

3Os and IP awareness raising for collaborative ecosystems



ZOOM OVERVIEW

UNLOCKING INNOVATION IN STRATEGIC VALUE CHAINS THROUGH OPEN LICENSING

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ZOOM OBJECTIVE

ZOOM aims to raise awareness on the importance of intellectual property (IP) generation and management in collaborative innovation ecosystems which rely on three key assets

Z

Open Software

Open Hardware

Open Data

M



ZOOM MAIN MESSAGES

STRENGTHENING OPEN INNOVATION ECOSYSTEMS

- Open-source solutions present a unique opportunity for organizations to **leverage collaborative development**, harness external expertise, and **participate in a global community** committed to shared progress.
- The collaborative nature of open source fosters innovation within companies: External developers and contributors become virtual extensions of the company's R&D team, **collectively enhancing code quality, addressing bugs, and continually improving software and hardware solutions.**
- This distributed innovation not only **accelerates product development** but also **augments the expertise within the organization**, recruiting possibilities and even customer acquisition, positioning it at the forefront of technological advancements.

LEVERAGING LICENSE CHARACTERISTICS FOR COLLABORATIVE INNOVATION

Supporting the development of open IP management strategies aligned with prevalent open source-based business models is essential to strengthen the following value chain links:

- **Research to business (R2B)**, where knowledge generators create or expand new and existing businesses so as to address the needs of their customers or create new products or services;
- **Business to business (B2B)**, where knowledge generators working in private companies collaborate across companies for a common innovation development on new emerging technologies, start-ups with an innovative character collaborate with established businesses and support the use of new emerging technologies, and service providers for companies require support in creating new business on new emerging technologies; and
- **Open innovation** which captures all activities based on co-creation, co-innovation, idea generation etc. which involve, with a varying degree, different participants in the innovation ecosystem contributing and generating IP using open technologies.



DRIVING EU INNOVATION POLICY WITH 'OPEN' TECHNOLOGIES

Policymakers should explicitly recognise open source technologies as **enabler of sovereignty and autonomy**. Open source technologies should be viewed as a sovereignty tool that can reduce dependencies on foreign suppliers, mitigate supply chain vulnerabilities, and contribute to building **European resilience**.

Open innovation should be prioritised as a matter of public policy in both company-centred and community-centred ecosystems.





THE ZOOM PROJECT

WHAT HAS ZOOM DONE?

Strengthening open innovation ecosystems

Provide expert guidance and best practice examples for valorization of intellectual property through open licensing

Leveraging License Characteristics for Collaborative innovation

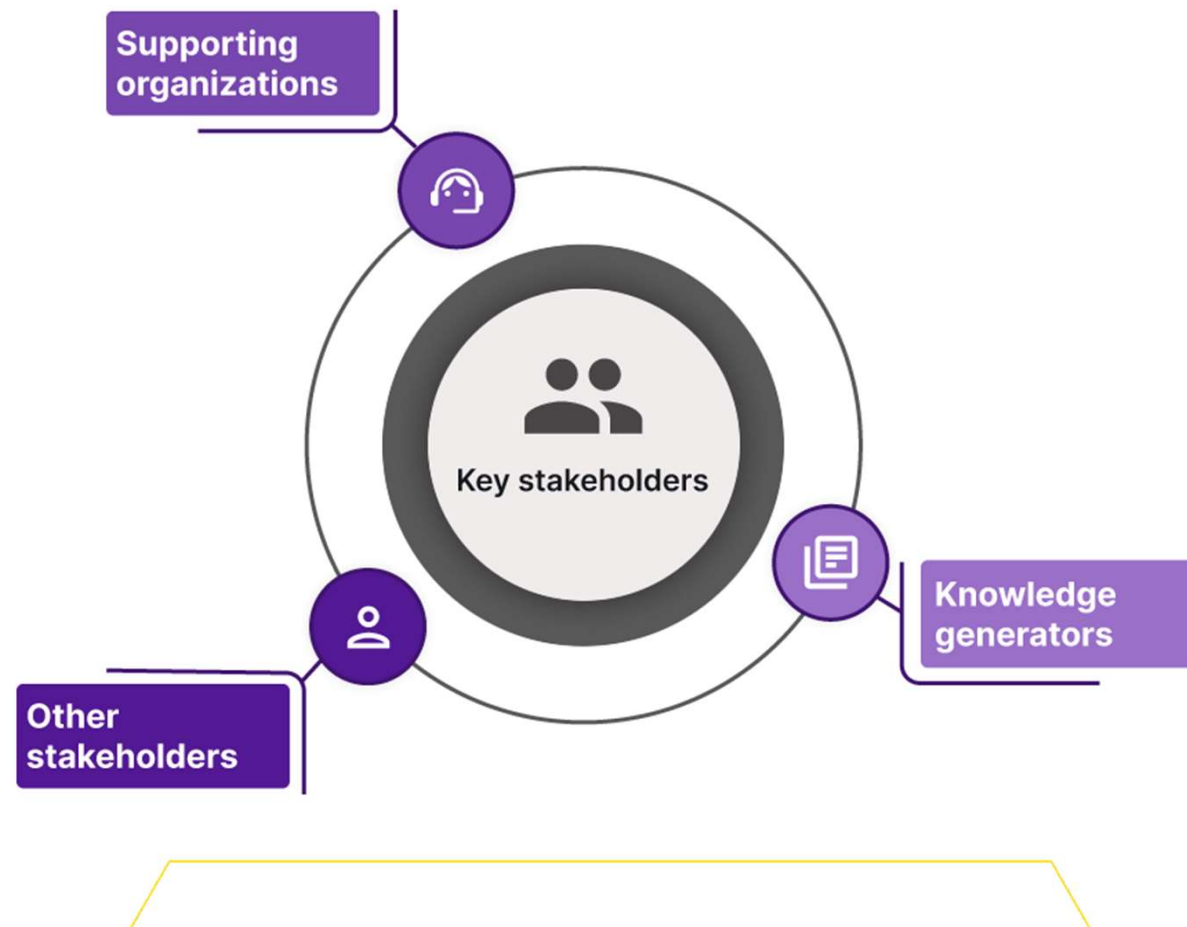
Provide a comprehensive analysis of the link between legal and business aspects to capitalize on opportunities for open source IP valorization

