

D5.5 Dedicated websites and e-platforms with the teaching material

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Abstract

The purpose of this task is to coordinate with the e-platforms providers (ESRF for PaNOSC and EGI for EOSC Marketplace) to jointly define the prerequisites needed to maximise the use of the platforms, as appropriate. WP2, WP3 and WP4 have worked closely with WP5 and WP6 to deliver a tailored specification for each of the online training modules. The output of WP5 includes a definition of the most suitable training materials in accordance with the requirements and recommendations made by the targeted e-platform providers.

A unique joint PaN training portal has been developed and deployed to provide both a training material and events catalogue (ExPaNDS) as well as an e-learning system (PaNOSC) under the domain pan-training.eu.

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Executive Summary

In this deliverable we introduce dedicated websites and e-platforms that contain teaching material for the Photon and Neutron Science (PaN) community. We designed the website as a uniform PaN training portal provided by ExPaNDS and PaNOSC. The website is based on the use cases and the special requirements for a common PaN training portal, including e-learning courses and a training material catalogue. We introduced possible target platforms for our PaN training catalogue and discussed the basis for our decision in a previous deliverable: D5.4¹.

In this document the joint ExPaNDS/PaNOSC PaN training portal is presented and the latest developments are introduced. In addition, references for the websites, source code, documentation and further material are provided. The PaN portal allows visitors to discover PaN related training materials (through metadata), such as wikis, repositories, e-learning courses from PaNOSC's learning management system (Moodle), videos or websites in one central location. The document concludes with a summary and a list of the next steps in the development of the platform.

¹ ExPaNDS Project deliverable [D5.4: Demonstrator for using e-learning platforms for PaN \(doi.org/10.5281/zenodo.5171765\)](https://doi.org/10.5281/zenodo.5171765)



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1. Introduction

Besides improving the establishment of the FAIR principles for data and metadata, access portals and analysis pipelines of national PaN facilities, one important aspect of ExPaNDS is to establish an e-learning or training portal supporting our PaN community by providing training material. The portal itself is intended to be a common access point for different training resources which is relevant for the international PaN community. It quickly became apparent that the portal is not only an e-learning platform, but also a place where visitors may discover different kinds of existing material.

During the first half of the project, we have identified how to implement an e-learning platform and, in particular, cataloguing synergies with other related projects and initiatives, while understanding where existing competencies lie. Well-established systems and services (e.g. TeSS from ELIXIR², UmbrellaID³, Moodle⁴, ...) may be used in developing a common portal. We worked closely with WP8 of PaNOSC (which is responsible for staff and user training) to define the requirements, determine the stakeholders and to establish a common, sustainable PaN training portal.

We established a common PaN training portal with a uniform appearance as a joint platform for both ExPaNDS and PaNOSC. The ExPaNDS catalogue serves as a portal and brings together the catalogue with PaN related training material and the e-learning platform developed by PaNOSC. Both platforms are of equal value and intended to complement each other using the PaN training portal as an entry point for our training resources. Their overall design (colour scheme, logos ...) shows a seamless web presence under the domain pan-training.eu/.

In the following, we discuss the architecture of the common PaN training portal that provides uniform access to the resources developed in our projects. In section 3 we provide further references, including websites, source code, documentation. Section 4 concludes and gives an outlook for further developments.

2. Architecture of PaN Training

Together with PaNOSC, we decided to deploy a common portal to introduce our PaN related training content. The portal itself has the important role of guiding the visitor to the right resource. Typically, the difference between the e-learning platform and the training catalogue must be represented in a comprehensible way. For a visitor, it must be clear not only where to find material, but also where additional training material may be contributed.

The landing page itself fulfils the task of introducing our common PaN training efforts to interested visitors or scientists from our PaN community. Another important task is to guide visitors to subordinate resources:

² Elixir's Training Portal TeSS: <https://tess.elixir-europe.org/about>

³ UmbrellaID: <https://umbrellaid.org/index.html>

⁴ Moodle Learning Management System: <https://moodle.org>



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1. Training Catalogue (developed by HZDR and SOLEIL, hosted at HZDR) and
2. E-learning platform (developed by PaNOSC partners, hosted at ESS).

