direction for researchers, institutions, funders and policymakers. Their starting point is that knowl-

edge valorisation should be treated as the overarching objective. Open Science, intellectual-asset management, licensing, collaboration and commercialisation are possible routes to value, not competing ends in themselves.

Six principles for coherent knowledge governance

1. Start with the intended value.

Define the scientific, societal, environmental, policy or economic benefit and the people who should be able to use the result.

2. Make openness and IP management complementary by design.

Consider protection, dissemination, licensing and reuse early and together.

3. Manage all intellectual assets across the lifecycle.

Publications, data, software, methods, models, inventions and know-how require different but coordinated decisions.

4. Use licensing strategically.

Licences can enable reuse, col-

laboration, commercialisation, reciprocity and public-interest conditions when permissions are clear and interoperable.

5. Build coordination capacity and align incentives.

Shared workflows, multi-professional support and recognition of responsible sharing, licensing, transfer and societal uptake are as important as formal rules.

6. Keep governance adaptable.

AI-enabled research, changing data ecosystems and research security require proportionate, evidence-based approaches rather than general knowledge closure.

Requests to key stakeholders

Researchers should identify intellectual assets and collaborators early, clarify intended reuse and timing, document rights and obligations, and seek coordinated advice before irreversible disclosure or contractual decisions.

HEIs and RPOs should provide one visible, coordinated entry point linking OS, data, legal, integrity, research management and KTT expertise; embed early valorisation reflection in project support; use common forms and decision tools; and recognise the professional work required for sharing, reuse and impact.

Research funders should connect Open Science and Intellectual Property from the proposal stage, fund data stewardship, licensing and coordination work, and assess credible pathways to value rather than counting publications or formal IP alone.

Member States and European policymakers should improve coherence between Open Science, copyright, data, AI, research-security and innovation policies; support strategic licensing guidance, model clauses and interoperable rights information; and

fund shared services for institutions and SMEs that cannot maintain every specialism internally.

Publishers and research infrastructures should make rights and access conditions understandable to humans and machines and avoid contractual or technical barriers to lawful research reuse. **Private-sector partners** should agree early on background and foreground IP, confidentiality, publication, data access and exploitation, and use pre-competitive or non-exclusive models where they better serve the intended outcome.

Read more [here](#)

8

THE IP40S LEGACY: FROM PROJECT RESULTS TO LASTING CHANGE

The legacy of IP4OS is not a single report or a website frozen at the end of a grant. It is a connected implementation environment: a common language for IP and OS, an evidence-informed framework, practical rubrics

and consultation tools, open learning resources, institutional team models, trained multipliers, a Community of Practice and recommendations for responsible knowledge governance.

8.1 WHAT CAN AN INSTITUTION DO NOW?

Institutions do not need to implement the whole IP4OS model at once. A single research case can become the starting point for building a more coordinated service. The following sequence offers a practical route.

- 1. Define the intended value.** Ask what scientific, societal, environmental, policy or economic benefit the research should create and who should be able to use the result.
- 2. Map the intellectual assets and actors.** Identify publications, data, software, methods, inventions, designs, know-how, contributors, collaborators and third-party material.
- 3. Convene a small multi-professional team.** Bring together at least complementary IP/KTT and OS competence, add a data steward, librarian or research manager as appropriate, name an OS Ambassador, and involve legal or ethics expertise when the case requires it.

4. Create one clear entry point. Use the Valorisation Consultancy Form or a locally adapted equivalent so researchers know where to go, and the team receives the basic information before meeting.

5. Apply the decision tools. Use the Knowledge Valorisation Rubric to consider producing or reusing assets, reuse conditions and timing. Apply FAIR-R²L when data, AI-readiness, licensing, provenance or third-party rights require deeper attention.

6. Test the workflow through a Pilot Learning Lab. Work on a real or realistic case, identify friction points, try a communication or referral routine and document what helps the team act together.

7. Institutionalise what works. Turn useful practices into a team mandate, consultation pathway, service description, template or draft SOP; allocate time and leadership support; deepen role-specific knowledge; and train additional multipliers.

8. Review decisions over the research lifecycle. Revisit the strategy before disclosure, publication, data release, a new partnership, licensing or commercialisation. Valorisation planning is a process, not a one-off approval.

The materials are designed for adaptation, institutions should always align implementation with their national law, internal policies, contractual responsibilities, ethics requirements and research-security processes.

8.2 BEYOND IP4OS

IP4OS was designed for use beyond the end of the funded project. Its main outputs are deposited in the IP4OS RIO and Zenodo community and can be used after the project. The project website provides accessible introductions, events and role-model material, while the European Commission's Knowledge Valorisation Platform makes the Toolbox visible within a wider European best-practice repository. Another continuation of visibility is offered by the European Union Intellectual Property Office (EUIPO), which features several IP4OS outputs on its

website for their professionals, educators, and researchers.

Knowledge

Valorisation Platform: [here](#)

EUIPO: [here](#)

Five partners and an external collaborator will offer IP4OS training after the projects ends:



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8.3 FIND AND REUSE ALL IP4OS OUTPUTS

[READ HERE](#)



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Unpacking the possibilities of Intellectual Properties for Open Science

IP4OS advocates for a concerted approach to integrating Intellectual Property (IP) and Open Science (OS). The project seeks a complementary and supportive link between agile and fitting IP management and OS practices to support transparency, accessibility, sharing and reuse of FAIR (Findable, Accessible, Interoperable, and Re-usable) research artefacts (data, results, codes, etc.).

The aim of IP4OS is to support researchers and Research Performing Organisations (RPO) with knowledge, skills, awareness, and advocacy to create the optimal value from their proprietary knowledge and translate it into social, economic, environmental, and digital benefits.



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