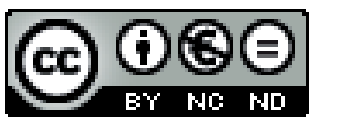# Articles, software, data: a study of the (French) scientific production
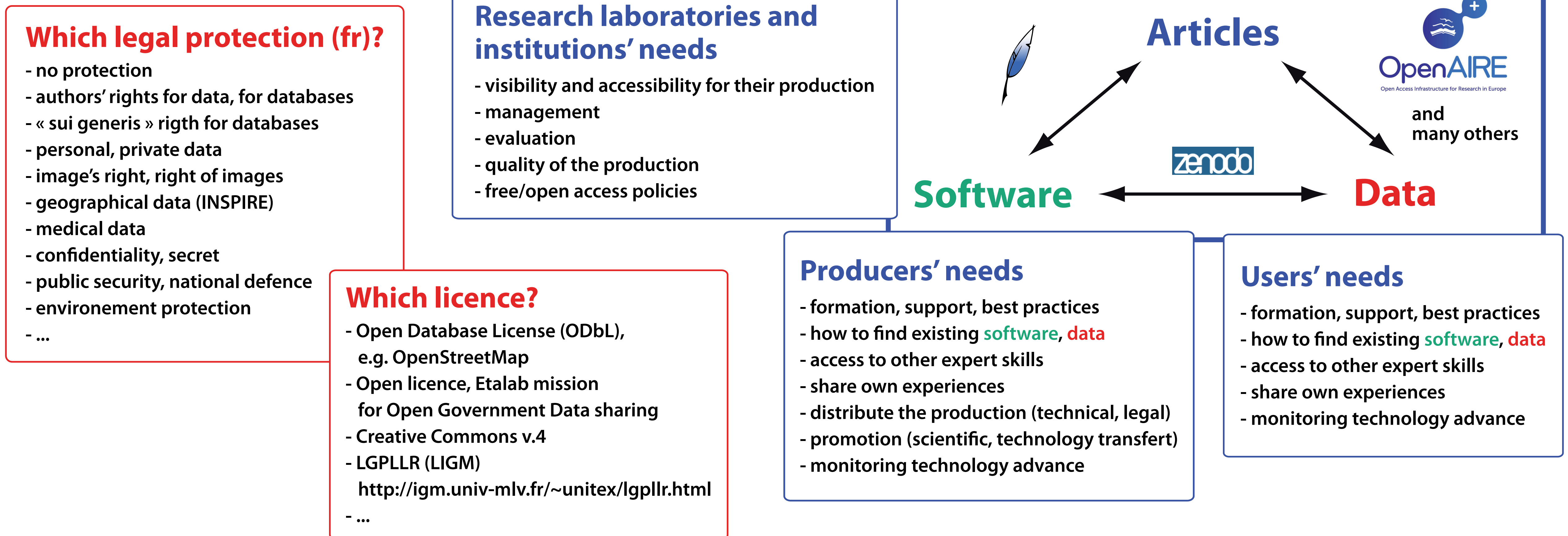
T. Gomez-Diaz (CNRS, LIGM)

Articles are the most visible and accessible part of the **research**.
The distribution of **software** and **data** raises similar issues.
Data can be complex legal objects.

Which legal protection (fr)?
- no protection
- authors' rights for data, for databases
- « sui generis » rigth for databases
- personal, private data
- image's right, right of images
- geographical data (INSPIRE)
- medical data
- confidentiality, secret
- public security, national defence
- environement protection
- ...

Research laboratories and institutions' needs
- visibility and accessibility for their production
- management
- evaluation
- quality of the production
- free/open access policies

Which licence?
- Open Database License (ODbL),
  e.g. OpenStreetMap
- Open licence, Etalab mission
  for Open Government Data sharing
- Creative Commons v.4
- LGPLLR (LIGM)
  http://igm.univ-mlv.fr/~unitex/lgpllr.html
- ...

Research needs links

Articles

OpenAIRE
and many others

zenodo

Software ←→ **Data**

Producers' needs
- formation, support, best practices
- how to find existing software, data
- access to other expert skills
- share own experiences
- distribute the production (technical, legal)
- promotion (scientific, technology transfert)
- monitoring technology advance

Users' needs
- formation, support, best practices
- how to find existing software, data
- access to other expert skills
- share own experiences
- monitoring technology advance

On the management of the research production: a comparison study

	Article (*)	Software (*)	Data
Definition (L, T) (**)	ok	to be defined	to be defined
Signature (C, T)	ok, defined by head institutions	to be defined (copyright line), associate the labs	to be defined, associate the labs
References (L, T)	HAL	PLUME	metadata, more and more deposits, which one?
List of lab's works (L, T)	up to date	unknown, PLUME can be useful	unknown
Free/open access (C, L, T, CSI)	policies (+/-) ok, deposit ok (HAL)	policies (licences) to be defined, deposit to be establish	policies (licences) to be defined, deposit to be establish
Validation (C, L, T, CSI)	peer review, reproductibility	to be defined validated (in PLUME's sense)	to be defined curation?
Quality and evaluation (C, L, T, CSI)	nb. of citations	according to associated articles, capacity to attract users, contracts	according to associated articles, capacity to attract collaborators
Motivation (C, L, T, CSI)	research, article	research, not the software	research, data
Object (C, L, T, CSI)	scientific	3D: scientific, but also a potential of technology, industrial transfert	MultiD: scientific, transfert, multiple reuse possible

(*) See Article vs. Logiciel : questions juridiques et de politique scientifique dans la production de logiciels
https://www.projet-plume.org/ressource/article-vs-logiciel
(**) (C, L, T, CSI): different levels of decision making.

Keywords: shared knowledge, reproductibility, accessibility, free/open access, ...

Help researchers and laboratories to improve the management and dissemination of **software** and **data** improves the smooth functioning of **research**.

Few references
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