



# European IP Helpdesk

Stay ahead of the innovation game.

**European IP Helpdesk**

IP and Open Science

13.02.2025





# European IP Helpdesk

- Service initiative of the European Commission
- Addressing **current and potential beneficiaries of EU-funded projects, researchers and EU SMEs**
- Free-of-charge first-line support on intellectual property (IP)
- Hands-on IP and innovation management support
- International pool of IP experts from various thematic fields
- Unique cooperation scheme with the Enterprise Europe Network: 43 ambassadors from 26 EU countries



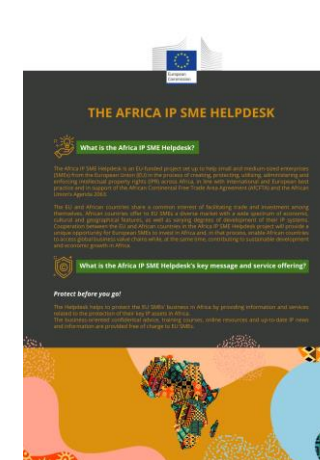
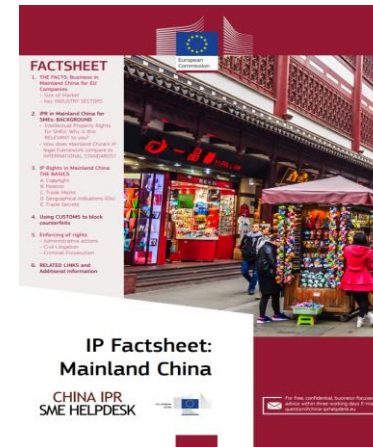
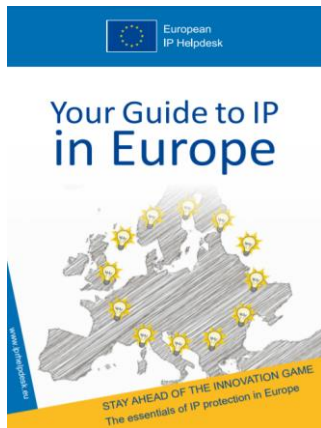


# The EC IP Helpdesks





# EC IP (SME) Helpdesk Hub – Gateway to Information



- E-learning modules & more
- Guides / Topic, country, sector-specific factsheets / Infographics
- Case studies



# Upcoming events



**11**  
FEB  
2025

Training and workshops  
[EU - Webinar: IP in Biotechnology](#)

Live streaming available

**13**  
FEB  
2025

Training and workshops  
[EU - Webinar: IP & Open Science](#)

Live streaming available

**17**  
FEB  
2025

Training and workshops  
[EU - Webinar: IP in Horizon Projects \(HEU\)](#)

Live streaming available

**19**  
FEB  
2025

Training and workshops  
[EU - Webinar: Technology Transfer](#)

Live streaming available

**25**  
FEB  
2025

Training and workshops  
[EU - Webinar: IP Management in ICT Projects](#)

Live streaming available

**27**  
FEB  
2025

Training and workshops  
[EU - Webinar: Copyright in collaborative projects](#)

Live streaming available

**04**  
MAR  
2025

Training and workshops  
[EU - Webinar & Horizon Results Platform: IP in Business collaborations for SMEs and Start-ups](#)

Live streaming available

**06**  
MAR  
2025

Training and workshops  
[EU - Webinar: IP Assessment](#)

Live streaming available



## About me

BSc (Physical) Chemistry (*Exon UK*)

PhD Neutron Science (*Exon UK*)

Harwell (UK), Rutherford Appleton (UK), ILL Grenoble (FR)

Royal Society of Chemistry, Institute of Physics,  
Science Council (UK)

HM Govt, X-ray, electron, laser beam microanalysis

Looooooooooooooooong time at European Patent Office (NL, AT)

Patent examiner (electron and ion optics) IT manager, internet  
services Espacenet et al, manager, research manager

Consultant; bring worlds of STEM and IP together IPHelpdesk,  
EUIPO, WIPO, EPO tutor.

Cambridge University Technology Management teaching and  
research (*Cantab UK*) Visiting Fellow





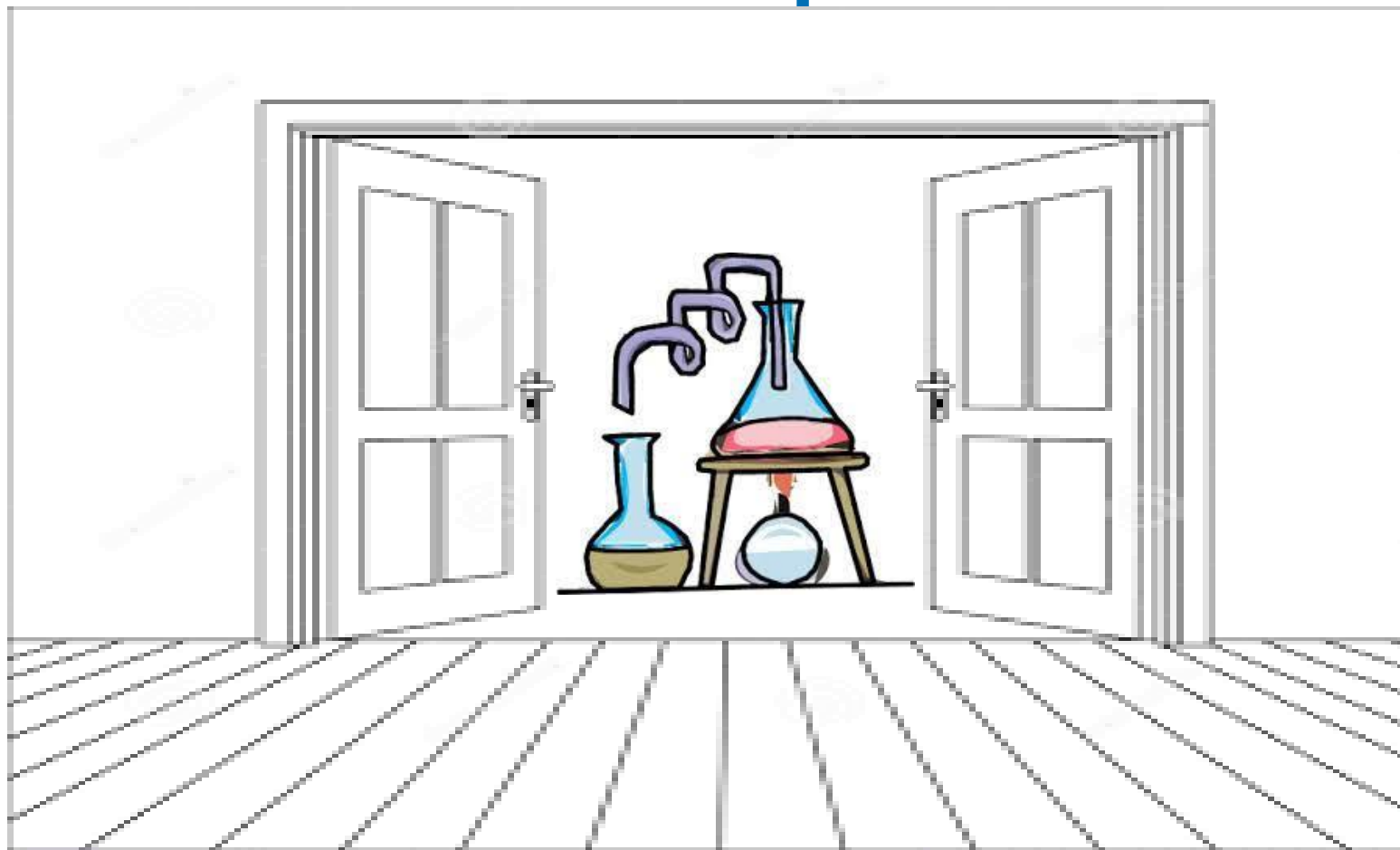
# Acknowledgements

- Dr Eugene Sweeney
  - Iambic Innovation
- Prof. Frank Tietze *et al*
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- Torie Eva
  - Elsevier
- Katie Eve
  - Elsevier





# IP and Open Science





# IP and Open Science



Capacity  
Building

Early stage  
Researchers





- Intellectual Property
- *A legal system* (to reward and encourage innovation)
- Based on *conventions*
- “Openness”
- *A movement* (to support and enhance innovation)
- Backed up by *culture*



# Roadmap

What is IP?

What is Open? Kinds of “openness”

IP *cf* Open Science

Secrecy vs disclosure

IP sharing Closed vs Open

Scholarly publishing





# Roadmap

What is IP?