Driving EU Innovation Policy with 'Open' Technologies

Contributing to EU innovation policy and Industrial Strategy by providing policy briefs in emerging topics

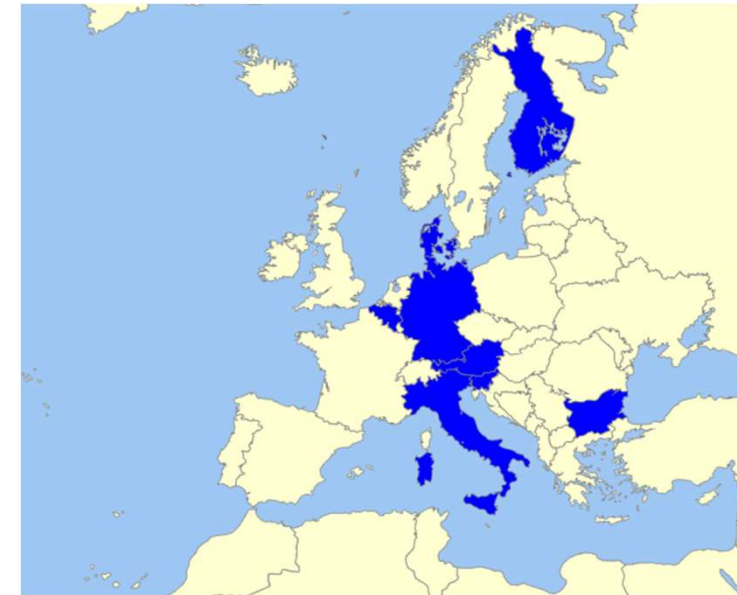


ZOOM TARGET GROUPS

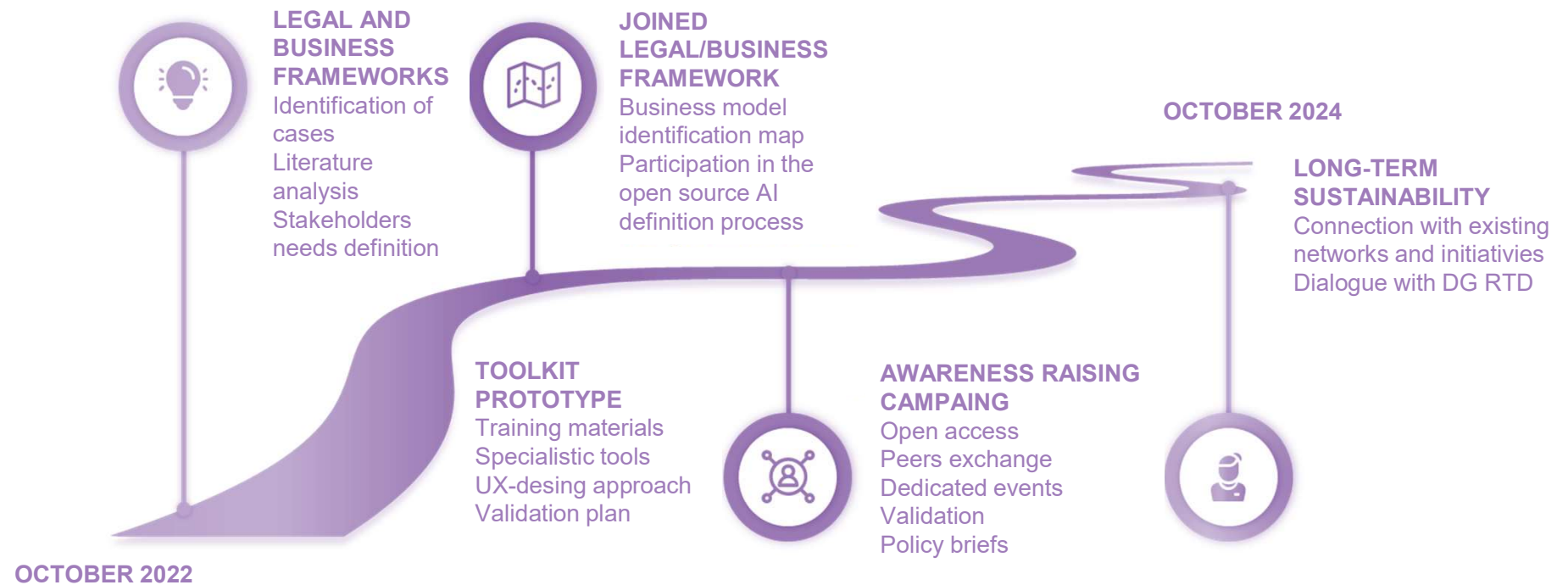


PROJECT CONSORTIUM

PID	Partner	Country
1	HIT - Fondazione Hub Innovazione Trentino (Coordinator)	Italy
1.1	UNITN - University of Trento	Italy
2	KUL - KU Leuven Centre for IT & IP Law	Belgium
3	FSFE - Free Software Foundation Europe	Germany
4	VTT - Teknologian Tutkimuskeskus Oy	Finland
5	JSI - Jožef Stefan Institute	Slovenia
5.1	University of Primorska	Slovenia
6	LIBRe - Fondatsiya LIBRe	Bulgaria
7	ITG - Innovations und Technologietransfer Salzburg GmbH	Austria
8	EITM - EIT Manufacturing South S.R.L.	Italy
9	AAU - Aalborg Universitet	Denmark



