

Open Action-Research

Inno³'s scientific posture

JUNE 2022

inno CUBE

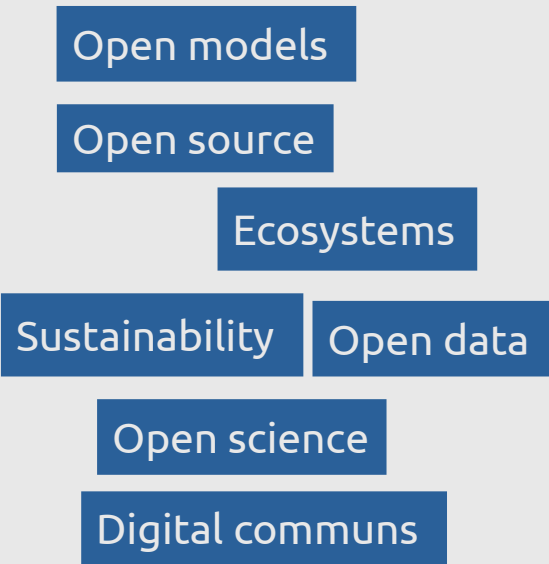
Contents

- 1. Action-research at inno³
 - Context
 - Objectives
 - Approach
 - Commitments and values
 - Team and community
 - Ecosystem
- 2. Methods, tools and expertise
 - Mixed methods
 - Co-Design / UX research
 - Open science
 - Reflexivity and ethics
- 3. Projects and portfolio
 - Key research questions
 - Selected portfolio
 - Open source community
 - Ecosystem transformation
 - Solution design
- 4. inno³ team & publications
 - Benjamin
 - Célya
 - Romain
 - Vincent

1

Action-research at inno³

Context



Digital transformation and open models

The increasing use of digital technologies in all areas of our society is leading more and more organizations and institutes to **adopt open models**.

In France, these **transformations are encouraged by a legal framework that recognizes openness as the basic principle for a digital society**. However, changing every day habits and practices in order to fully **adapt to open tools, methods and processes can take time**.

Objective

Develop sustainable open model

Inno³ engages in open action-research to provide in-depth **understanding**, **analysis frameworks** and **tools** to support the development of sustainable open models for both public and private institutions.

Understand

Analyze

Prototype

Develop

Support & Outreach

Approach



Designing solutions for sustainable open communities

Managing changes and transitions towards open models

Change management & solution design

- We contribute to **designing technical, organizational, and legal solutions** to support the sustainability of open source, open data, open science and digital commons communities.
- **We provide support for managing changes and transitions towards open models** in public, private and community organizations, from administrations to companies, from research institutions to non-profits.

Commitments and values

- **Our approach to action-research is based on maintaining proximity with our fields of expertise and the practices of various actors within it. This allows us to consolidate our objectives through concrete actions.**
- We implement mixed (qualitative/quantitative) methods and **co-design/UX research methodologies** that facilitate communication between different stakeholders in order to **find collective solutions or common governance.**
- **We practice open science by** using open source tools and providing free access to the data and results we produce.
- **We engage in creating dialogue and reflexivity** by organizing and participating in events on the research topics we know best.