What is Open? Kinds of “openness”

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Secrecy vs disclosure

IP sharing Closed vs Open

Scholarly publishing





# What is Intellectual Property?

- Ideas
- Product of mental creation
- Inventions
- Works of art
- Literature
- 





# What are Intellectual Property Rights?

## Registrable Rights

- Industrial Property Rights
- Patents
- Trademarks
- Industrial designs
- Utility models
- 
- 

## Non Registrable Rights

- Copyright
- Authors rights, performance rights
- Trade secrets
- Confidential Information
- Know-how
- Show how
- Goodwill



# Roadmap

What is IP?

What is Open? Kinds of “openness”

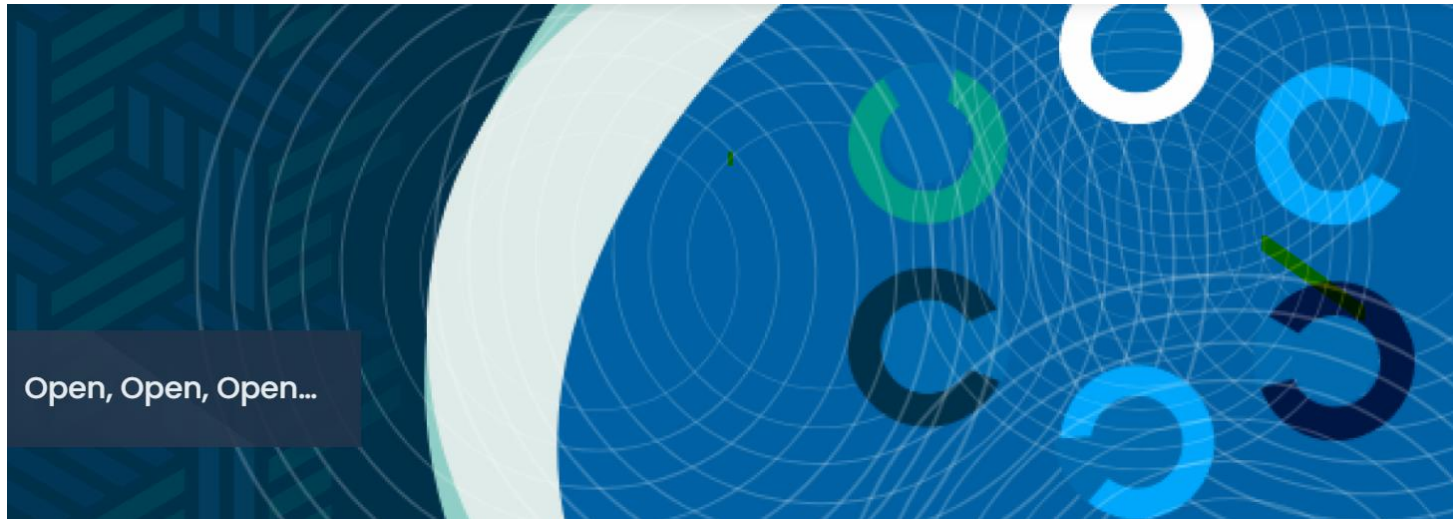
IP *cf* Open Science

Secrecy vs disclosure

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by Eugene Sweeney, Iambic Innovation Ltd

<https://www.astp4kt.eu/about-us/kt-news/open,-open,-open%E2%80%A6.html>



**Providing researchers with the  
skills and competencies they  
need to practise Open Science**

Open Science Skills Working Group Report

Written by the Working Group on Education and Skills under Open Science  
July - 2017

Research and  
Innovation

## Open Science Practices

## Open Science Enablers



**Monitoring the open access  
policy of Horizon 2020**

Final Report

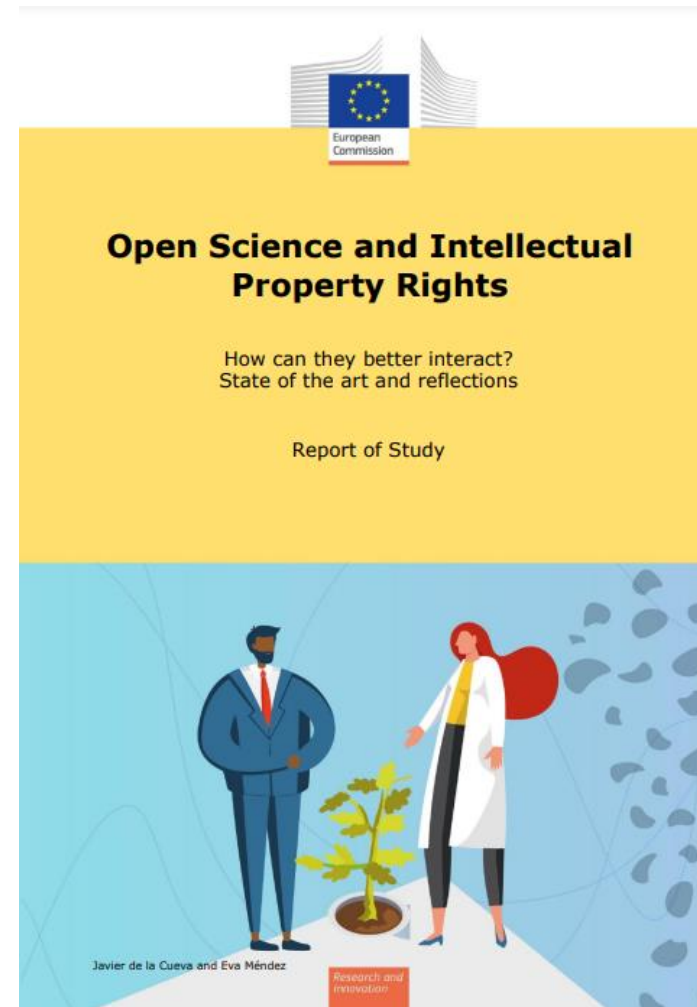
Research and  
Innovation



# Open Science and IP

*There are no incompatibilities between IPR and OS. 'On the contrary the IPR framework, if correctly defined from the onset, becomes an essential tool [for] open science...*

[https://research-and-innovation.ec.europa.eu/system/files/2022-04/ec\\_rtd\\_open-science-and-ip-report.pdf](https://research-and-innovation.ec.europa.eu/system/files/2022-04/ec_rtd_open-science-and-ip-report.pdf)





## European IP Helpdesk Bulletin / December 2023, Open Science

*Open Science [is] an approach  
to scientific processes focused  
on quick and transparent  
knowledge and data sharing...*

[https://intellectual-property-helpdesk.ec.europa.eu/publications/european-ip-helpdesk-bulletin-december-2023-open-science\\_en](https://intellectual-property-helpdesk.ec.europa.eu/publications/european-ip-helpdesk-bulletin-december-2023-open-science_en)



## OPEN SCIENCE



Open Science, a priority for programmes like Horizon Europe, focuses on **freely sharing research results** without barriers or pay-walls.



Practices include Open Access to scientific publications and data, adhering to **FAIR principles** for responsible data management.



Engages stakeholders across the value chain to **promote innovation and interdisciplinary research**.

## OPEN ACCESS



Open Access in Horizon Europe involves making scientific publications and data **freely available** without restrictions.



Enables further research, development of new innovations, and validation of results.





# Open science

- **Open science** is the movement to make scientific research (including publications, data, physical samples, and software) and its [dissemination accessible](#) to all levels of society, amateur or professional

[https://en.wikipedia.org/wiki/Open\\_science](https://en.wikipedia.org/wiki/Open_science)



# Open science

- Open science **practices** include
- early and open sharing of research (for example through preregistration, registered reports, pre-prints, or crowd-sourcing);
- research output management;
- measures to ensure reproducibility of research outputs;
- providing open access to research outputs (such as publications, data, software, models, algorithms, and workflows); participation in open peer-review;
- involving all relevant knowledge actors including citizens, civil society and end users (citizen science)



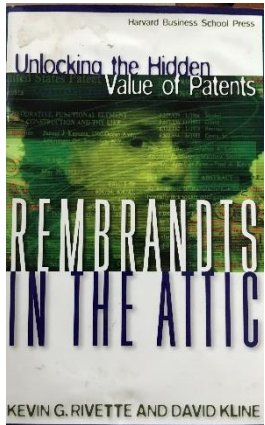
# Open Access

**Open access (OA)** is a set of principles and a range of practices through which research outputs are distributed online, free of access charges or other barriers.<sup>[1]</sup> Under some models of open access publishing, barriers to copying or reuse are also reduced or removed by applying an open license for copyright.