ZOOM TIMELINE





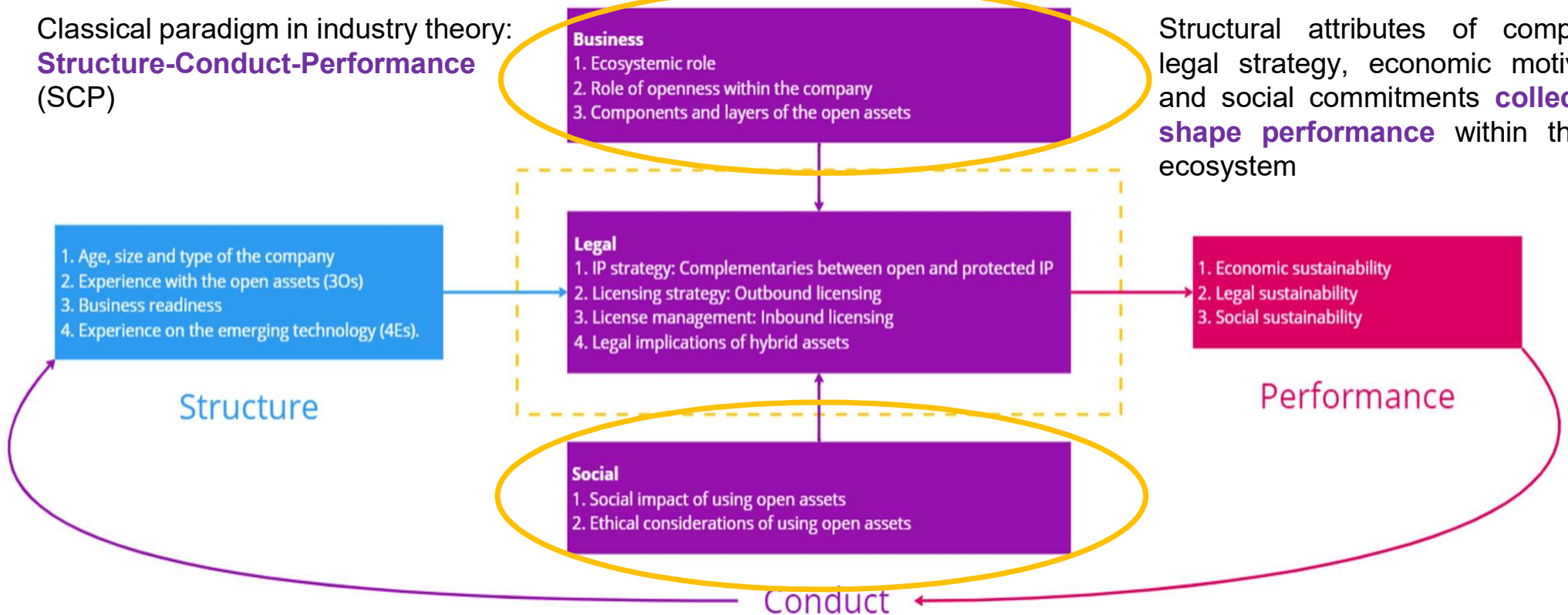
THE ZOOM MAIN FINDINGS

WHY DO COMPANIES CHOOSE OPEN SOURCE SOFTWARE?

OUR THEORY

Classical paradigm in industry theory:
Structure-Conduct-Performance
(SCP)

Structural attributes of companies, legal strategy, economic motivation, and social commitments **collectively shape performance** within the OS ecosystem



SOCIAL ASPECTS

Open Source is “a cultural choice” (cit. **Nethesis**) reflecting interconnected values

- **Transparency & Democratization of knowledge:** Shared social values
- **Reciprocity:** Giving something back to the community
- **Public Access:** Access to OS repositories is a major competitive advantage for companies
- **Security:** Community-reviewed solutions are perceived as more secure and reliable, offering companies greater confidence in the integrity of their products. Sharing solutions makes the identification of vulnerabilities easier and faster

A VARIETY OF BUSINESS MODELS

- **Proprietary Model:** Firms develop sw, which customers then purchase. The code is protected through physical and legal barriers
- **Open Community Model:** Sw development and support are carried out by volunteers who often have limited or no commercial interests
- **Open-Source Service Networks:** Informally organized networks fostering innovation and market access
- **Corporate Development:** Organizations (both non-profit and commercial) pay full-time or part-time developers to customize and extend OSS for their own needs
- **Second-Generation Open Source:** Companies generate revenues by offering complementary services around their products, rather than selling licenses for them



... AND A VARIETY OF SERVICES

- **Software/Platform as a Service (SaaS/PaaS):** The core sw is server-based. Customers subscribe to online service often with freemium pricing with added features. There might or might not be a OSS desktop or mobile component
- **Packaged suite:** A company integrates a set of OSS and then sells, supports or distributes the complete package, either open or not. The editorial work adds value by preselecting from a large pool of similar FOSS those that work well together or that offer a good user experience
- **Integration & Customization:** Integrating OSS solutions into existing systems and workflows, tailoring tools to meet specific needs. Revenue generated from paid professional services provided along with the sw rather than the sw itself (implementation, support, maintenance, consultation, training, translation)
- **OSS for Specific Industries:** Developing sw solutions tailored for healthcare, finance, agriculture...