Visitors come to our PaN portal with various intentions as described in D5.4⁵. Therefore, it is necessary to guide the visitor to the appropriate resource. Our training catalogue provides all courses from the PaN e-learning platform through synchronisation of the metadata, therefore we can redirect all searches from our catalogue to the e-learning platform.

The more challenging part is the creation of material. If the visitor would like to add simple external materials or create a training workflow based on external resources then our catalogue is the appropriate resource. If the development of a full blended learning course or one's own training material is intended, then the platform will forward the visitor to the e-learning platform to create a course in the Learning Management System (LMS) Moodle.

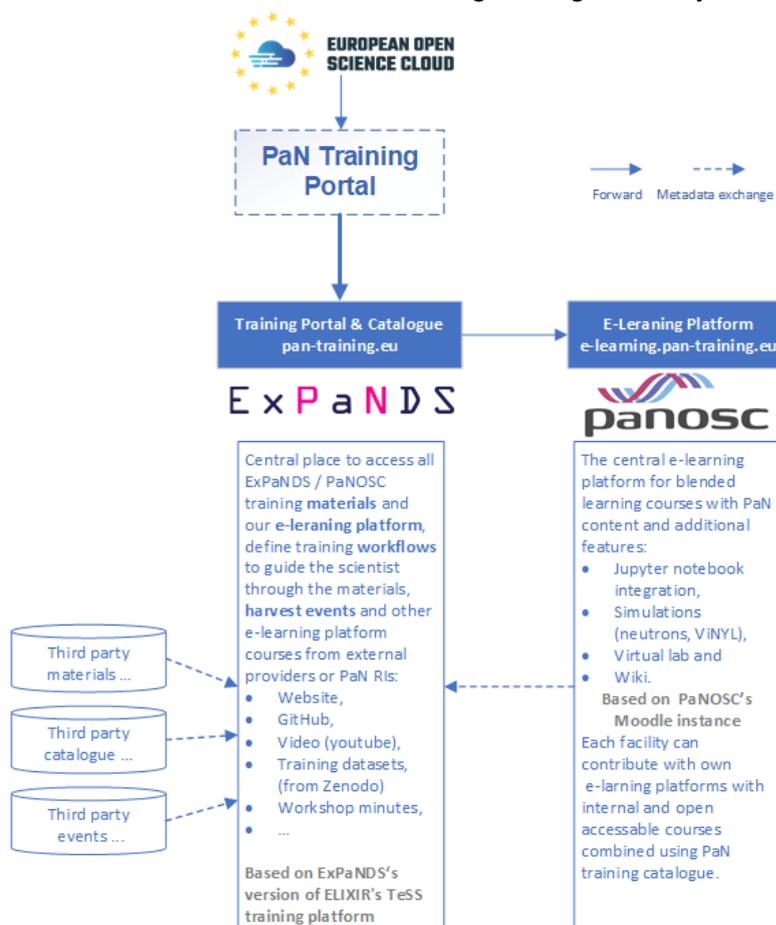


Figure 1: Architecture of the training ecosystem with the PaN training catalogue used as a central portal. The courses from the e-learning platform are synchronised to the material database; in addition, the e-learning platform can also be accessed directly from the front page of the PaN portal.

Figure 1 shows our approach for a common PaN portal as an entry point to all our training and learning resources. All external and internal (e-learning system) material is presented within the portal in a common, user-friendly way. Although the e-learning system may be accessed through the catalogue, there is also a direct link on the catalogue's front page.

⁵ ExPaNDs Project deliverable [D5.4: Demonstrator for using e-learning platforms for PaN \(doi.org/10.5281/zenodo.5171765\)](https://doi.org/10.5281/zenodo.5171765)



The usability is much higher and an additional portal becomes obsolete. It is particularly important to introduce the e-learning platform developed by PaNOSC not only through the materials, but also on the front page. Figure 2 shows the front page of the “Photon and Neutron Training” portal.