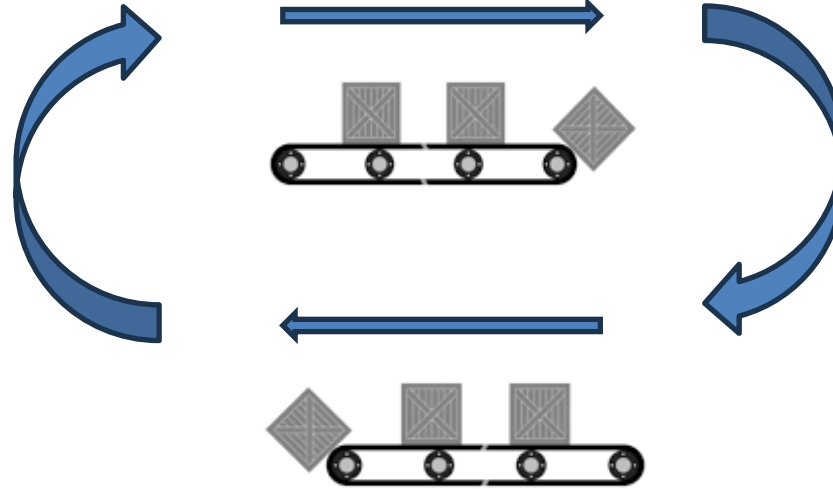
[https://en.wikipedia.org/wiki/Open\\_access](https://en.wikipedia.org/wiki/Open_access)



1999



Your results



Others' results

2003



Unused **X**

*..but not necessarily for free for commercial use!*

**X** Not invented here



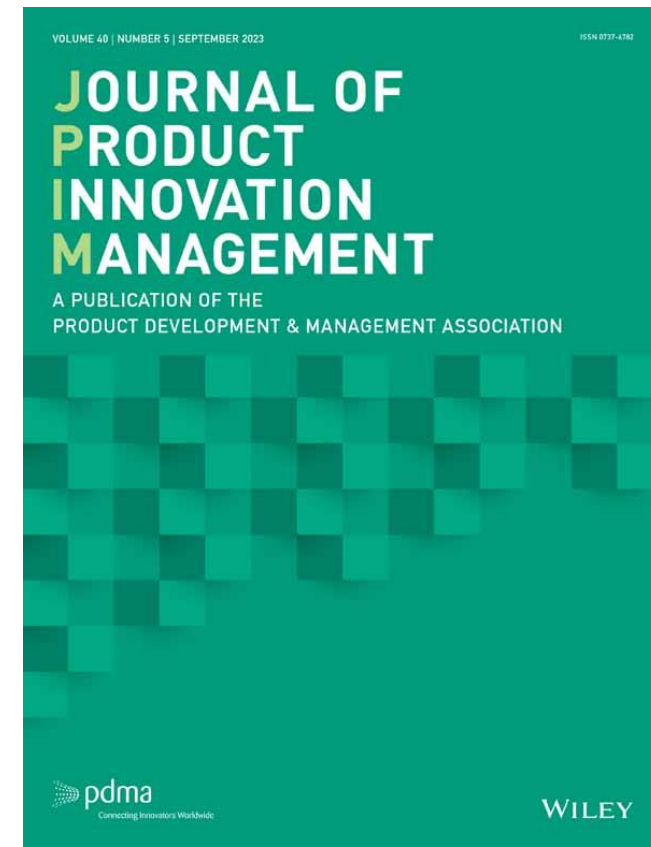
# [Open innovation]

Intellectual property and open innovation ... enemies or friends?

[Journal of Product Innovation Management](#)

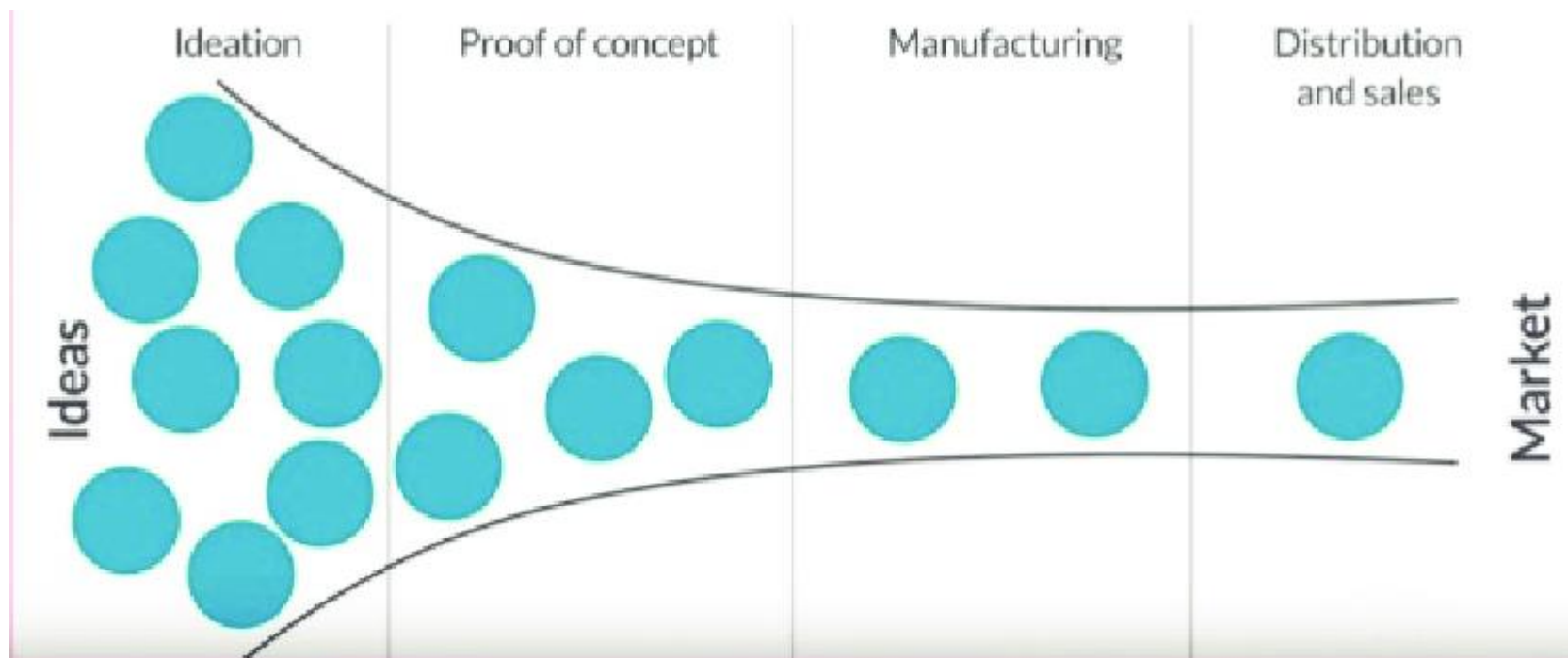
<https://onlinelibrary.wiley.com/doi/10.1111/jpim.12668>

[Anja Tekic](#), [Kelvin W. Willoughby](#), [Johann Füller](#)