STRATEGIC ADVANTAGES

Standardization & Flexibility: OS solutions are well-suited for customization and accelerate innovation and responsiveness to market demands

- Companies can adapt them to their specific needs and interfaces
- OS makes R&D reproducible and interoperable, without requiring to “reinvent the wheel”

Collective Intelligence: External developers/contributors become virtual extensions of the company's R&D team, **enhancing code quality**, addressing bugs, and improving OSS

- Exposure to the latest developments and emerging trends
- OS released under a Free Software license fosters innovation and competition globally due to the freedoms they offer (**to use, study, improve, share**)

STRATEGIC ADVANTAGES

Costs Saving: Open-source enables companies to tap into a vast repository of ready-to-use solutions, thereby bypassing the **resource-intensive** path of developing products **from scratch**

Avoiding Vendor lock-in (the dependence on a single vendor's proprietary solutions which can limit innovation and flexibility)

- Businesses can customize and extend their offer, avoiding reliance on one vendor
- Customers can switch vendors, integrate third-party offerings, avoid services interruption

Self-enjoyment: Developing and using OS is a stimulating activity. OS allow developers to choose the tools and platforms that serve them best (greater job satisfaction, increased productivity, and the ability to experiment with new approaches)

CHALLENGES AND RISKS

Intricate Value-capture Dynamics: Compared with proprietary solutions, contributions to OS projects (plugins, tools, data formats) often **set the stage for future services**.

- Example: companies can improve existing platforms for the potential that this will have for future projects, rather than for immediate economic possibilities (e.g., OD and PAs)

Influence of Major Players: In industries where proprietary models dominate, transitioning to open source can disrupt established value chains and revenue streams

- big firms (e.g., Microsoft, IBM, Amazon) and influential organizations (FSFE, Apache) can **direct software developments in specific directions**. Small companies need to evaluate risk of engaging in a community or refocusing their attention on different projects



CHALLENGES AND RISKS

Communicating OS: Challenging to convince customers of its value when free alternatives exist:

- Overcoming the perception that “**OS = Free**”: businesses need to effectively communicate the value, security, and support that open-source provides
- OS can be perceived by customers as risky in terms of lock-in with their company (little awareness of lock-in effects with proprietary software)

Community Management: Companies may become reliant on services provided by the community, exposing them to risks if these services are disrupted or discontinued



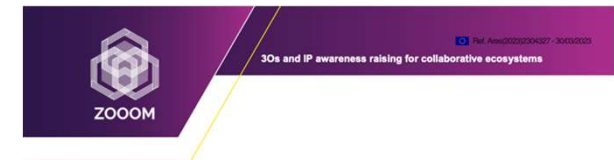


ZOOM MAIN RESULTS

LEGAL FRAMEWORK

Literature review of legal cases in open software, hardware and data

- Introduction to the IP status of open technologies and the principles of open source licensing
- Primers on open source software, hardware and data licensing
- Differences and similarities between software, hardware and data and related business risks and opportunities



30s and IP Awareness raising for collaborative ecosystems

Grant Agreement No. 101007385

Literature review of legal cases in free and open source software, open hardware and open data

Deliverable D1.1

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BUSINESS FRAMEWORK

Academic Literature Review

Open-Source Software:

- What approaches are applied to introduce OS elements?
- What are the main business motivations for such procedures?

Open Data:

- How to make OD available and reusable for business purposes?
- Why and how do OD providers implement open standards?

Open Hardware:

- Why to open product design to start a businesses?
- How is success defined and measured in OH projects?

In-depth analysis of 48 papers across all areas

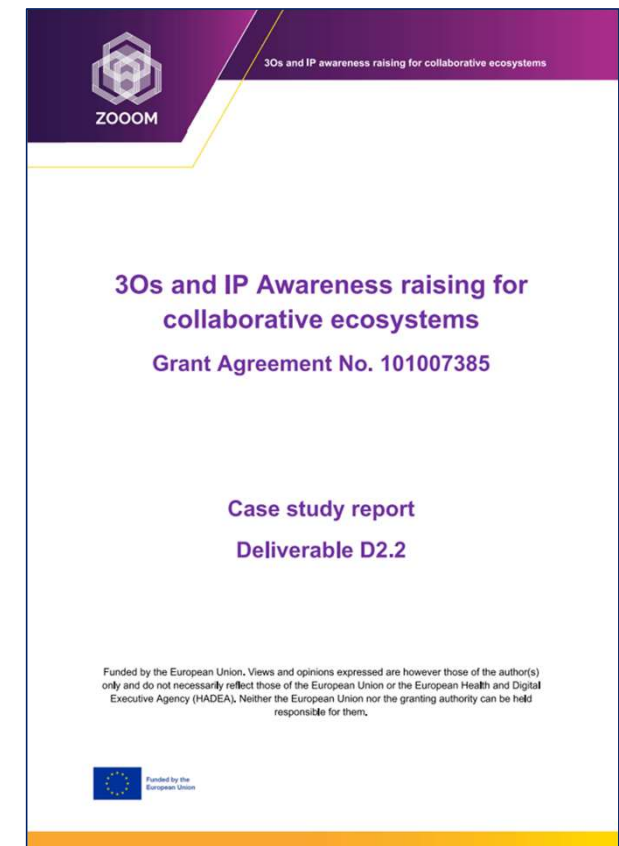
For 3Os categories and Verticals, we identified:

- Key Papers
- Case Studies / Best Practices
- Main Licensing Strategies
- Main Business Models

COLLECTION OF CASE STUDIES

Case study report

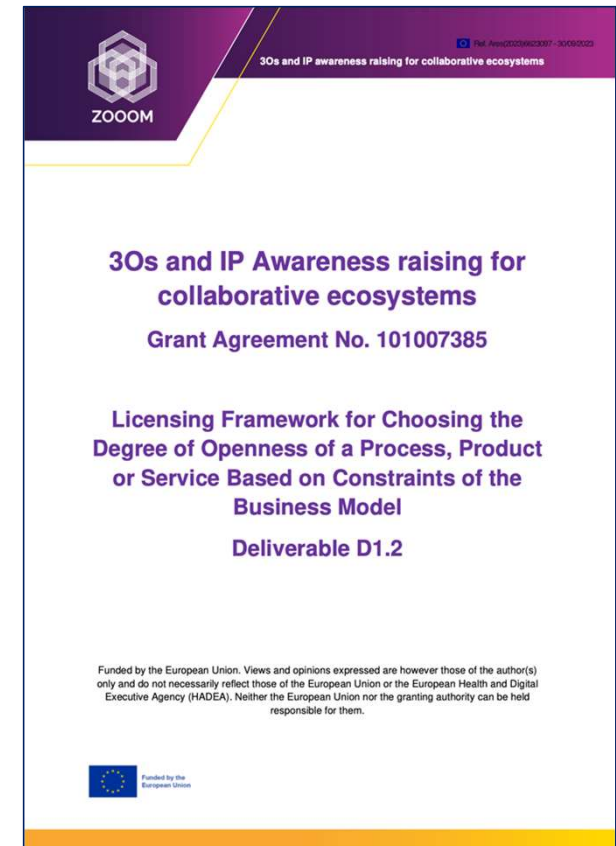
- Cases collected:
 - 34 cases from the literature
 - 25+1 cases based on interviews (contributing also to the creation of stakeholder community)
- Aspects investigated:
 - Motivations relating to open assets
 - Challenges, risks, opportunities
 - Role of open assets in the company
 - Legal aspects and approach to IP management
 - Evolution of business
 - Ecosystemic perspective
- Findings to be further developed in the ZOOM Licensing Framework (D1.2)
- List of propositions for the companies