Team and community

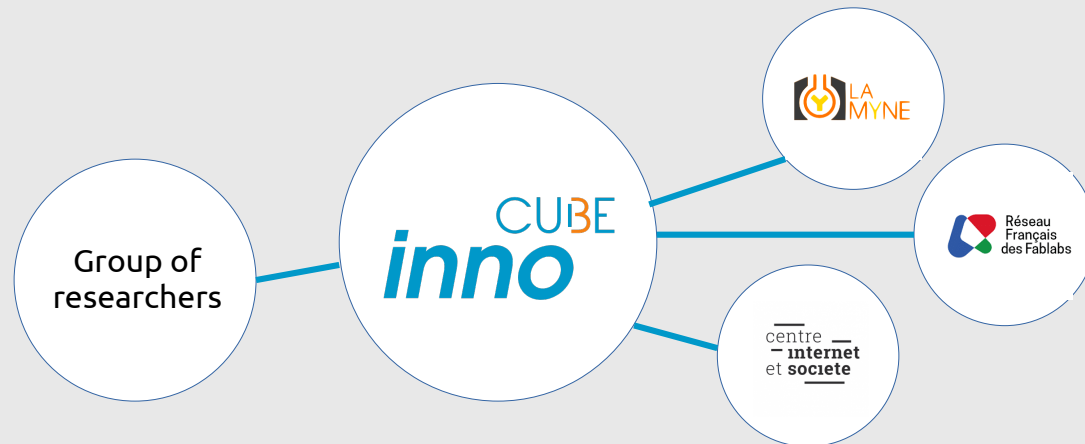
Research at inno³ is supported by :

- a team of practitioner-researchers with an **interdisciplinary approach** (legal sciences, science and technology studies, design science, data science)
- as well as **groups of researchers** who bring complementary expertise to our studies.

Legend

Inno³'s research team :
Célya Gruson-Daniel, Vincent Bachelet, Romain Rouyer, Benjamin Jean

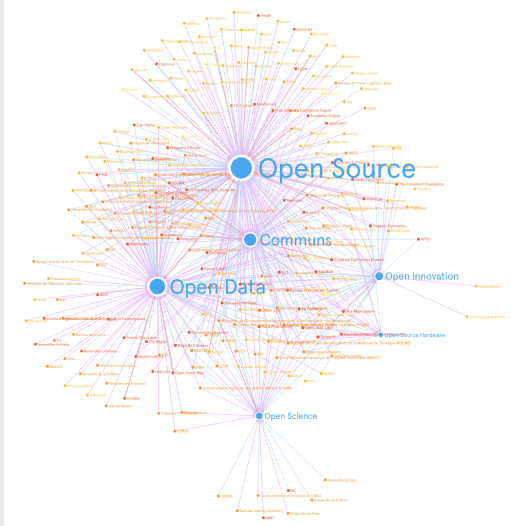
Research organizations :
RFFLab, La Myne, le CIS



Ecosystem

Macro and micro scales

- We take a **systemic look** at the sectors where intersections between commons and open models occur.
- We accompany diverse types of organizations through a **reflexive approach**.



Graph of Inno³'s ecosystem at the time of the firm's 10th anniversary: interactive map to explore the roads of innovation travelled with Inno³ made on GraphCommons



Commission européenne



SATT
PARIS-SACLAY
Innovating with confidence

2

Methods, tools and expertise

Mixed methods

- Quantitative data analysis and visualization (questionnaires)
- Qualitative data analysis and visualization (interviews, open questions, corpus analysis)
- Big data analysis and visualization (social networks, crawling)

Co-Design / UX research

We rely on a variety of methodologies related to Design:

- We inventory the difficulties our clients encounter and reframe the problem thanks to an **ethnographic** approach (observations, interviews, mapping, personas, experience maps, etc.) in order to comprehend final users' needs in as much detail as possible.
- We prepare and conduct workshops, from the resolution of a problem (design thinking), to the emergence of prospective or critical scenarios (design fiction).
- We assist in creating models (wireframes) and prototypes (static or dynamic websites) as well as formatting resources (documentation, analytical summaries, data visualization, etc.) to foster better uptake of research results and outputs.

Open science

- We use free and open source tools and infrastructures
- We collect and provide access to data ethically
- We publish action-research outputs and results in open access repositories and platforms
- We harbor inclusiveness through multilingualism and co-construction of knowledge
- We communicate action-research content to different audiences through targeted editorialization

Reflexivity and ethics

- We facilitate dialogue between stakeholders to define and co-construct solutions together.
- We collect, document and disseminate good practices in the communities we are involved with.
- We communicate and educate about the sustainability of innovation ecosystems and their underpinning ethical principles.