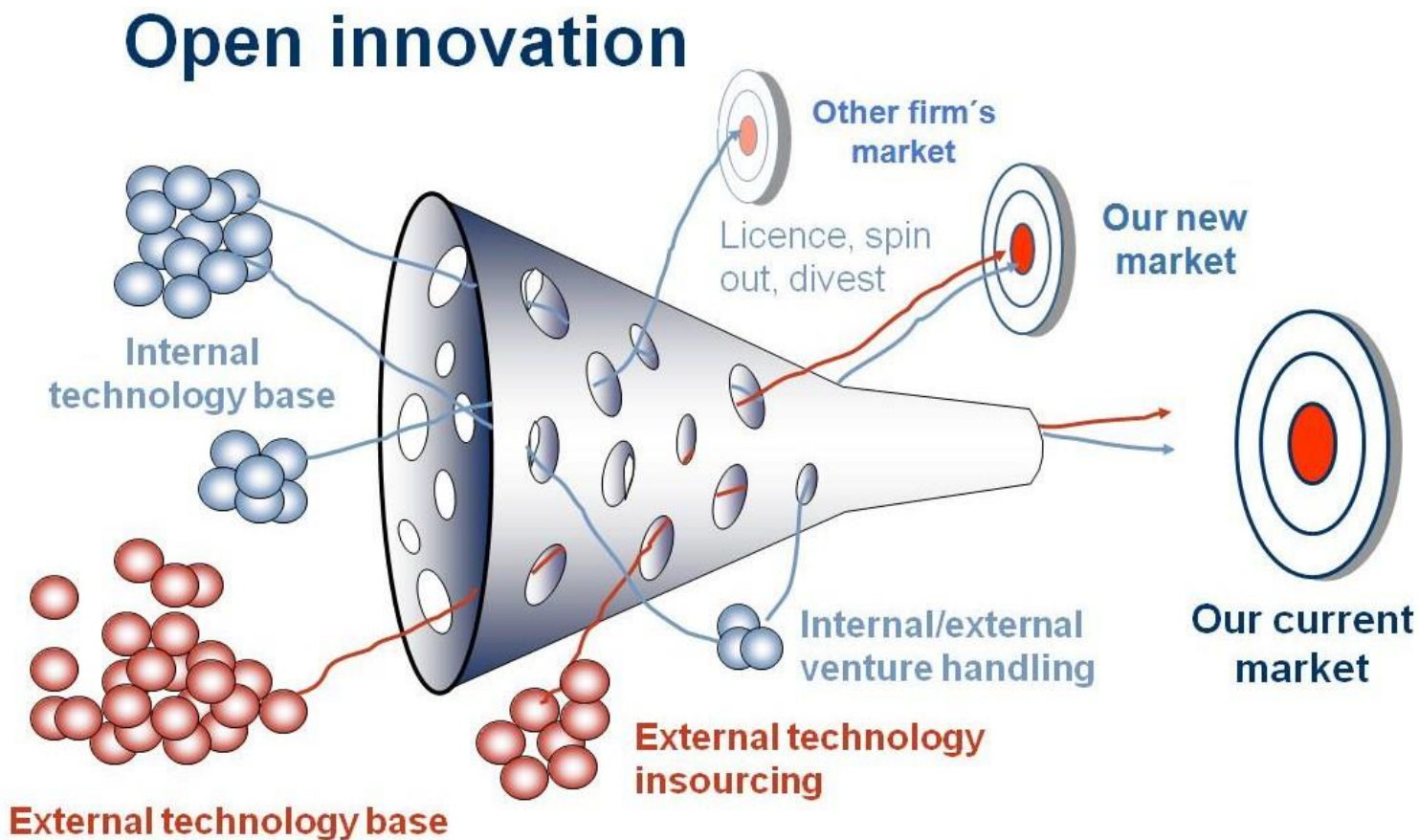


# [Innovation]





# Open innovation





# Open source

Generally, open source refers to software in which the [source code](#) is available to the general public for use or modification from its original design. Code is released under the terms of a [software license](#). Depending on the **license** terms, others may then download, modify, and publish their version (fork) back to the community.

[https://en.wikipedia.org/wiki/Open\\_source](https://en.wikipedia.org/wiki/Open_source)





# Open standards

An open standard is **a standard that is freely available for adoption, implementation and updates**. A few famous examples of open standards are XML, SQL and HTML. Businesses within an industry share open standards because this allows them to bring huge value to both themselves and to customers.

FRAND

Fair

Reasonable

And

Non-discriminatory



# [Standards and IP]

A standard essential patent is a patent that protects technology that is essential to implementing a standard. A standard is an agreed or established technical description. It is also referred to as a 'technical standard' or 'technical interoperability standard'.

SEP

Standard

Essential

Patent



# European Openness Initiatives - 1

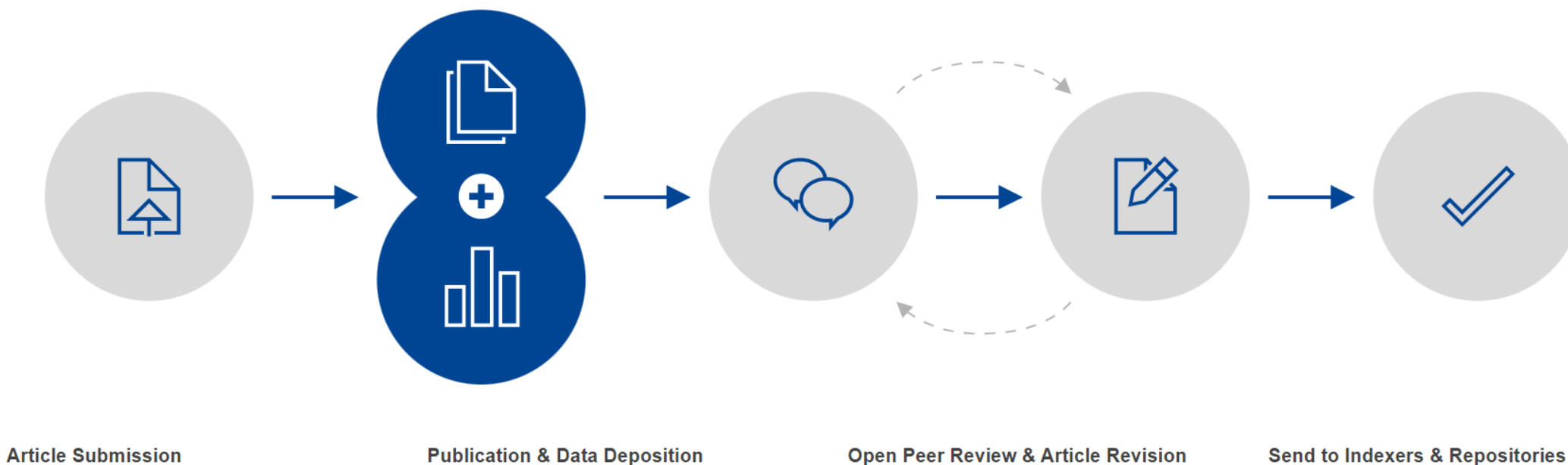
- Open Research Europe
- **Rapid & Transparent Publishing**
- Fast publication and open peer review for research stemming from Horizon 2020, Horizon Europe and Euratom funding across all subject areas.
- Browsable web site

<https://open-research-europe.ec.europa.eu/>



# European Openness Initiatives - 2

- Open Peer Review



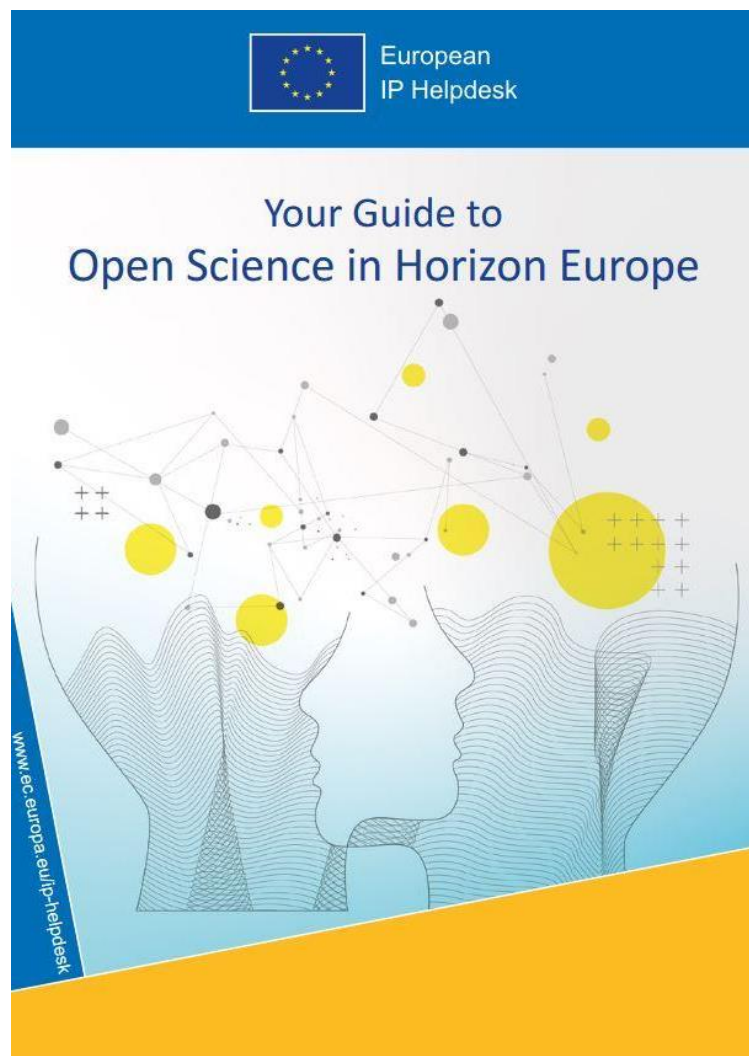


# European Openness Initiatives - 3

- European Open Science Cloud



<https://eosc-portal.eu/>



*Open science is an approach aimed at making scientific research more transparent, accessible and collaborative. In the spirit of fostering collaborative research and innovation which are the core goals of Horizon Europe*

