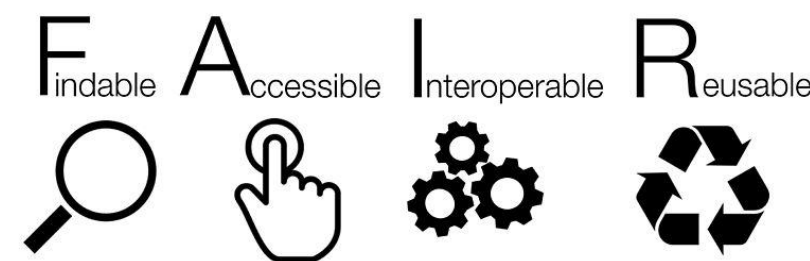


Management of Research Data

Commitment to Good Research Practice

Effective research data and knowledge management are integral to the collaborative efforts of CRC 1261, aligning closely with the standards set forth by the DFG. The CRC's dedication to Research Data Management (RDM) principles is evident through its adherence to guidelines such as the DFG's Guidelines for Safeguarding Good Research Practice [1] and Kiel University's Guideline for Research Data Management [2]. The CRC 1261 has established a Data Management Plan that outlines how data generated or collected will be managed, organised, preserved, and shared throughout the project's lifecycle and beyond. Furthermore, an embedded data steward (at 25% position) oversees all data initiatives, ensuring alignment between the university's central RDM team and CRC requirements.



Activities

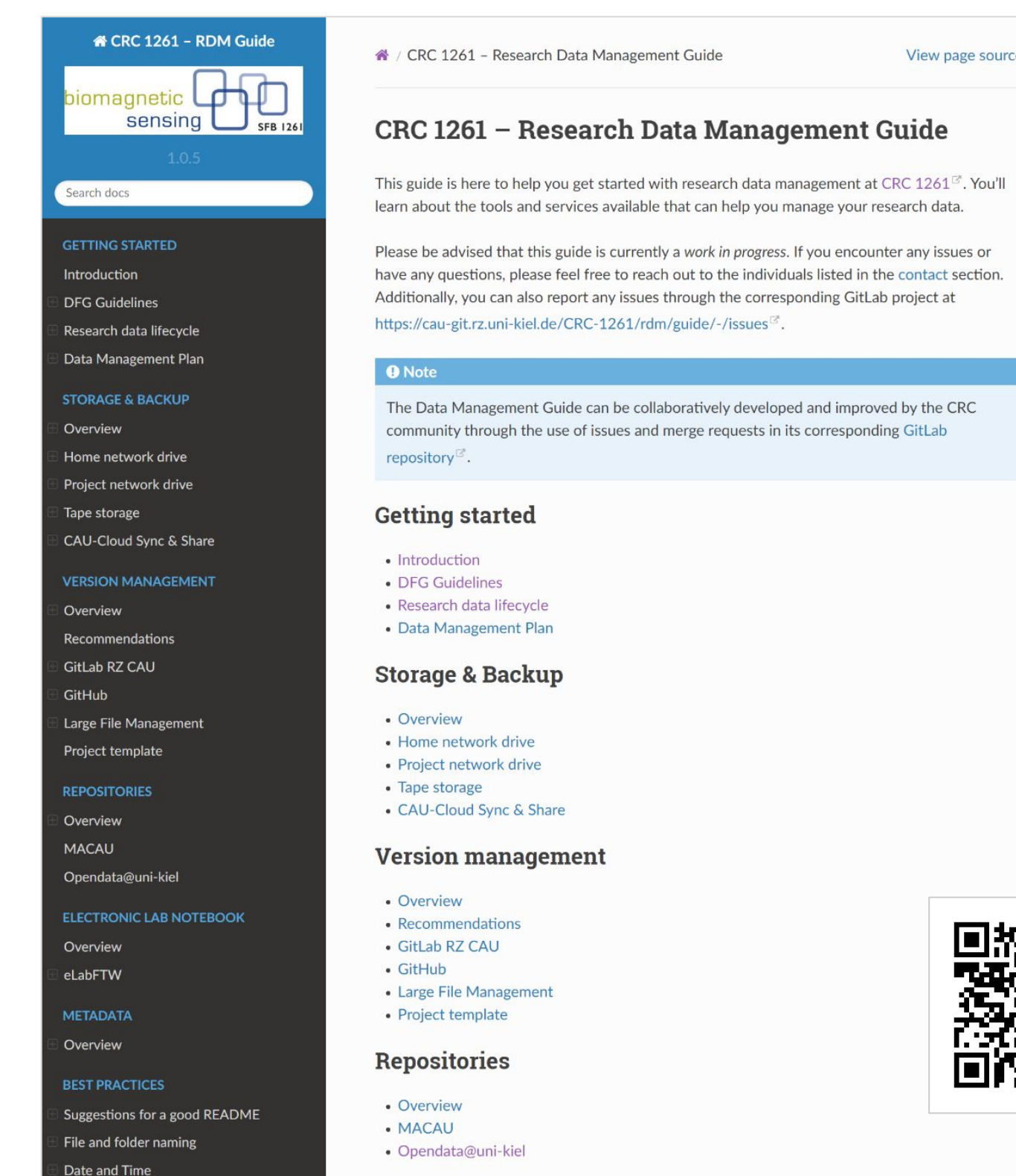
Enhancing Research Data Management Practices