3

Project portfolio

Key areas of expertise and inquiry

- Open Source Community
 - How can we best ensure the sustainability of open models through legal and technical innovation?
- Ecosystem transformation
 - How can we help drive change within economic sectors that are transitioning to open models?
- Solution design
 - How can we make adapting to open models easier for organizations internally through the implementation of legal, technical and organizational solutions?

Selected portfolio

- Open Source Community
 - Free and Open Source Software for European Public Services (FOSSEPS)
 - API Terms of Service: towards trustworthy and sustainable API ecosystems (APIToS)
 - European Opensource & free software Law Event (EOLE)
- Ecosystem transformation
 - Exploratory study on "research on research"
 - Open Science Legal Workshops
 - OpenSatCom Survey
- Solution design
 - Exploring Commons through Design, workshop at Numérique en Commun[s] 2021
 - *Et si j'accompagnais* (in English : What if I reached out)
 - Open Source – like : Study and adaptation of collaborative processes (OSLike)



Free and Open Source Software for European Public Services (FOSSEPS)



Commission européenne

As part of our activities in 2021, we assisted the European Commission in carrying out the FOSSEPS (Free Open Source Services for European Public Services) study. Its objective was to inventory "critical" open source and free software requiring support.

Our first task was to question the concept of criticality itself. Indeed, the use of "criticality" by the European Commission appeared ambiguous, as it could be understood to designate "critical" software for a given ecosystem (essential component for the development of other solutions) or to refer to software in a "critical state", i.e. encountering difficulties of various kinds. Through interviews and questionnaires, we helped provide a working definition of sustainability in regards to software maintenance. This definition details different essential factors (technical maintenance, technical debt, indicators used, social and human factors in the development of a project, etc.) and takes into account key issues raised by "maintainers".

Productions

- Project's official website ([url](#))
- Report ([pdf](#))

Key words

sustainability

open source

maintainers

API Terms of Service : towards trustworthy and sustainable APIs ecosystem

"I have read the API Terms of Service" is the biggest lie of the programmable web.
To increase trust, openness and safety in Digital Infrastructure, we evaluate the
opportunity to adopt a new framework to make API ToS easily understandable,
shareable to users.

Know more

Participate to the survey

Productions

- Project's official website ([url](#))
- Report (forthcoming 2022)

Key words

API

legal design

trust

digital infrastructure

ecosystem

Open Source Communities

Client / Financer

API Terms of Service : towards trustworthy and sustainable API ecosystems (APIToS)



Winner of the 2020 Digital Infrastructure call for proposals supported by the Ford Foundation, the Alfred P. Sloan Foundation and the Mozilla Open Source Support Program, among others, the APIToS project aims to understand how API terms of service (ToS) can help build more balanced and trusted API ecosystems.

The first part of the study focused on better understanding the uses of API ToS through interviews with owners and users in different sectors (research, business, etc.), and was completed by a legal analysis of a corpus of APIs.

On this basis, the study's second phase was devoted to designing a trust framework through a contractual tool called FACT, "FAIR API Commitment for Trust". This tool contains a set of clauses that make it compatible with different contexts (business, research, open source, etc.). It also makes some additional commitments more visible such as openness (open source licenses, open data, copyleft, etc.). Prototyping was done through a legal design approach with the inclusion of feedback from different stakeholders.



Productions

- Project's official website (url) with archives of conference recordings and transcriptions.

Key words

law

open source

legal innovation

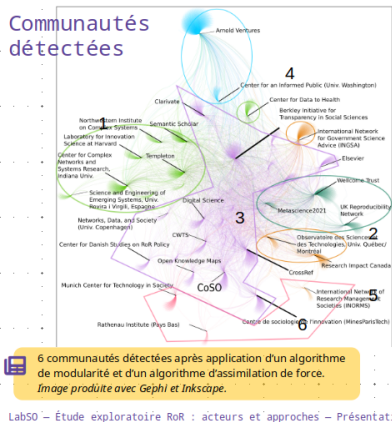
European Opensource & free software Law Event (EOLE)

EOLE is an event that aims to **promote sharing and dissemination of legal knowledge related to open source software** as well as the development and promotion of best practices.

