EPFL

FAST GUIDE #7
ELN – ELECTRONIC LAB NOTEBOOK

Are you a *hand*writer?

Many interfaces allow to write notes by using a tablet with a stylus. You can whether store the notes as digital canvas or convert them to searchable text.

When considering an ELN for your lab, ask yourself the following questions...

DEFINITION

An Electronic Lab Notebook (ELN) is a software, local or web-based, that replicates a paper lab notebook and provides advanced functionalities.

	ELN	Paper notebook
Easy of transmission	✓	[✓]
Automated back-up	✓	✗
Team work uniformization	✓	✗
Interoperability	✓	✗
Storage and accessibility	✓	✗
Security	[✓] Risk of hacking	[✓] Risk of stealing
Long term preservation	[✓] Formats/tools may become obsolete *	[✓]
Free of charge	[✓] Open source available	✓

* You can always save your ELN in common and open formats such as CSV or PDF/A

🔴 PRACTICAL

- Are the **storage** method and **location** adequate?
- If our ELN is **cloud-based**, where is data hosted
- Who can access the ELN and its underlying data?
- Do we need a **single** machine where the ELN is installed?
- How does it fit in our research group's **workflow**?
- Is the technical **support** online, onsite, via hotline, ...?
- Is the ELN **business plan** the best for our group?

🔴 IMPORT-EXPORT

- Can we **import** our previous notes?
- Can we **export** our data in an open way?
- What are the import and export options, is there an **API**?
- What are the import and export **formats**?
- Do we have data **volume** limitations?
- Do we need **proprietary software** to reuse the data?

🔴 INTERFACE

- Do we find the interface **suitable** for our group?
- Is it compatible with **mobile** devices?
- Do we need a **sample**/laboratory management?

🔴 INTEROPERABILITY

- Is the ELN **compatible** with other software we use?
- Can we integrate other **cloud** software (SWITCHdrive, GitHub, Zotero, ...) with the ELN?
- Is compatibility limited to the **import** of data we generate?
- Can we **integrate** new services with the ELN?
- Can we use **repositories** from within the ELN?
- Data [2]: Zenodo, MaterialsCloud, Figshare,...
- Code [3]: C4science, EPFL GitLab, ...

EPFL ELN [1]: Chemistry Notebook, developed internally at EPFL

✓ **SLIMS**: Commercial solution (EPFL spinoff) for a Laboratory Information Management System (LIMS), with ELN functionalities, integrating sample management and different services for life scientists [4]

✓ **ELN comparison table** from the Harvard Medical School [5]

Credits and sources
[1] eln.epfl.ch
[2] zenodo.org & materialscloud.org & figshare.com
[3] c4science.ch & gitlab.epfl.ch
[4] agilent.com/en/product/software-informatics/lab-workflow-management-software/slims
[5] zenodo.org/record/472375

■ Bibliothèque

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