The CRC 1261 has made significant progress in improving data management procedures in the second funding period, exemplified by:

- Conducting a **RDM survey** to evaluate current practices.
- Launching a user-friendly, **web-based RDM guide** [3].
- Adopting **Git and GitLab** for version control management.
- Conducting **workshops**, e.g., on utilising Git and GitLab effectively.
- Implementing the **Electronic Laboratory Notebook eLabFTW** for organising and storing laboratory data.
- Automating the **integration of instrument metadata** into eLabFTW experiments.
- Publishing the **Kiel Cardio Database** in the PhysioNet repository [4].
- Continuously revising and updating the **Data Management Plan** to reflect evolving project needs and adhere to best practices.
- Launching a **consent form** for Open Data Publications.

Research Data Management Guide

A web-based Research Data Management Guide was introduced in Q1 2023 that provides researchers with comprehensive information on best practices, tools, and services for managing research data in the CRC.



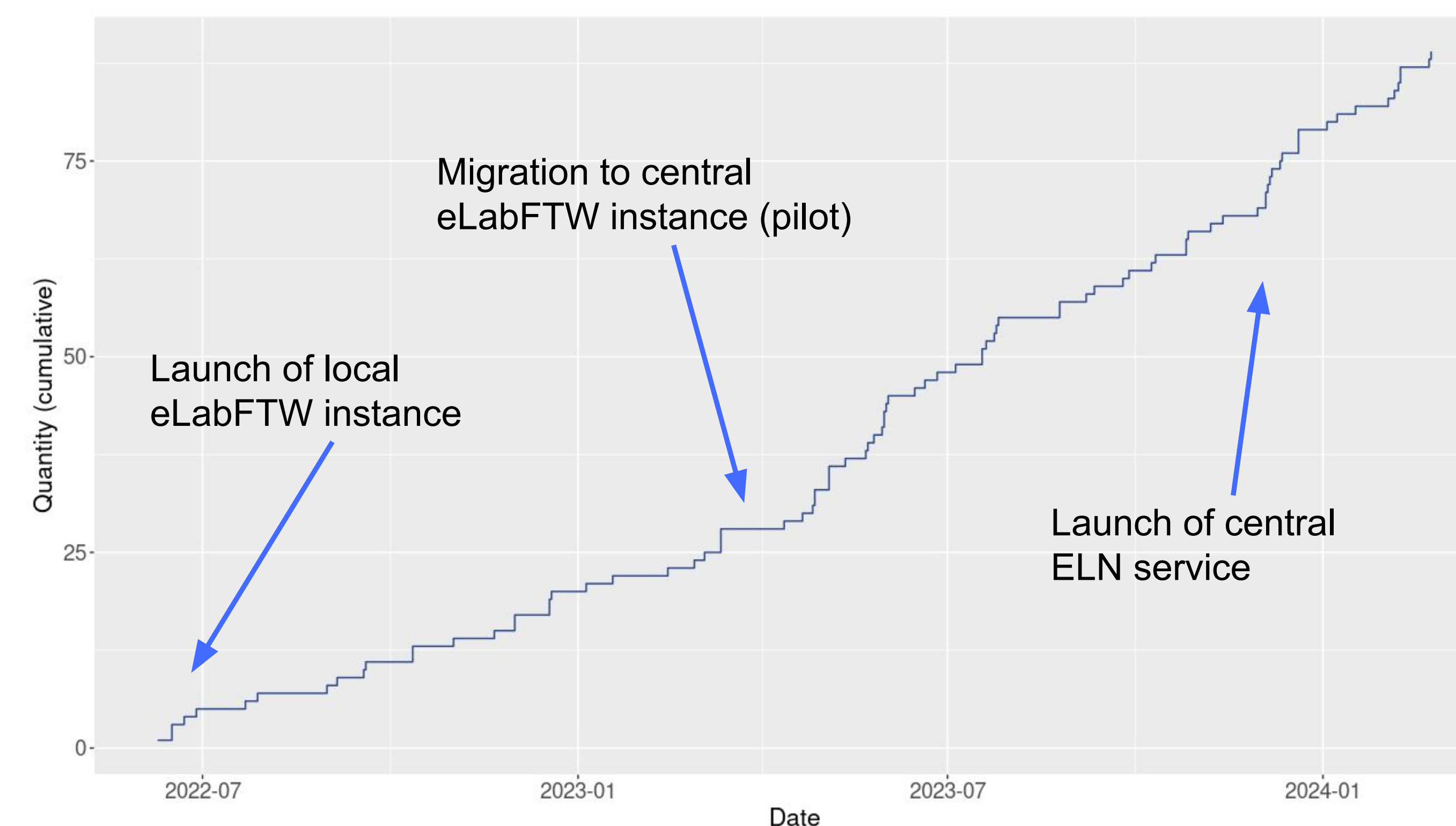
Contents

- Getting Started
 - DFG Guidelines
 - Research Data Lifecycle
 - Data Management Plan
- Storage & Backup
- Version Management
- Repositories
- Electronic Lab Notebooks
- Metadata
- Best Practices

Electronic Lab Notebooks (ELN)

The CRC initiated the launch of a central eLabFTW instance, serving as the pioneering pilot user. The adoption of eLabFTW in the CRC was also assessed through a survey conducted in March 2023 [5].