The 6th webinar focused particularly on **Open Source Programme Offices (OSPO)**. Many cities and public institutions are currently setting up these offices to help software engineers, and also people involved in software adoption and dissemination, such as business people and managers, to understand, use and make the most of Open Source.

This webinar went over the general aspects of OSPOs, but also the legal aspects, the challenges, the methods and the tools used in setting them up, asking questions like : **What can the legal community bring to the OSPO as a concept? What knowledge needs to be acquired?**

Starting with legal issues, this webinar was an opportunity to broaden the discussion and gather feedback on organizational and technical aspects of setting up OSPOs. It was also an opportunity to lay the groundwork for the creation of an expert community on this topic.



6 communautés détectées après application d'un algorithme de modularité et d'un algorithme d'assimilation de force. Image produite avec Gephi et Inkscape.

LabSO - Étude exploratoire RoR : acteurs et approches - Présentation du 12 septembre 2021 - Licence CC BY-SA 4.0

1. Réseau « Science of Science » : approche computationnelle / IA, peu engagés dans les enjeux de science ouverte
2. Réseau d'acteurs de la méta* : recherche sur la recherche avec une forte coloration britannique
3. Réseau d'acteurs plus hétérogènes : plateformes de l'écosystème éditorial, fournisseurs de données, acteurs de la recherche sur la recherche et science ouverte
4. Des financeurs privés nord-américains (philanthropie) not. pour des centre meta*
5. Réseau des politiques de la recherche (évaluation, management, prise de décision politiques)
6. Réseau science, technologie, innovation et société

Ecosystem transformation

Client / Financer

Exploratory study on "research on research"



As part of the France's second National Plan for Open Science, the French Committee for Open Science requested to conduct a study to pave the way for an Open Science Lab (LabSO) in order to better understand the international scope and context of research on research (RoR).

The study's three main objectives were :

- to identify the major currents in academic science studies in Europe and the Americas, and indicate the main institutional actors affiliated to each current while differentiating their approaches and methods;
- to put forward an open science workflow for analyzing qualitative and quantitative data through mixed methods and digital mapping to facilitate result uptake and communication;
- to make recommendations that draw on existing initiatives to help the French Open Science Lab position itself in the current RoR landscape.

Illustration: Map of the communities detected on the basis of a list of 78 URLs sourced from interviewed experts, which served as a starting point to create a corpus of 8,505 web pages harvested by specialized open source software (Hyphe). The Gephi software was then used to work on the visual aspect of the network, and to detect communities (modularity calculation and Force Atlas 2 spatialization algorithm).

Productions

- Published report in French (pdf) with a summary in English
- Project's website on PubPub (url)

Key words

open science

meta research

public policies

Atelier juridique
science ouverte

Kit d'appropriation



OS Ouvrir
la science!

CUBE
inno

Université
Paris Cité



Ecosystem transformation

Open Science Legal Workshops

Client / Financer

OS Ouvrir
la science!

The Open Science Legal Workshops were organized as part of a larger project led by the French Committee for Open Science entitled "Successfully appropriating Open Science" (2020-2022). The objective was to bring together a heterogeneous group of research and law professionals to address legal issues stemming from Open Science practices in a format that could be easily accessible for non-specialists. Three thematic workshops were organized around data life cycles, personal data, and image use for research.

The collective format facilitated exchanges between people belonging to different professions who were not used to talking to one another. The challenge was to create a mediation framework that would create awareness around different experiences and practices in order to better understand the complexity and obstacles encountered in each person's situation.

Design work was also provided after the workshops to make the digital outputs, a summary and a methodological kit, available so that others could reproduce this mediation prototype.