[https://intellectual-property-helpdesk.ec.europa.eu/news-events/news/out-now-your-guide-open-science-horizon-europe-2024-09-03\\_en](https://intellectual-property-helpdesk.ec.europa.eu/news-events/news/out-now-your-guide-open-science-horizon-europe-2024-09-03_en)



# Open Science in Horizon Europe

## Mandatory and **Recommended** Practices

### Mandatory

- **early and open sharing** of research (for example through preregistration, registered reports, pre-prints, or crowd-sourcing)
- **research output management** including research data management
- measures to ensure **reproducibility** of research outputs
- providing **open access** to research outputs (e.g. publications, data, software, models, algorithms, and workflows) through deposition in trusted repositories

### Recommended

- participation in **open peer-review**
- **involving all relevant knowledge actors** including citizens, civil society and end users in the co-creation of R&I agendas and contents (such as citizen science)



# Open Science **Open Access**

## Mandatory for Horizon Projects

- Scientific publications
  - Research data
1. Opt out for legitimate reasons
  2. Enhances innovation capacity
  3. Validates research results and data

1. As open as possible, as closed as necessary
2. Not about making results free for commercial use
3. Science publications immediate access in trusted repositories



# Open Science

## Open Access

**Not** an obligation to disseminate (publish) or ignore IP rights

The dissemination of results **can be postponed** to allow the appropriate protection of results beforehand

**If/when** a scientific article, research data, is published, it **will have to be in open access**

At the **latest upon publication**:  
**deposit** the AAM or VoR in a **trusted repository**, and **ensure open access** via the repository **under CC BY licence**, or equivalent

Owners of the copyright must:  
**retain sufficient intellectual property rights (copyright) to comply with the OA requirements**



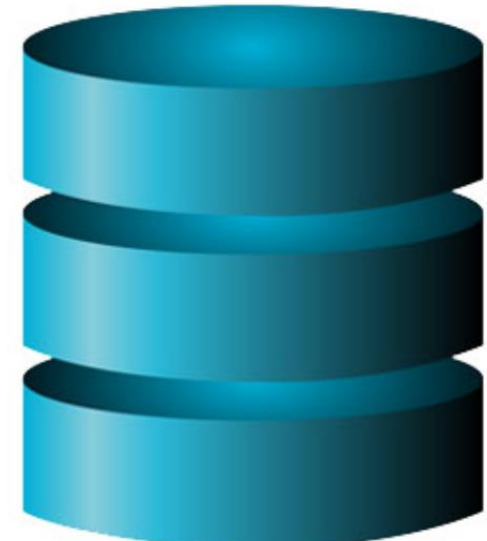
# Open ≠ unprotected or no IPR

**Copyright** protects the scientific publication

**Copyright** protects (creative) data

**Database right** protects the collection if there has been a "substantial investment" in obtaining, verifying or presenting the contents of the database

**Other protection** for other aspects of the creation/invention (IP Rights, secrecy, NDA, contracts, etc)





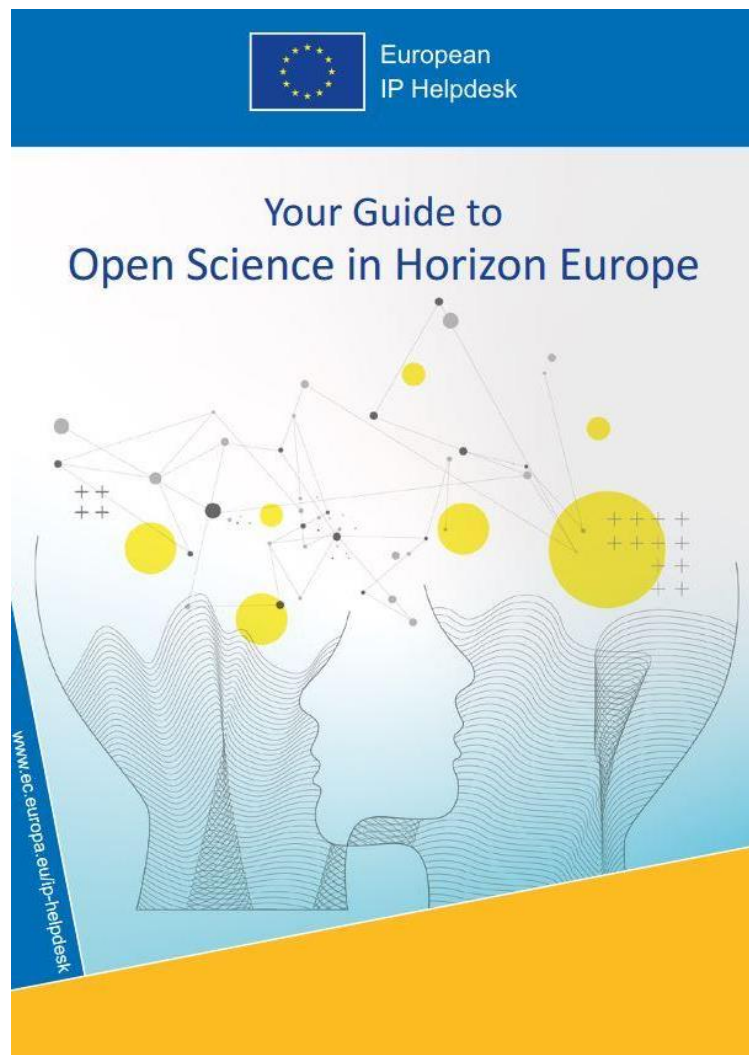
Works in **open access** are usually protected by **copyright**, other IP rights may protect the underlying content

e.g. a publication **made available as open access**, may also disclose the method described protected by a **patent** and/or **design rights**, and software code protected by **copyright**



# OPEN SCIENCE **Research data management**

1. Research data managed responsibly
  2. Deposit data asap
  3. Supplementary (how to) information
  4. Metadata must be open
1. Findable Accessible Interoperable Reusable FAIR
  2. Trusted repository, open access, open as possible closed as necessary
  3. Methodology, tools, hardware, software need for reuse or validation
  4. Under CC, FAIR, Opt out if legitimate interest

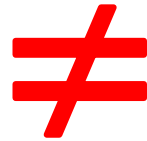


*This Guide [ ] aims to help readers navigate this [ ] topic and provide the necessary explanations and guidelines for those who are preparing a Horizon Europe project proposal – or indeed already implementing a Horizon Europe project.*

[https://intellectual-property-helpdesk.ec.europa.eu/publications/your-guide-open-science-horizon-europe\\_en](https://intellectual-property-helpdesk.ec.europa.eu/publications/your-guide-open-science-horizon-europe_en)



- **Open Science**
- **Open Innovation**
- **Open Source**
- **Open Access**
- **Open Data**



- **“Free” for commercial use**
- **No IPR Issues**



# Roadmap

What is IP?

What is Open? Kinds of “openness”

*IP of Open Science*

Secrecy vs disclosure

IP sharing Closed vs Open

Scholarly publishing



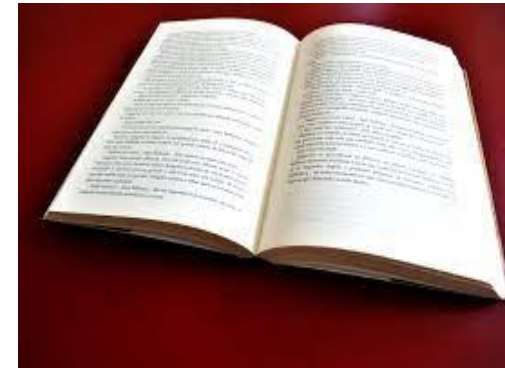


# Patent system – probably the origin of open innovation

Open – (Lat. Patere – open)

*“it’s patently obvious”*

Japanese - Kokai – laid open





## Patent system: open innovation

- Inventions having technical effect
  - Ultimately based on scientific principles
- “Deal” inventor/applicant/patent authority
  - Warning, public service, stimulus
- Protection in return for publication



## Patent publications

- Enabling disclosure
  - Definitive (clear?), unambiguous, legal certainty
- Technical, legal, commercial, information



## Patent publications copyright (1)

- Copyright owned by applicant (not inventor not attorney)
- But copying for purposes of disseminating information  
NOT infringement of copyright
- Attribution