LICENSING FRAMEWORK

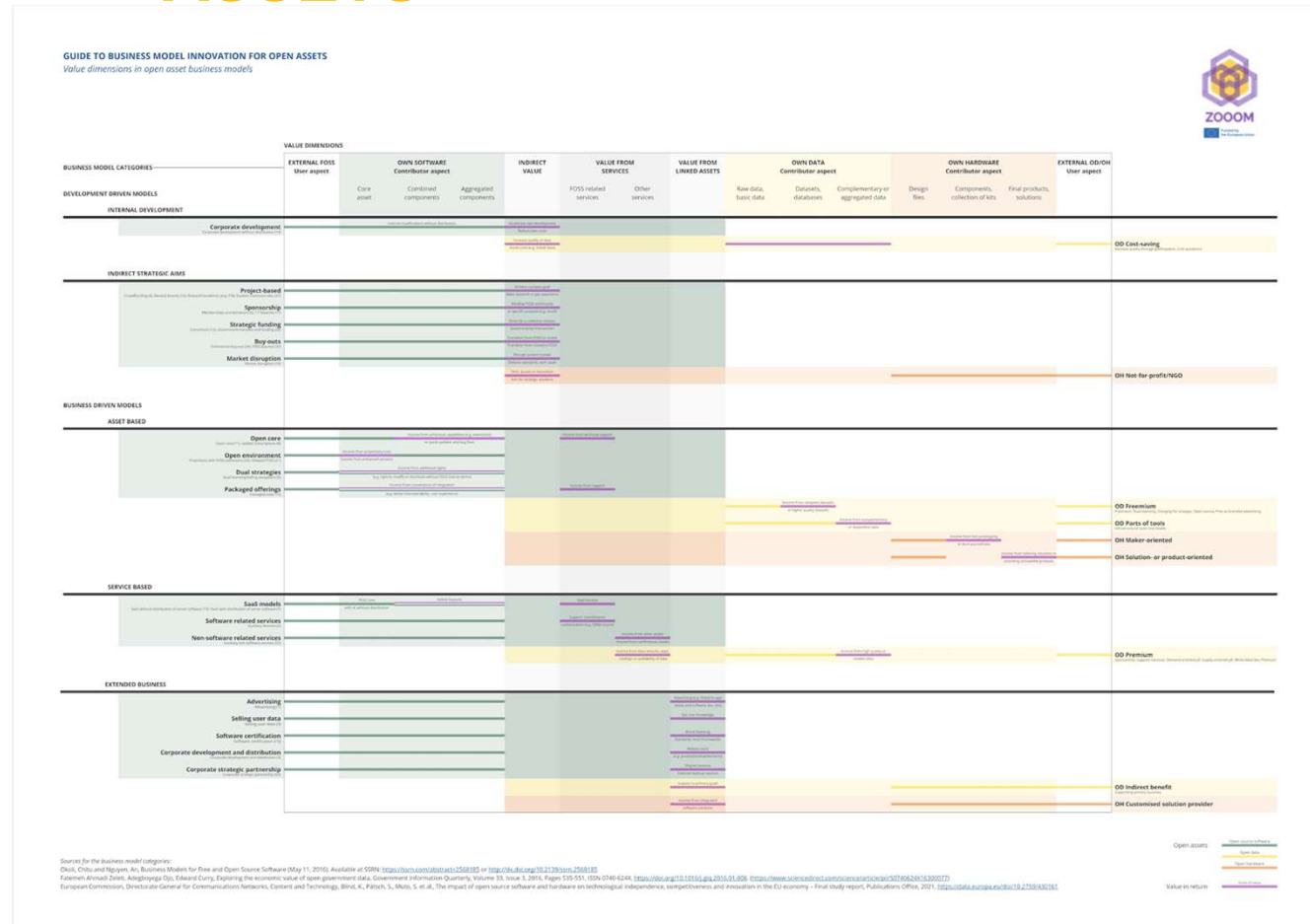
Licensing framework for 3Os

- Extended Structure-Conduct-Performance (SCP) framework
- Licensing framework based on:
 - Subject matter specifics
 - Business aspects
 - Legal aspects
 - Social aspects
- Open Source AI use case
- Implementation guidelines
 - Best practices
 - Guide to choosing a licensing model
 - Business profiles
 - OSPOs



GUIDE TO BUSINESS MODEL INNOVATION FOR OPEN ASSETS

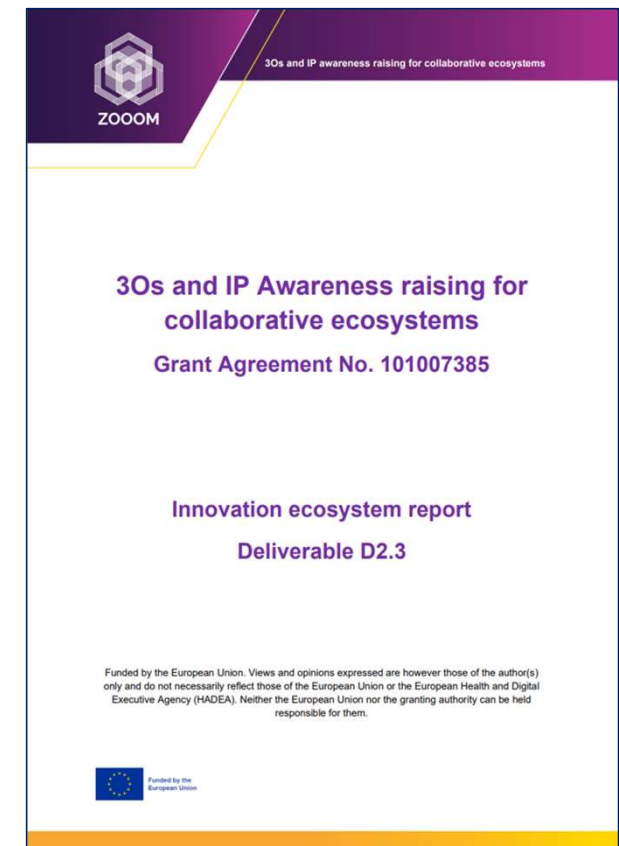
How to address the interlinkages between the business models of Open assets?



OPEN INNOVATION ECOSYSTEMS ANALYSIS

Innovation ecosystem report

- Ecosystem trend in the 3Os
- Ecosystem aspects from the literature and ZOOM case studies:
 - Open source software
 - Open hardware
 - Open data
- Multilevel ecosystem for the 3Os



THE ZOOM TOOLKIT

The development of the ZOOM Toolkit website

Open Assets Strategy

- License selection tools
- License management tools
- Business Models on Open License