Productions

- Summary of the Open Science Legal Workshops – in French (pdf)
- Open Science Legal Workshop Kit - in French (pdf)
- Project on Gitlab (site)

Key words

law

open science

data

collaboration

design



Sub Activities

Sub-activities that are part of the OpenSatCom activity



Blog

Updates from OpenSatCom and its sub-activities



About Us

An overview of the OpenSatCom activity

Productions

- Project's official website (url)

Key words

space

open source

communications

Ecosystem transformation

OpenSatCom Survey

Client / Financer



The OpenSatCom study focused on the use of open source software in space communication. It was carried out in partnership with the Libre Space Foundation for the European Space Agency (ESA).

In addition to analyzing existing open source tools and associated practices in the field of space communication, our interest was to draw on lessons learned in other domains such as the automotive industry. By drawing up an overview which gave a historical perspective of open source appropriation in the automotive industry, we studied the elements that were transposable to the historically more recent sector of space telecommunications. This specifically led us to make recommendations regarding the "re-enclosure" mechanisms already encountered in the automotive industry and how to avoid them.

The project led to the publication of a website presenting the whole study, which also highlighted the report produced by Inno³, "Open Source Development Models in Satellite Communications".



Solution Design

Client / Financer



Exploring Commons through Design, workshop at Numérique en Commun[s] 2021

During the 2021 edition of Numérique en commun[s] (NEC), inno³ designed and conducted three workshops in the Exploration "Design and the Commons": public initiatives for digital commons.

Several questions were asked:

- How can we develop public digital services differently by putting communities, mediation structures and final beneficiaries at the heart of their design?
- Which procedures and which financing mechanisms favor the deployment of shared digital services for general public interest?
- How can we develop knowledge of the commons among administration professionals, to enable them to choose, invest in or manage them?

For this workshop, inno³ used the "double diamond" design process inspired by the British Design Council (Discover, Define, Develop, Deliver). Two phases of idea divergence and convergence took place: the first one aimed at creating an overview of public commons initiatives; the second one focused on creating an action and coordination plan with the public actors involved.

Productions

- Summary of the workshop (blog)
- Workshop material designed by inno³ (pdf)

Key words

digital commons territory

outreach design

Et si j'accompagnais (in English
: What if I reached out)

FUTUR
COMPOSÉ

The "Et si j'accompagnais" (What if I reached out) workshops were organized in 2021 to help various social action professionals (community groups, non-profits) develop a digital commons through the definition and deployment of a brand policy and the management of contributions.

This set of workshops acted as case studies that allowed inno³ to prototype different legal, economic and governance solutions for commons. The objective is ultimately to draw larger lessons from each prototyping opportunity in order to extend the field of application for each solution.

Productions

- Project's official website (web)

Key words

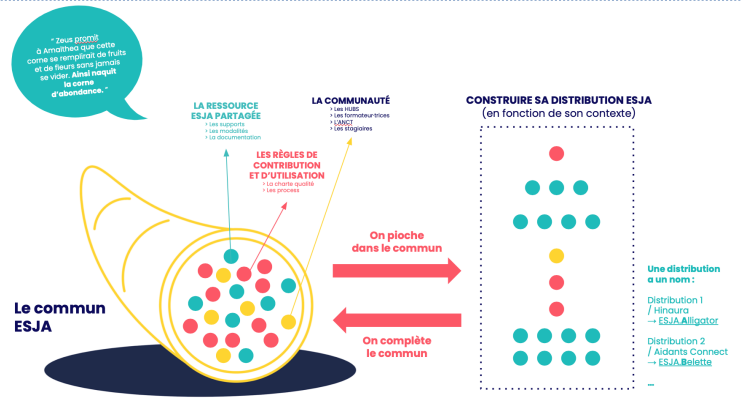
communs numériques

droit

modèle

accompagnement

design





CONTRÔLE DES EXPORTATIONS

Solution Design

Client / Financer



Open Source – like : Study and adaptation of collaborative processes (OSLike)

The Open Source Like (OSLike) project led by the French National Center for Space Studies (CNES) was focused on securing the collaborative innovation approaches implemented by its longstanding partner, the Open Space Makers Federation.