## Patent publications copyright (2)

- Copyright owned IPO
- IPO waives right to allow free dissemination of information
- Attribution



# Open Science *cf* IP

- Open Science data
    - FAIR
  - Findable
  - Accessible
  - Interoperable
  - Reusable
- IP (e.g.) EPO data
    - ACTUS
  - Accurate
  - Complete
  - Timely
  - Useable

Wilkinson, M., Dumontier, M., Aalbersberg, I. et al. The FAIR Guiding Principles for scientific data management and stewardship. Sci Data 3, 160018 (2016). <https://doi.org/10.1038/sdata.2016.18>

Nigel S. Clarke Oct 2024



# Open Science *cf* IP

- Open Science
  - Open as possible
  - Closed as necessary
- 
- The diagram consists of four red arrows forming a large 'X' shape. The top-left arrow points from 'Open as possible' to 'Patents'. The top-right arrow points from 'Open as possible' to 'Filing, Search examination'. The bottom-left arrow points from 'Closed as necessary' to 'Patent Application'. The bottom-right arrow points from 'Closed as necessary' to 'Grant'.
- Patents
  - Filing, Search examination
  - Patent Application
    - Substantive examination
  - Grant
    - And beyond



# IP and Open Science – no conflict





# Open culture meets IP law



## Paris Convention 1883.....

....[a signatory patent office] shall **publish** an official periodical journal. It shall **publish** regularly: (a) the names of the proprietors of patents granted, with a brief designation of the inventions patented ; (b) the reproductions of registered trademarks.

But not **disseminate**



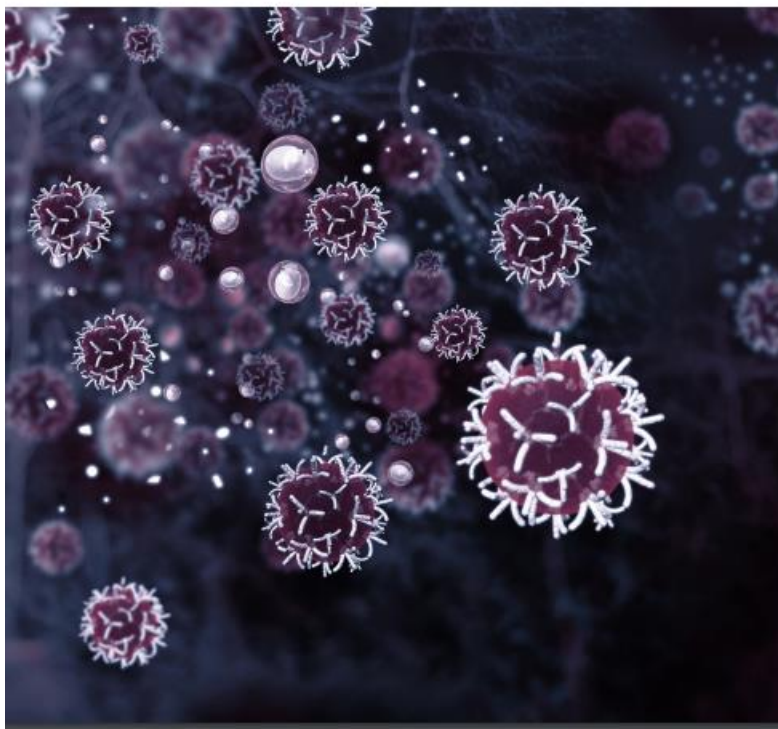
## Example: EPO Patent data/information

- Espacenet                                      Worldwide patent database
- Publication server                            EP and EuroPCT published by EPO
- European Patent Register                Legal status EP and EuroPCT
  - Global Dossier, Federated Register, ECLI
- Common Citation Document              Family member citations
  
- GPI
- PATSTAT
- OPS
- Raw data products
- IPScore



Landscape study on patent filing

## Chimeric Antigen Receptor T-cell Immunotherapy



Landscape study on patent filing

## Quantum metrology and sensing



## Cosmonautics

The development of space-related technologies  
in terms of patent activity





## Example: EPO Patent insight reports - metadata

- “supplementary information”
- Search strategy
- Dataset
- Allows third parties to repeat, adapt, improve

<https://www.epo.org/searching-for-patents/business/patent-insight-reports.html>



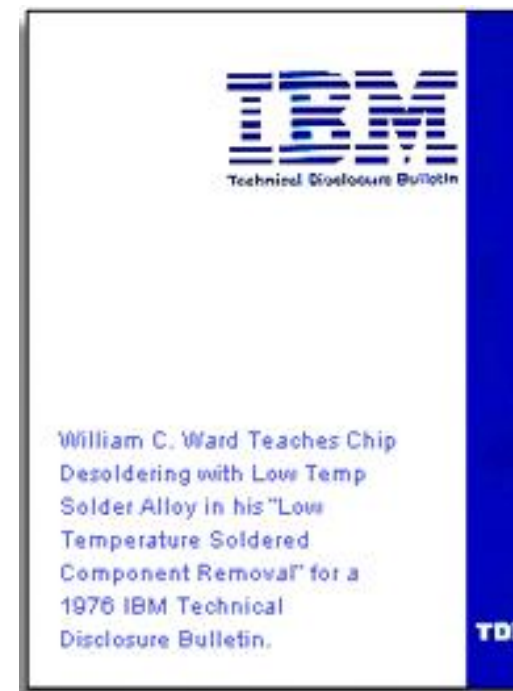
Main class	Scheme	Definition
<b>General:</b>		
G06N10	IPC/CPC	Quantum computers, i.e. computer systems based on quantum-mechanical phenomena
G06N99	IPC/CPC	COMPUTER SYSTEMS BASED ON SPECIFIC COMPUTATIONAL MODELS - Subject matter not provided for in other groups of this subclass
B82Y10	IPC/CPC	Nanotechnology for information processing, storage or transmission, e.g. quantum computing or single electron logic
<b>Superconducting qubits:</b>		
H01L27/18	IPC/CPC	Devices consisting of a plurality of semiconductor or other solid-state components formed in or on a common substrate ...including components exhibiting superconductivity
H01L39	IPC/CPC	Devices using superconductivity; Processes or apparatus peculiar to the manufacture or treatment thereof or of parts thereof
<b>Magnetic spin based devices</b>		
H01L27/22	IPC/CPC	Devices consisting of a plurality of semiconductor or other solid-state components formed in or on a common substrate ...including components using galvano-magnetic effects, e.g. Hall effects; using similar magnetic field effects
H01L43	IPC/CPC	Devices using galvano-magnetic or similar magnetic effects; Processes or apparatus peculiar to the manufacture or treatment thereof or of parts thereof
<b>General semiconductor arrangements exploiting quantum effects</b>		
H01L29/66	IPC/CPC	Semiconductor devices adapted for rectifying, amplifying, oscillating or switching, or capacitors or resistors with at least one potential-jump barrier or surface barrier...Types of semiconductor device
H01L29/66439	CPC	Unipolar field-effect transistors...with a one- or zero-dimensional channel, e.g. quantum wire FET, in-plane gate transistor [IPG], single electron transistor [SET], striped channel transistor, Coulomb blockade transistor
H01L29/76	IPC/CPC	Unipolar devices , e.g. field effect transistors
H01L29/7613	CPC	Unipolar devices , e.g. field effect transistors...Single electron transistors; Coulomb blockade devices
H01L29/12	IPC/CPC	Semiconductor bodies ; Multistep manufacturing processes therefor...characterised by the materials of which they are formed
H01L29/122	CPC	Single quantum well structures
H01L29/125	CPC	Quantum wire structures
H01L29/127	CPC	Quantum box structures
H01L49	IPC/CPC	Solid state devices not provided for in groups
H01L49/006	CPC	Quantum devices, e.g. Quantum Interference Devices, Metal Single Electron Transistor



## [Defensive Publication]

Defensive Publication is a method to establish prior art by publishing details of an invention into the public domain, with the purpose to stop others obtaining a patent on the same invention.

The end goal is to ensure the right to practice the published invention.