eLabFTW Experiments of CRC 1261



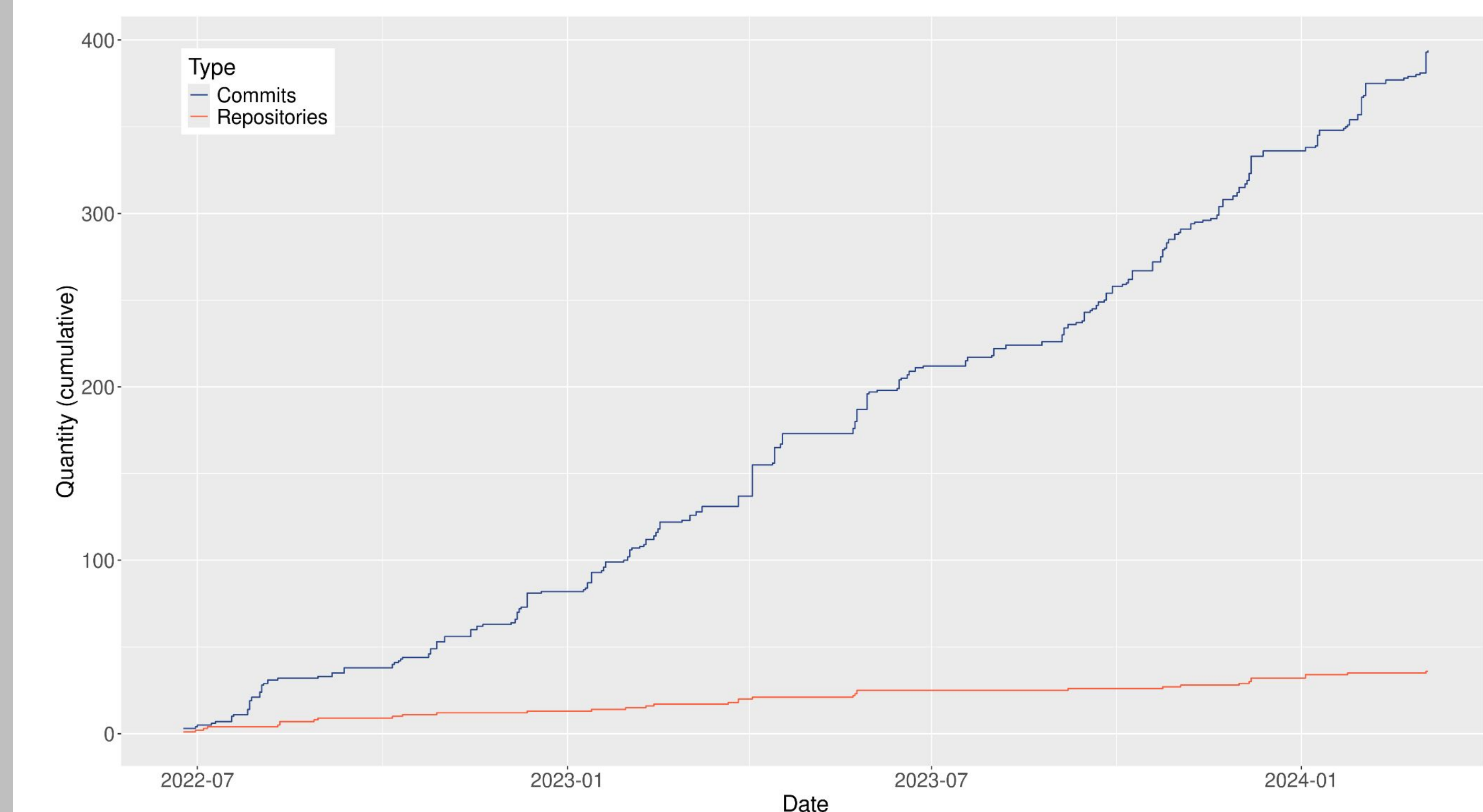
Version Control Management

Utilisation of Git and GitLab

The CRC has been actively promoting the adoption of Git and GitLab within its community. The CRC has organised comprehensive training workshops aimed at providing members with the necessary skills and knowledge. Additionally, the CRC offers project templates, further streamlining the onboarding process.