The OSLike project aimed at better understanding the regulations limiting open source freedoms in the context of export control to find a way of articulating different legal and organizational tools adapted to several types of projects and levels of technological maturity.

Several collaboration frameworks were proposed for a new management of intellectual property through recommendations in terms of governance and use of licenses as well as the drafting of a first proposal of licenses.

Productions

- Project's official website (web)

Key words

spatial

open source

gouvernance

collaboration

licences

4

Our Team

Team



Team : a taste for imparting knowledge

Knowledge transfer within higher and continuing education

Our team teaches in several types of programs (Master, DU, engineering schools, doctoral schools) to create awareness about open models in multiple areas (law, sociology, design, etc.). Some examples of programs in which we teach:

- CNAM : Digital and public innovation
- École des ponts : Master in Public policy and action for sustainable development
- Université de Montpellier : DU Scientific Data Management and Master in Law (2nd year)
- Université de Grenoble : Master in Law (2nd year)
- Learning Planet Institute : Master in Digital Science and FIRE doctoral school
- Centrale Supélec Exed : Master in Information Systems Architecture
- IMT Atlantique : Introduction to legal aspects of Open Source, "Economic, organizational and legal environment for developers" unit

Knowledge dissemination through freely available content

- Zenodo <https://zenodo.org/communities/inno3/>
- Zotero https://www.zotero.org/groups/4434045/inno_public/collections/XBEZIGUC

Publications (1/2)

- Briatte, François, et Célya Gruson-Daniel. 2017. « **L'ouverture Des Données de Santé: Une Entrée Par Les Acteurs** ». In . <https://halshs.archives-ouvertes.fr/halshs-01531792>.
- Canevet, Sébastien, et Benjamin Jean. 2009. « **L'évolution du droit d'auteur à l'ère du numérique** », juin. <https://halshs.archives-ouvertes.fr/halshs-02116639>.
- Filippi, Primavera de, et Benjamin Jean. 2012. « **De la culture papier à la culture numérique: l'évolution du droit face aux médias** ». Implications philosophiques, mai, 18.
- Gruson-Daniel, Célya. 2017. « **Open et régime de savoirs en recomposition: le cas de la consultation République Numérique** ». Revue française des sciences de l'information et de la communication, n° 11 (août). <https://doi.org/10.4000/rfsic.3214>.
- ———. 2018. « **Numérique et régime français des savoirs en action: l'open en sciences. Le cas de la consultation République numérique (2015)** ». PhD thesis, Paris: Université Paris Descartes - Paris V.
- ———. 2020. « **Cahier de laboratoire & transition numérique: quelles implications?** » <https://hal.archives-ouvertes.fr/hal-03037450>.
- ———. s. d. « **Les outils numériques d'enquête** ». In Guide décolonisé et pluriversel de formation à la recherche en sciences sociales et humaines. Éditions science et bien commun. Consulté le 15 mai 2020. <https://scienceetbiencommun.pressbooks.pub/projetthese/chapter/les-outils-numeriques-denquete/>.
- Gruson-Daniel, Célya, Olivier Aïm, Karl-William Sherlaw, et Anneliese Depoux. 2019. « **Des MOOC aux OC (online courses): les rhétoriques de l'ouverture.** ». In Questions de communication: Sources ouvertes numériques. Usages éducatifs, enjeux communicationnels Vol. 39. série actes. Éditions universitaires de Lorraine. <https://hal.archives-ouvertes.fr/hal-02159698>.
- Gruson-Daniel, Célya, et Maya Anderson-González. 2021. « **Étude exploratoire sur la «recherche sur la recherche»: acteurs et approches** ». Rapport scientifique. Comité pour la science ouverte. <https://doi.org/10.52949/24>.
- Gruson-Daniel, Célya, et Benjamin Jean. 2021. « **Étude relative à l'ouverture des codes sources au sein de l'Enseignement Supérieur et de la Recherche (ESR): Considérations en termes d'usage et de valeur.** » Rapport scientifique. INNO3; Etalab; Comité pour la Science Ouverte. <https://hal.archives-ouvertes.fr/hal-03125456>.
- Gruson-Daniel, Célya, Victoria Laurent, et Marc M. Barbier. 2019. « **Atelier: méthodologies d'analyse des dynamiques consultatives/participatives en ligne** ». In . <https://hal.archives-ouvertes.fr/hal-02889897>.
- Gruson-Daniel, Célya, et Constance de Quatrebarbes. 2017. « **Les préparatifs d'un hackathon recherche: au coeur de la fabrique des données** ». Sociologie et Sociétés 49 (2): 201. <https://doi.org/10.7202/1054279ar>.