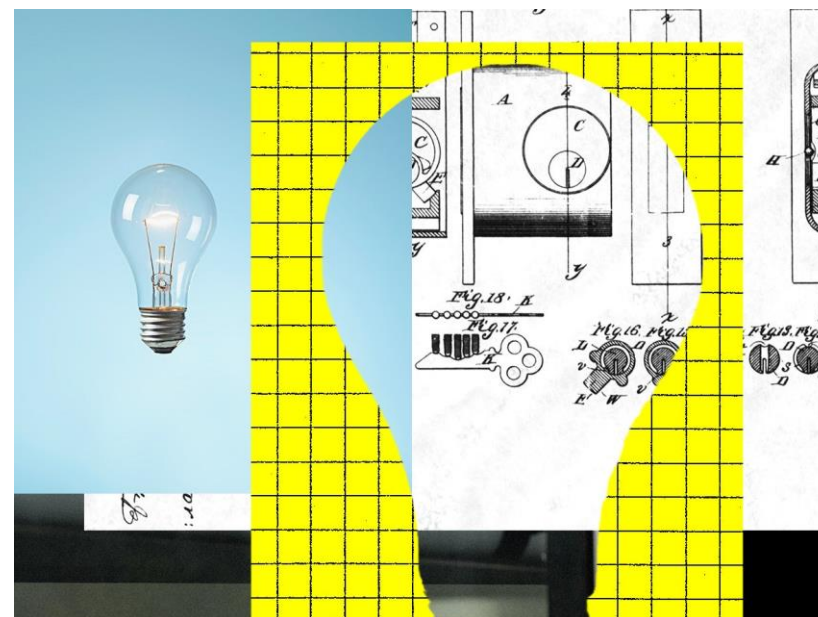
# [Defensive Publication]

# Questel



## Defensive Publication

introducing the strategy





**lapsed**

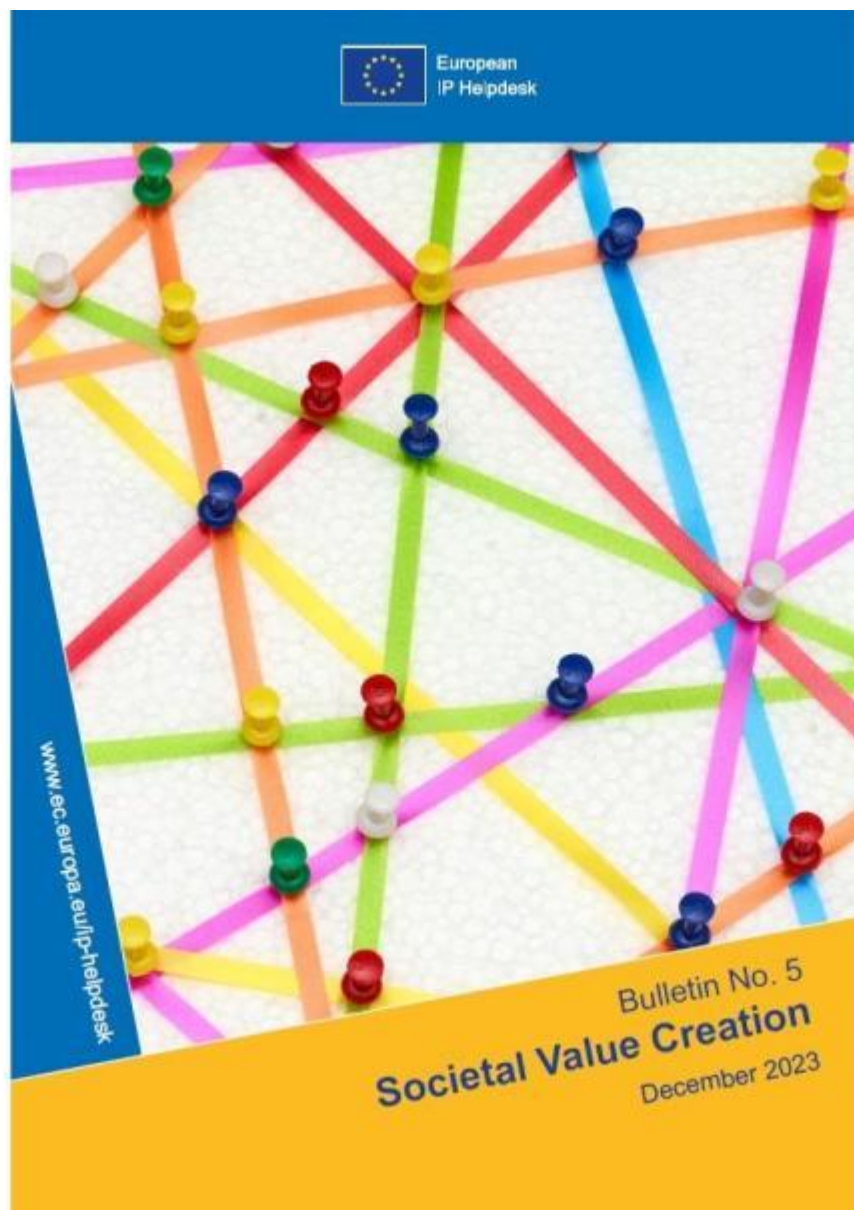




Denis Naughten TD  
Referendum  
Ireland  
Unified Patent Court  
Plea for use of lapsed/expired  
patents  
Developing Countries

<https://denisnaughten.ie/2024/03/14/what-is-the-patent-court-referendum-about/>





*Impact licensing, [is] an innovative licensing practice aimed at enhancing the reuse of intellectual assets for the benefit of society, [and] is a beneficial strategic instrument to bring technologies into societal markets in a scalable and sustainable way.*

[https://intellectual-property-helpdesk.ec.europa.eu/impact-licensing\\_en](https://intellectual-property-helpdesk.ec.europa.eu/impact-licensing_en)



# Roadmap

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What is Open? Kinds of “openness”

IP *cf* Open Science

Secrecy vs disclosure

IP sharing Closed vs Open

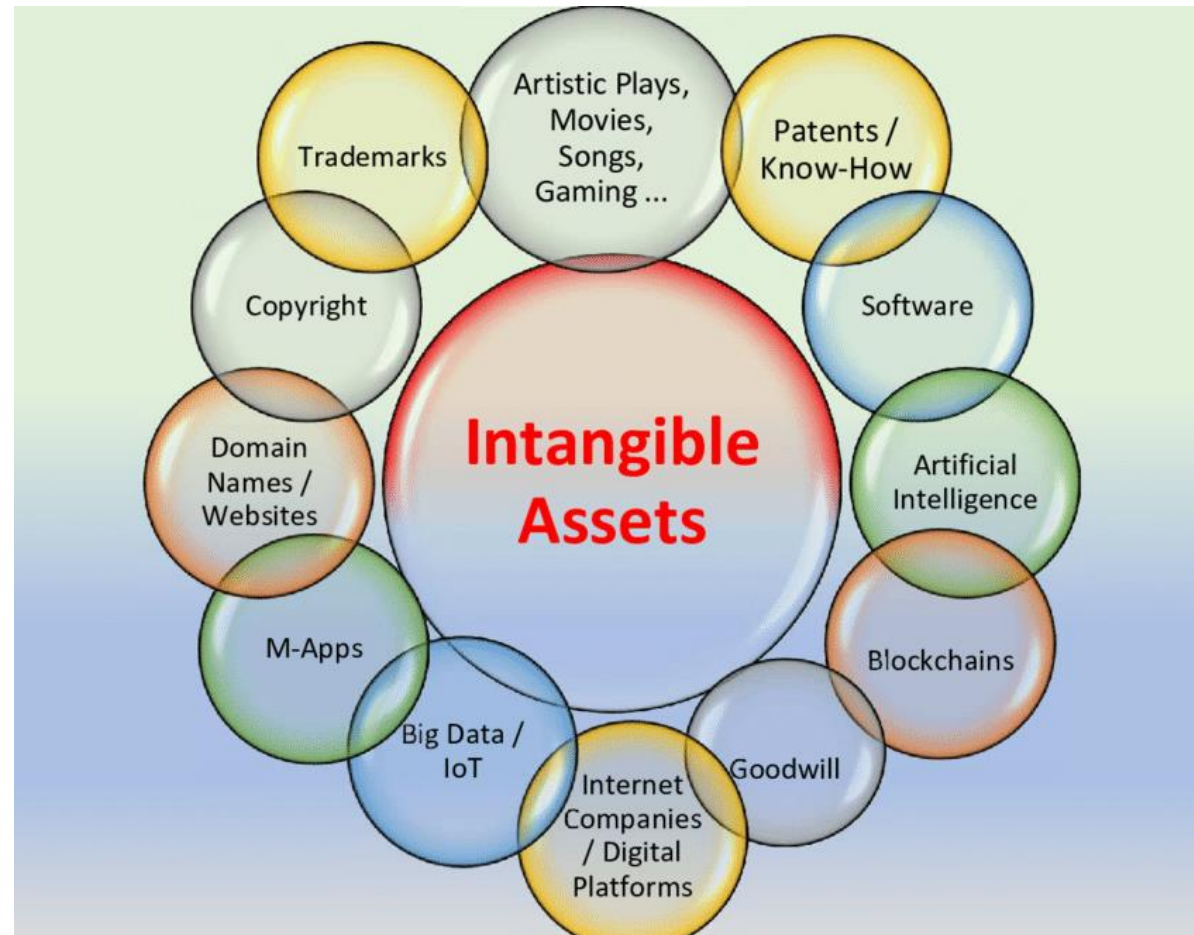
Scholarly publishing





# Sharing; secrecy vs disclosure

- Registered IP
- Trade secrets
- Confidential information
- Know- how
- Show- how
- Goodwill
- 
- 
- 
- 





# Roadmap

What is IP?