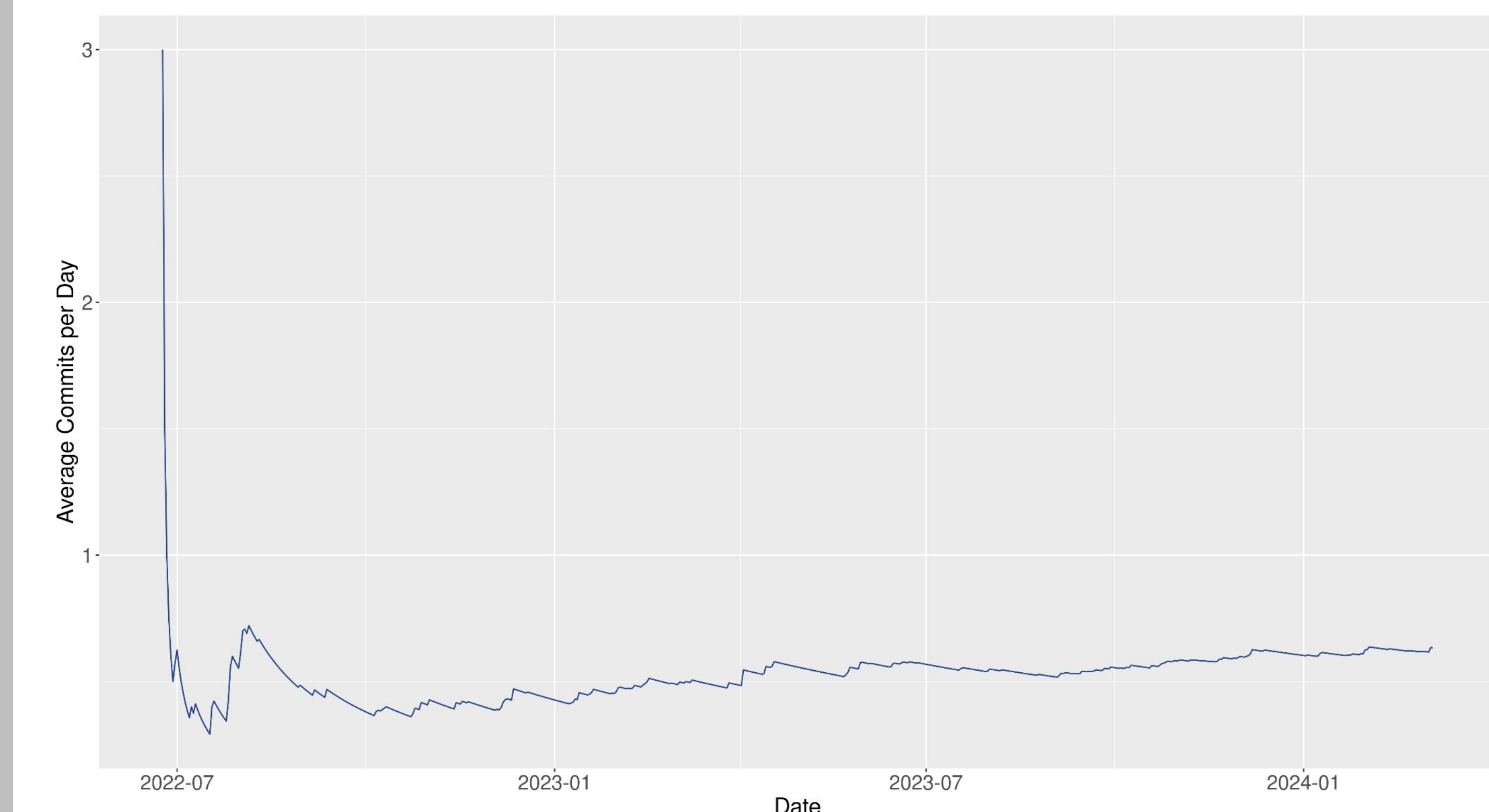
Repositories and Commits

This plot is based on metadata exclusively from repositories within the CRC1261 GitLab group.



Average Commits per Day

This plot is based on metadata exclusively from repositories within the CRC1261 GitLab group.



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[1]: Deutsche Forschungsgemeinschaft. (2019). Guidelines for Safeguarding Good Research Practice. Code of Conduct. <https://doi.org/10.5281/zenodo.3923602>

[2]: <https://www.praesidium.uni-kiel.de/de/dokumente/leitlinie-zum-umgang-mit-forschungsdaten>

[3]: https://biomagnetic-sensing.de/research_data_management/

[4]: Engelhardt, E., Frey, N., & Schmidt, G. (2023). Kiel Cardio Database (version 1.0.0). PhysioNet. <https://doi.org/10.13026/q6r2-zz68>

[5]: Survey findings indicate that initially, 50% of participants were already employing an Electronic Lab Notebook (ELN), primarily the legacy eLabFTW instance, with 30% intending to integrate one in the future. However, currently, all CRC projects engaged in experiments utilise the central ELN service, complemented by workshops and training opportunities. Notably, the eLabFTW scheduler sees widespread use, with 68% adoption among users in 2023.