Publications (2/2)

- Gruson-Daniel, Célya, Lucie Szejnhorn, et Isabelle Gras. 2019. « **Acteurs du monde juridique, n'est-il pas temps de vous tourner pleinement vers l'open science ?** » Le monde du droit, novembre. <https://hal-amu.archives-ouvertes.fr/hal-02896570>.
- Jean, Benjamin. 2011a. « **Propriété intellectuelle et Open Innovation: les frères ennemis ?** » Revue Lamy droit de l'immatériel, n° Supplément n. 77 « Les pratiques contemporaines de propriété intellectuelle » (décembre): 32-41.
- ———. 2011b. **Option libre. Du bon usage des licences libres.** Framasoft. <http://forge.framabook.org/optionlibre/>.
- ———. 2013. « **L'évolution des licences libres et open source** ». In Histoires et cultures du libre: des logiciels partagés aux licences échangées, 13:277-340. Framabook. Framasoft. <https://halshs.archives-ouvertes.fr/halshs-02077882>.
- ———. 2014. « **OGP 101 An Introduction to the Open Government Partnership** ». La Haie, septembre 3.
- ———. 2017. « **Open Law*, le Droit ouvert -- Genèse du développement d'un mouvement appliquant les méthodes d'innovation ouverte au monde du droit** ». La Semaine juridique - édition générale, février, 82.
- ———. 2019b. « **Open Source et brevetabilité des inventions mises en œuvre par ordinateur. Quelle coexistence? Quelle compatibilité ?** » In Les inventions mises en œuvre par ordinateur: enjeux, pratiques et perspectives, édité par Mathieu Dhenne et Christophe Geiger, Center for International Intellectual Property Studies (CEIPI). Vol. CEIPI Collection. Lexis Nexis. <https://halshs.archives-ouvertes.fr/halshs-02151553>.
- Jean, Benjamin, et Primavera de Filippi. 2016. « **Les Smart Contracts, les nouveaux contrats augmentés ?** » Conseils et Entreprises, décembre. <https://hal.archives-ouvertes.fr/hal-01676878>.
- Jean, Benjamin, et Laure Kassem. 2017. « **L'ouverture des données publiques: nouvelles obligations et nouveaux acteurs** ». Rapport scientifique. INNO3. <https://halshs.archives-ouvertes.fr/halshs-02279536>.
- Jean, Benjamin, et Camille Moulin. s. d. « **Trademark as an alternative to copyleft for fairer value sharing: a maintainers' contract** ». Présenté à CopyleftConf 2020.
- Jean, Benjamin, et Gilles Vercken. 2012. « **Comment encadrer l'utilisation de logiciels« libres » dans les contrats ayant pour objet des logiciels « propriétaires » ?** » Propriétés intellectuelles, n° 12 (janvier): 106-10.
- Moulin, Camille, et Célya Gruson-Daniel. 2020. « **Metrics and valuation of Open Source projects: A crossover between Open Source and Open Science** ». Présenté à CHAOSScon2020, Bruxelles, janvier 31.