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Degree of openness				
Type of IP model	<b>Private good IP model</b>	<b>Club good IP model</b>	<b>Common good IP model</b>	<b>Public good IP model</b>
IP ownership right concentration	Ownership is highly concentrated to one or very few actors	Ownership is relatively highly concentrated on few actors	Ownership is concentrated or distributed to several / many owners	No one owns the IP (anymore). IP is in the public domain
Access to IP <sup>1</sup>	Owners strictly prevent others from accessing 'their' IP	Owners allow only members of the club to access 'their' IP. Entry barriers are high for outsider actors.	Owners allow almost anyone to access 'their' IP with or without contributing IP. Entry barriers are relatively low for outsider actors.	Owners allow anyone to access 'their' IP
Commercial usage of IP <sup>2</sup>	Owners entirely restrict others from commercial usage of 'their' IP	Owners entitle only members of the club for commercial usage of 'their' IP. Owners prohibit non-members from commercial usage of 'their' IP.	Owners allow almost anyone to use 'their' IP but with some commercial restrictions	Owners cannot/do not restrict anyone from commercial usage of 'their' IP
	<b>Closed</b>	<b>Half closed</b>	<b>Half open</b>	<b>Open</b>

**Closed, Semi-Open, or Fully-Open? Towards an Intellectual Property Strategy Typology** [Pratheeba Vimalnath](#) [Frank Tietze](#) [Elisabeth Eppinger](#) [Jan Sternkopf](#) [Academy of Management Annual Meeting Proceedings](#) 2020(1):22070

Pratheeba Vimalnath, Frank Tietze, Akriti Jain, Anjula Gurtoo, Elisabeth Eppinger, Maximilian Elsen, **Intellectual property strategies for green innovations - An analysis of the European Inventor Awards**, *Journal of Cleaner Production*, Volume 377, 2022, <https://doi.org/10.1016/j.jclepro.2022.134325>



# Sharing; “Closed” IP

Type of IP model	Private IP model
IP ownership right allocation	Ownership is highly concentrated to one or very few actors
Access to IP <sup>1</sup>	Owners strictly prevent others from accessing ‘their’ IP
Commercial usage of IP <sup>2</sup>	Owners entirely restrict others from commercial usage of ‘their’ IP
	<b>Closed IP model</b>

Trade secrets

Single owner IPR



Herbs mix



<sup>3</sup> Edison's light bulb patent



Secret recipe of the cola



DSM Dyneema<sup>®</sup> patent

Firms employing private IP models rigorously protect their IP, disclose as little IP as possible, vigilantly monitor, oppose and litigate others' patent applications to prevent patents by third parties to potentially restrict them in using their IP (Chen et al., 2016).

Variance within the category is due to secrecy

<sup>3</sup><https://allthatsinteresting.com/wordpress/wp-content/uploads/2016/03/edison-first-bulb.jpg>



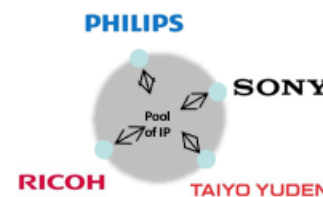
# Sharing; “Half closed” IP

Type of IP model	Club IP model
IP ownership right allocation	Ownership is relatively highly concentrated on few actors
Access to IP <sup>1</sup>	Owners allow only members of the club to access ‘their’ IP. Entry barriers are high for outsider actors.
Commercial usage of IP <sup>2</sup>	Owners entitle only members of the club for commercial usage of ‘their’ IP. Owners prohibit non-members from commercial usage of ‘their’ IP. <b>Semi-open type 1 IP model</b>

Bilateral IP sharing – unidirectional



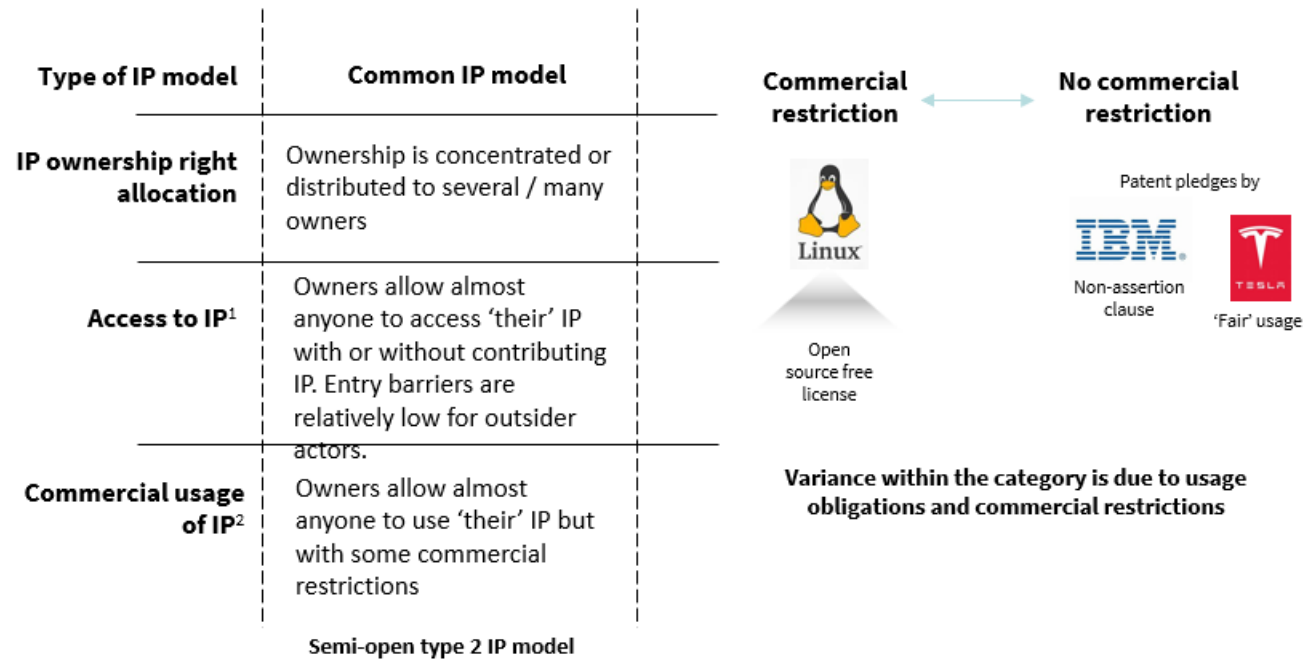
Decentralized IP sharing – Patent Pool model



Patent pool to share IP for their rewriteable audio compact disc patents in the 1990s



# Sharing; “Half open” IP





# Sharing; “Fully open” IP

Type of IP model	Public IP model
IP ownership right allocation	No one owns the IP (anymore). IP is in the public domain
Access to IP <sup>1</sup>	Owners allow anyone to access ‘their’ IP
Commercial usage of IP <sup>2</sup>	Owners cannot/do not restrict anyone from commercial usage of ‘their’ IP

Fully open IP model

Expired/  
abandoned  
patents



3

Copyright expired  
publishing



Variance within the category is due to ease of use of publicly available free IP



Closed  
Private

Half Closed  
Club

Half Open  
Commons

Fully Open  
Public



# Roadmap

What is IP?

What is Open? Kinds of “openness”

IP vs Open Science

Secrecy vs disclosure





IP sharing Closed vs Open

Scholarly publishing





# Scholarly publishing

- Full open access – “gold”  All articles freely accessible. APC fee payable
- Hybrid  Authors’ choice, subscription or open access
- Green  All articles freely accessible after self archiving
- Diamond/Platinum  APCs Sponsored; all articles freely accessible

<https://www.igi-global.com/newsroom/archive/principles-open-access-movement-empowers/5394/>



# Scholarly publishing



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