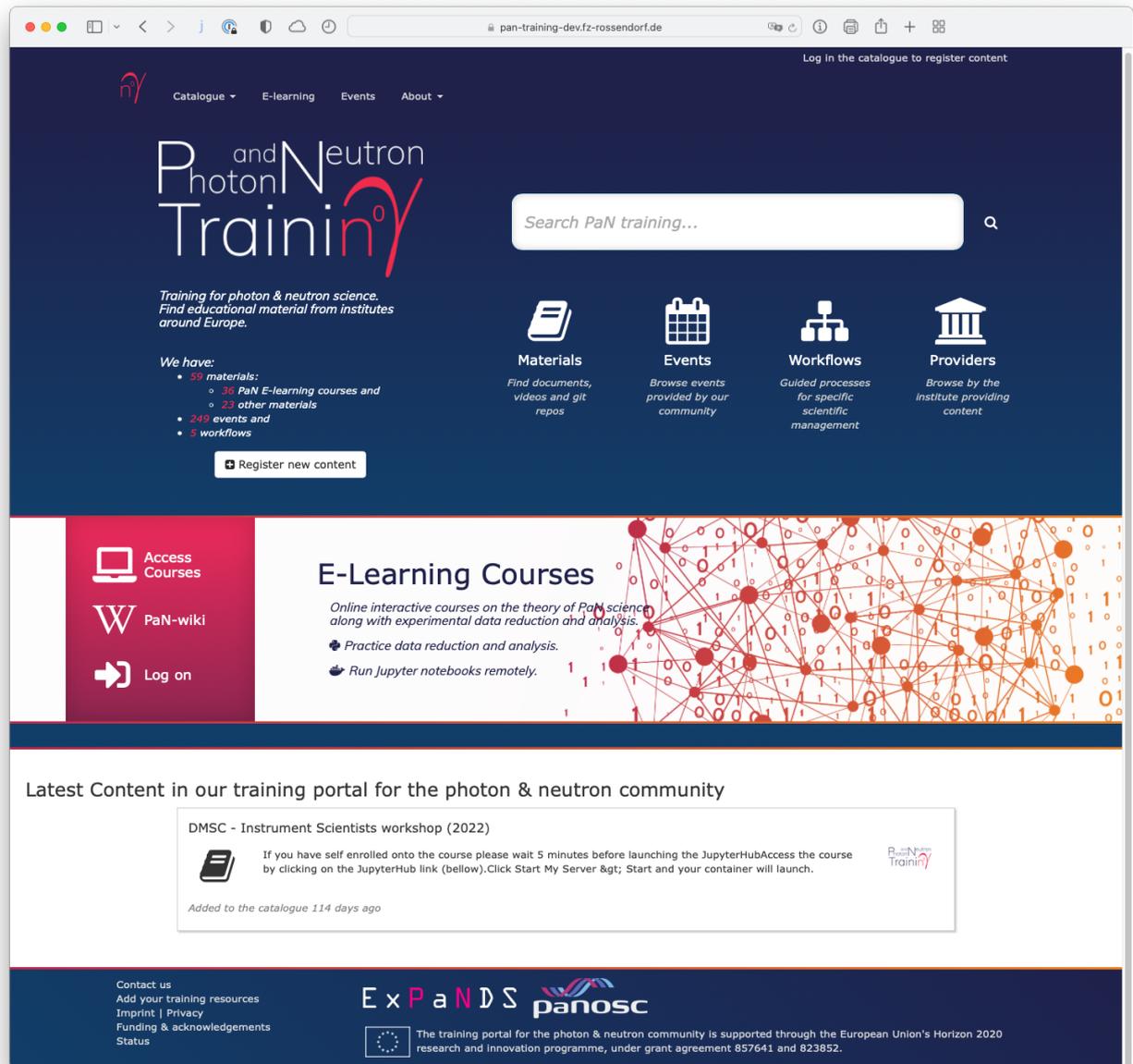


Figure 2: Screenshot of the dedicated PaN training portal [PaN-training.eu](https://pan-training.eu).