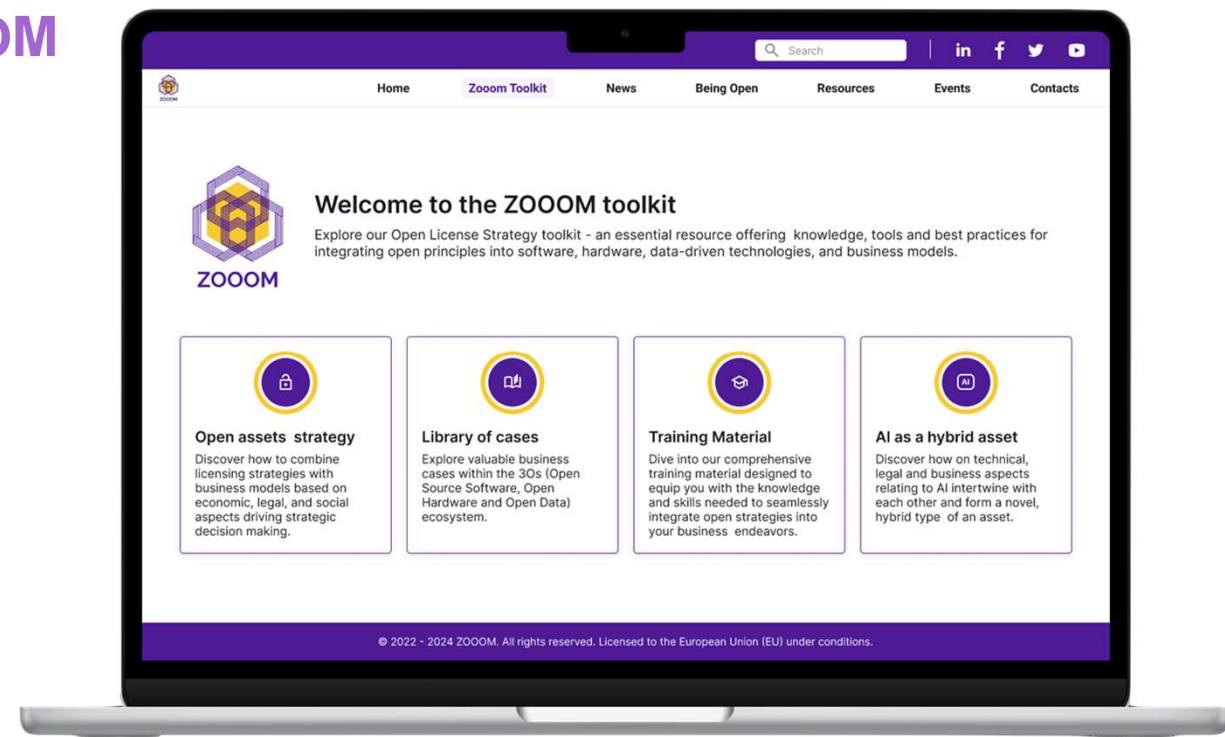
Library of Cases

- Cases on OD/OSS/OH

Training Materials

- Cases on OD/OSS/OH

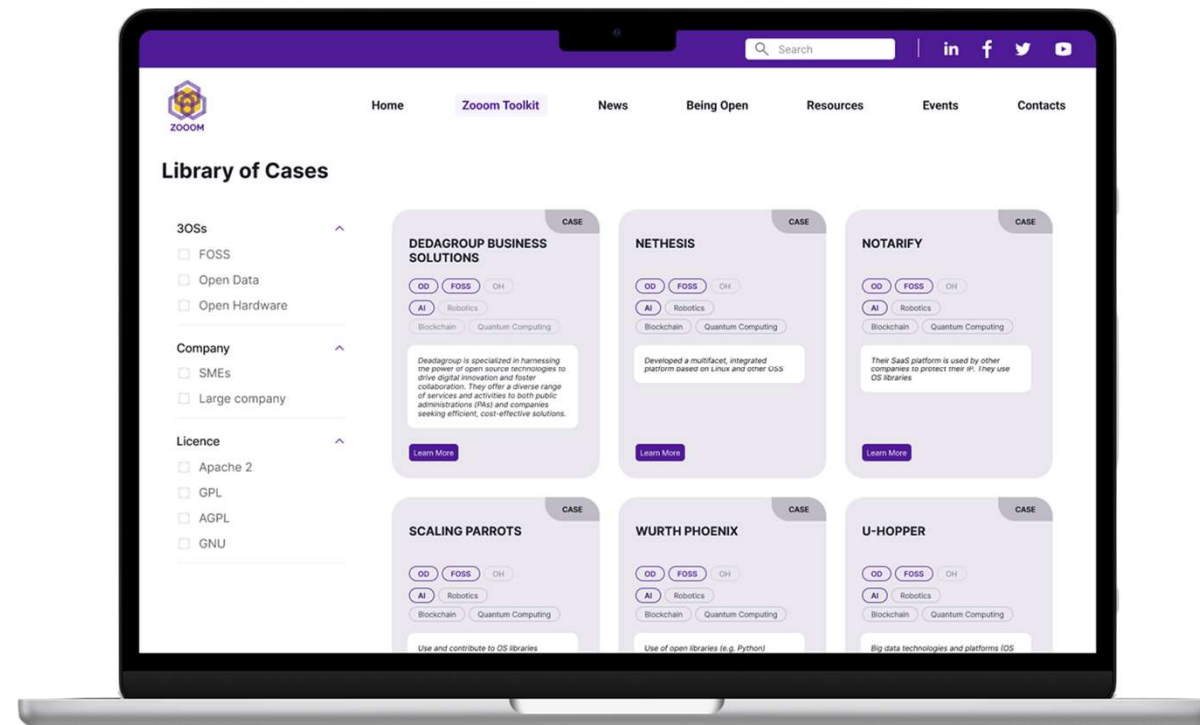
AI as a hybrid asset



THE INTERNALLY DEVELOPED TOOLS

Capacity Building Toolkit Components

- Business Profile Tool
- Licence Selection Tools - Decision Tree
- Open Software
- FAQs and Glossary
- Business Model Innovation Map for Open Assets
- Library of Cases
- Training materials
- Focus on open source AI and open ecosystems



POLICY BRIEFS

- Why should EU innovation policy promote open source AI?
- How should EU innovation policy promote free software through the lens of the debate on 'openness' of AI?
- How could EU/EPO innovation policy encourage patent offices to consider more systematically open source software as prior art for computer-implemented inventions?
- How can EU innovation policy reconcile the enabling rights associated with open hardware with the non-enabling nature of patent rights in most commercially viable hardware inventions?
- What are the crucial learnings from open assets research for building European data economy?

