WP6 - Electrical Data Management

Lukasz Pater

15.12.2023

WP6 - Overview

WP 6.1 – Documentation – WPL:

- Establish workflows, roles, and responsibilities for the creation and maintenance of documents pertinent for the electrical safety

WP 6.2 – Databases & Electrical Safety Portal – WPL: Lukasz Pater

- Identify the databases utilized for storing electrical data and conduct a comprehensive analysis of their data to identify both strengths and potential shortcomings

- Collaborate with other work packages to develop a functional specification for creating a unified portal for accessing electrical safety documents and data.

- Sustain this collaborative effort with other work packages, actively progressing in the development of the portal.

WP 6.3 Electrical Knowledge Dissemination – WPL: ESP Core Team

- Implement processes and procedures to secure the distribution of electrical knowledge and standards in the ATS sector.

ESP Phase 1 – recap on data and tools (1/2)

courtesy of Gustavo Segura (HSE-TS)

Objective: Defining the tool(s) required by a C2E role and the equipment groups to manage electrical safety at CERN with a common and comprehensive approach.

Interviews: processes and tools.

1. CERN Groups: SY-EPC, SY-ABT, EN-AC, SY-RF, TE-VSC, EN-CV, TE-MSC, BE-CEM, BE-GM, TE-CRG, EN-EL (individual interviews).

   Overview of the findings:

   1. Lack of common tools or standardized processes, leading to an extremely heterogeneous approach across groups.

   2. Utilization of numerous disparate databases/repositories without alignment among them.

   3. Information is often unstructured and incomplete in certain cases.

   4. Systematic updates to information are not consistently performed.

   5. Reliance on shared expertise within teams without formal tools is sometimes observed.

2. External Entities: PSI (CH), SIG (CH), SBB (CH), ESRF (FR), SOLEIL (FR), SNCF (FR)

   Overview of the findings:

   1. No common tools or processes

   2. Stress on electrical safety by design (PSI).

   3. Follow national legislation (FR or CH)
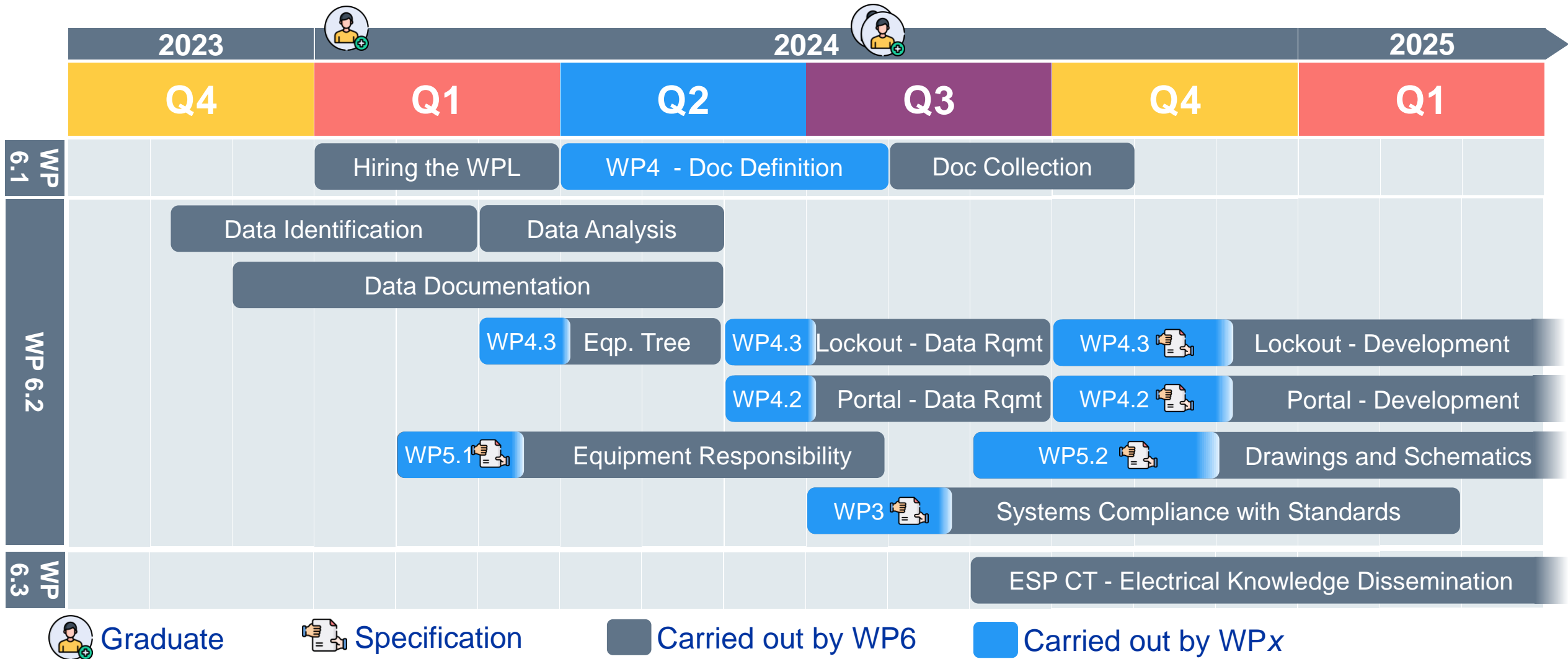
ESP Phase 1 – recap on data and tools (2/2)

Databases Analysis - Exploration of existing databases.