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3. Documentation

In this section we first provide an overview of the various enhancements made to the original source code from ELIXIR's⁶ training platform: TeSS⁷. Section 3.2 provides the references of the websites, our source code and documentation. A poster introducing our achievements, which can be used to advertise our training portal at conferences or research institutes is provided in section 3.3.

3.1 PaN-Specific Developments

The following list details the major PaN-specific developments of the original TeSS source code⁸:

- A complete redesign (including logos) of the appearance to create a PaN training portal with a unique identity and to harmonise the e-learning platform developed by PaNOSC and the catalogue developed by ExPaNDS,
- Development of automated data-acquisition processes (“scrapers”) that provide the catalogue with content from PaNOSC’s e-learning system, from the project websites from ExPaNDS and PaNOSC, and from additional sources of PaN related events (LEAPS, LENS, LaserLab Europe),
- Storage of scraped resources with exclusion management to prevent reingesting any manually excluded events,
- Integration of UmbrellaID as the federated login for the PaN community,
- Extension of the metadata and integration of the PaNET ontology developed in WP3 (D3.2⁹) as a list of keywords,
- GDPR compliant user analytics,
- Including an open-source map to show an event’s location,
- Allow visitors to rate (“like”) events, materials and workflows, in addition to facilitating visitors sharing material via social media,
- Several bug fixes have been made to the TeSS codebase.

⁶ Europe’s life science organisation ELIXIR: <https://elixir-europe.org>

⁷ Elixir’s Training Portal TeSS: <https://tess.elixir-europe.org/about>

⁸ TeSS source code: <https://github.com/ElixirTeSS/TeSS>

⁹ ExPaNDS ontologies v1.0: <https://doi.org/10.5281/zenodo.4806025>



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3.2 PaN Training Website and Resources

Websites:

- PaN training: pan-training.eu
- Integrated E-learning platform: e-learning.pan-training.eu

Additional Resources:

- PaN training organisation on GitHub: github.com/pan-training
- PaN training demo video: pan-training.eu/about#video
- PaN training source code repository: github.com/pan-training/training-catalogue
- PaN training code publication (Zenodo): doi.org/10.5281/zenodo.7015078
- PaN training poster: doi.org/10.5281/zenodo.6491948

3.3 Poster on PaN Training

Figure 3 shows a poster created to present the PaN training portal at conferences. It showcases the platform's website and corresponding features. The poster is also intended to promote our PaN training portal within the ExPaNDS facilities.



4. Conclusion

The activities described in this document guarantee that the entire data treasure of PaN related training material can be advertised and found with our dedicated PaN training website in a simple way. The PaN training catalogue itself is an intuitive usable portal to access the training resources developed by PaNOSC and ExPaNDS. The metadata of the training material in our catalogue can either be reused or integrated in similar external applications to spread the content widely using third party portals. The joint PaN portal has a fresh appearance to create a PaN training portal with a unique identity and to harmonise the e-learning platform developed by PaNOSC and the catalogue developed by ExPaNDS. The portal will be hosted by HZDR and will serve as a holistic PaN training portal beyond the end of the ExPaNDS. HZDR has registered itself as an EOSC service provider and they have started the process of registering the training portal as an EOSC service. Once this registration has completed, the PaN training portal will become part of the EOSC Marketplace.

The next development steps are a deeper integration of the PaNET ontology (developed by ExPaNDS WP3) and further code optimisations to increase performance and stability. Furthermore, a small decision tree is being created in order to guide a visitor who wants to add content directly to the correct end point: training catalogue material, workflow, or e-learning course. Finally, an integration of Zenodo as a seamless storage backend for new uploads is in development. These development activities will be catalogued and managed through [GitHub issues](https://github.com/pan-training/training-catalogue/issues), which are available at github.com/pan-training/training-catalogue/issues.