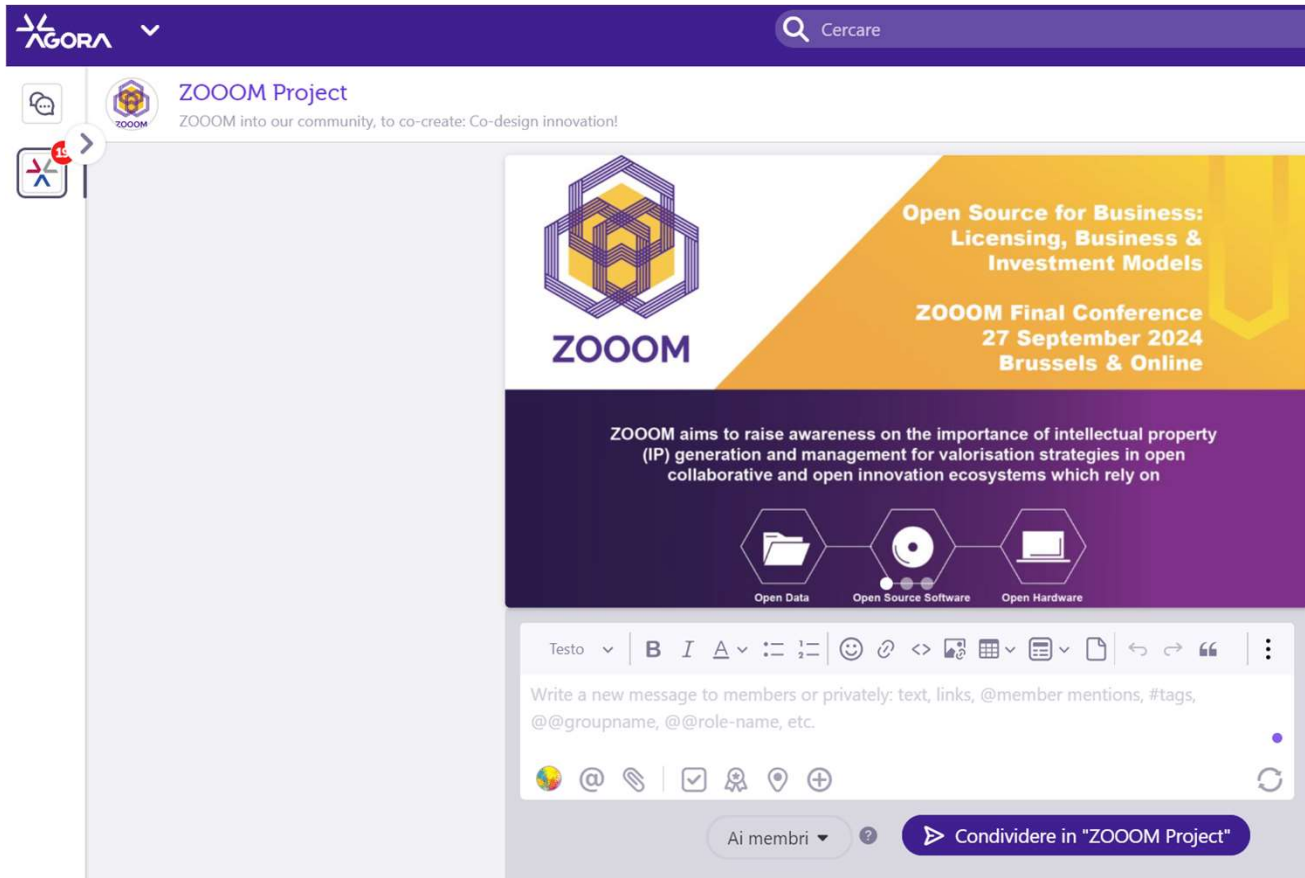




ZOOM FUTURE OUTLOOKS

The ZOOM community

THE ZOOM COMMUNITY



The screenshot shows the AGORA platform interface for the ZOOM Project. At the top, the AGORA logo is on the left and a search bar with the text 'Cercare' is on the right. Below the header, the 'ZOOM Project' is identified with its logo and the tagline 'ZOOM into our community, to co-create: Co-design innovation!'. The main content area features a large banner with the ZOOM logo on the left and text on the right: 'Open Source for Business: Licensing, Business & Investment Models' and 'ZOOM Final Conference 27 September 2024 Brussels & Online'. Below the banner, a purple box contains the text: 'ZOOM aims to raise awareness on the importance of intellectual property (IP) generation and management for valorisation strategies in open collaborative and open innovation ecosystems which rely on'. Underneath this text are three icons: a folder for 'Open Data', a CD-ROM for 'Open Source Software', and a laptop for 'Open Hardware'. At the bottom of the page, there is a rich text editor with a toolbar containing icons for bold, italic, text color, bulleted list, numbered list, smiley, link, unlink, table, link list, document, undo, redo, and quote. Below the toolbar is a text input field with the placeholder 'Write a new message to members or privately: text, links, @member mentions, #tags, @@groupname, @@role-name, etc.'. At the very bottom, there is a 'Ai membri' dropdown menu and a blue button labeled 'Condividere in "ZOOM Project"'. A yellow line points from the bottom right of the screenshot towards the text on the right side of the slide.

ZOOM community launched at the final event and hosted in the **EIT Manufacturing AGORA platform**

A **diverse and dynamic network** – a “soft” community which involves software developers, business developers and strategists, venture capitalists, lawyers, patent attorneys and intellectual property managers, licensing specialists.

ZOOM COMMUNITY ROADMAP

A first meeting of the community is planned for **late November**

The initial proposal includes the following working groups:

- Digital business models for software, hardware and data
- Intellectual asset management in industrial settings
- Ecosystem innovation and orchestration
- Industrial open source

Proposed actions:

- Industrial Open Source AI studies focusing on business and IP models for Industrial Open Source AI and the combination of Open Source and Patents in industrial companies' IP strategies.
- Data contracts with a focus on applications in industrial settings and standardisation of data contracts.
- OSPOs as a service with a focus on defining service offerings for industrial companies.
- Licence compatibility assessment across combinations of intellectual assets with a focus on developing decision-support tools.

HOW TO JOIN THE COMMUNITY?

Drop me an email:

e.morganti@trentinoinnovation.eu

Visit the ZOOM website