EAM, Layout DB, EPC Database, ADAMS (zones, access to equipment)
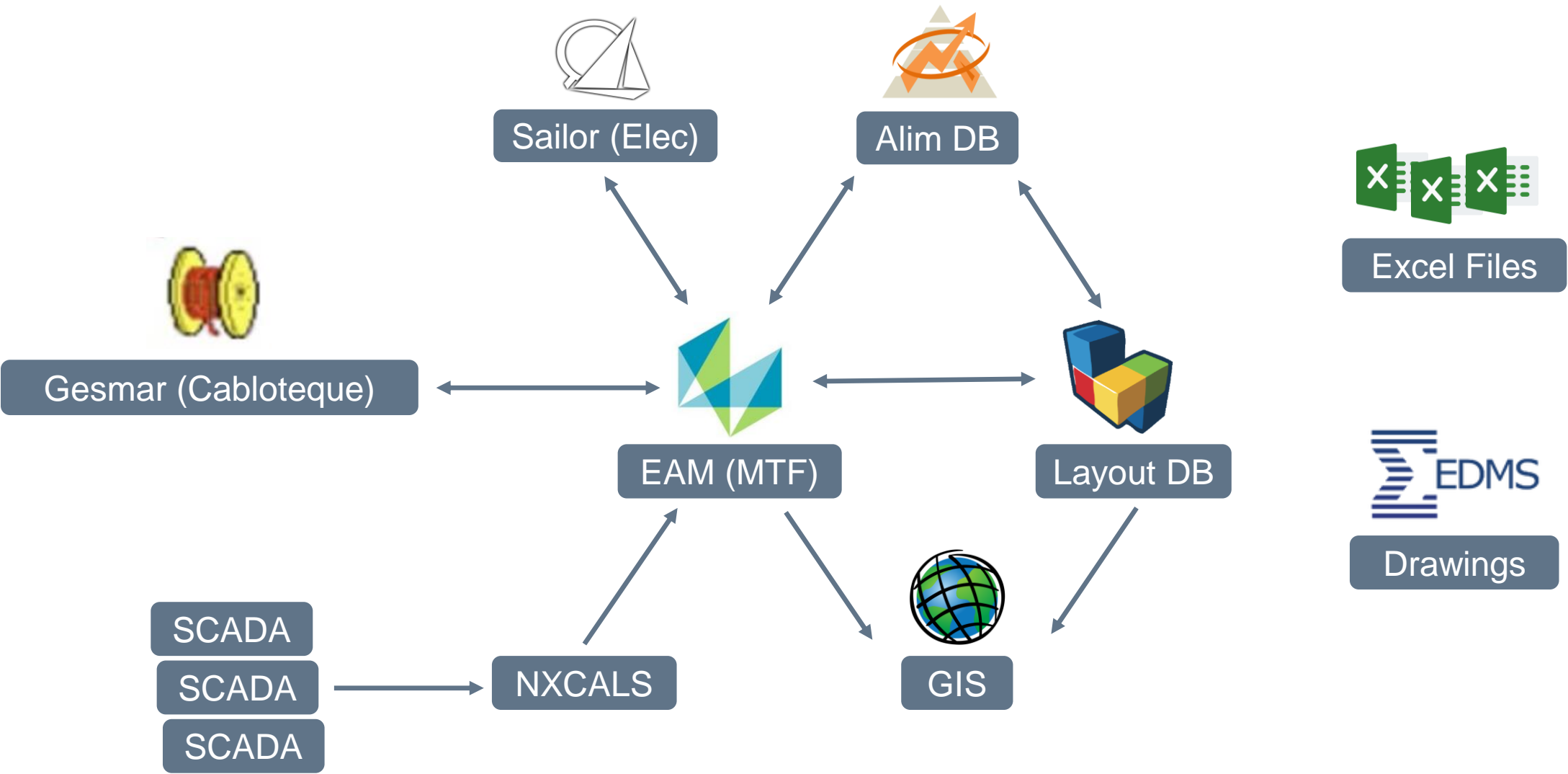
Overview of the findings:

1. Databases are not aligned: not common identifiers between databases.

2. Incompleteness – either by not storing the complete installations or not having the sufficient detail (ex. equipment "powered by" missing in many cases).

3. Quality of the data is uncertain in many cases.

4. Proximity between equipment missing or difficult to find.

Roadmap

Data Identification / Preliminary Results

Roadmap

- The ongoing data identification phase will reveal further results;

- The time allocated for data identification and analysis may appear extensive, but it is a well-invested effort;

- Strong collaboration with other work packages is key;

- Collaborating on specifications with other work packages may reveal the need for additional tools (for example access or intervention management);

- The presented schedule will have to evolve due to all uncertainties;

- WP6.1 and WP6.3 should gain a good momentum in 2024;

- Detailed planning for 2025 is difficult, and the current primary focus is set on the portal development and assistance to WP5.2.

Resources

- WP6.1 still lacks a designated leader;

- Initiate graduate recruitment (full-stack developer) in January 2024, with an expected arrival in April-May 2024;

- Estimating additional resources for further implementation work is challenging until data analysis has significantly advanced, and specification work with other WPs begins;

- The exact profiles of the additional resources are uncertain at this stage;

- Opting for quests over origins is more likely to result in (quicker) hiring someone with a more aligned profile and experience.

Conclusions

- Lots of data collection and analysis work ahead requiring incresed domain knowledge!

- WP6's primary responsibility is to offer technical and development services to other work packages;

- WP6 will actively contribute to specification documents for estimation and feasibility;

- While the project poses challenges, from an IT standpoint, there is a wealth of mature tools available, allowing us to build upon a solid foundation rather than starting from scratch;

- The usage of existing databases and tools is a priority. The development or purchasing of new ones must be thoroughly justified, providing a clear advantage;

- WP6 aims at providing a technical backbone that other packages can rely on and we eagerly anticipate a fruitful collaboration moving forward.

home.cern