Deliverable 3.4

Open Data & Open Science Repository v1

Work Package WP3

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Table of contents

Document information

Project number	101090042	Acronym	INGENIUM
Full title	INGENIUM Alliance European Universities		

Deliverable number: 3.4	Tittle	Open Data & Open Science Repository v1
Work package number: 3	Tittle	Digital INGENIUM
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WP lead beneficiary		University of Crete

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Description of the deliverable (3-5 lines)	Open access platform associated to the Alliance portal adaptable to different devices that to FAIR principles
Key words	Open Data, Open Science, Repository

Document history

Date	Version	Prepared by	Description
30/05/2024	1	Georgios Chalkiadakis	First draft
16/09/2024	2	Nikolaos Bolanakis	Second draft
26/09/2024	3	Georgios Chalkiadakis	Final version

Definitions & Acronyms

CKAN (in alphabetical order)	Comprehensive Knowledge Archive Network

EXECUTIVE SUMMARY

In the evolving landscape of higher education, data transparency and accessibility have become critical elements for improving academic quality, operational efficiency, and collaborative research. INGENIUM University recognized the need to harness the power of data to foster an environment of innovation and knowledge sharing. To achieve this, the consortium has started the development of an open data website, hosted at opendata.ingenium-university.eu. Initially, the Data Management System of the Comprehensive Knowledge Network (CKAN) was used.

During a presentation held at TUIASI, several questions from partners highlighted the need for a review of the initial proposal.

This initiative aimed to democratize access to data and provide a powerful platform for educators and researchers to engage with and effectively use diverse datasets.

Objectives

The primary objectives of the project are:
1. Enhance Data Accessibility: Making data easily available to all within the university to support learning, teaching, and research endeavors.
2. Promote Interdisciplinary Research: Facilitating collaboration across various disciplines by providing a centralized repository of data that is easily accessible and usable.
3. Improve Decision-Making Processes: Empowering administrators and decision-makers with timely and accurate data across univerity policies and stategies.

Overview of the Project Implementation

The project was systematically developed in several phases, beginning with a needs assessment to determine data requirements. CKAN was initially selected due to its adaptability and comprehensive feature set, which was deemed suitable for efficient data management and dissemination. However, following a presentation at TUIASI, additional questions and requirements emerged that had not been anticipated during the initial planning phase.

As a result, the requirements were re-evaluated through an electronic questionnaire. Based on the feedback received, the decision was made to transition from the CKAN platform to Dataverse, as it not only addressed the original needs but also accommodated the newly identified requirements.

Conclusion

This project serves as a testament to the power of open data in transforming educational environments and is anticipated to inspire similar initiatives in other institutions.

DESCRIPTION, METHODOLOGY AND DISCUSSION OF THE FINAL OUTCOME

1. Description

The Open Data platform, hosted at https://opendata.ingenium-university.eu/, serves as a central repository for the academic and research community of INGENIUM University. Powered by Dataverse, the platform enables the sharing and discovery of datasets across a wide range of disciplines. Its primary goal is to support educational research and promote data-driven decision-making, thereby enhancing both academic scholarship and operational efficiency at the university.

A link can be found on the homepage (Figures 1 and 2) and another one at the 'Staff' section under 'Digital Platforms' subsection (Figures 3 to 7).
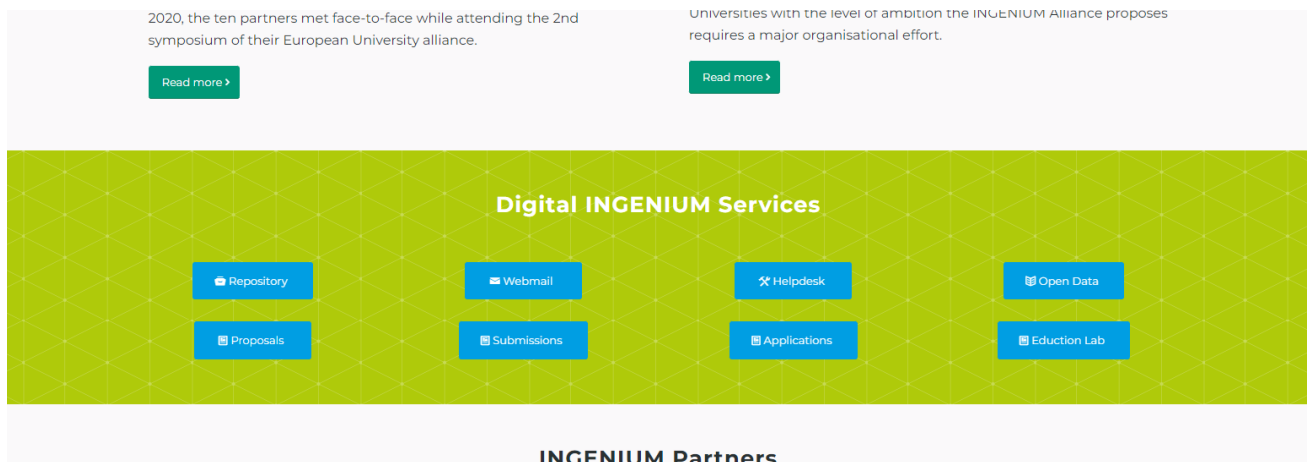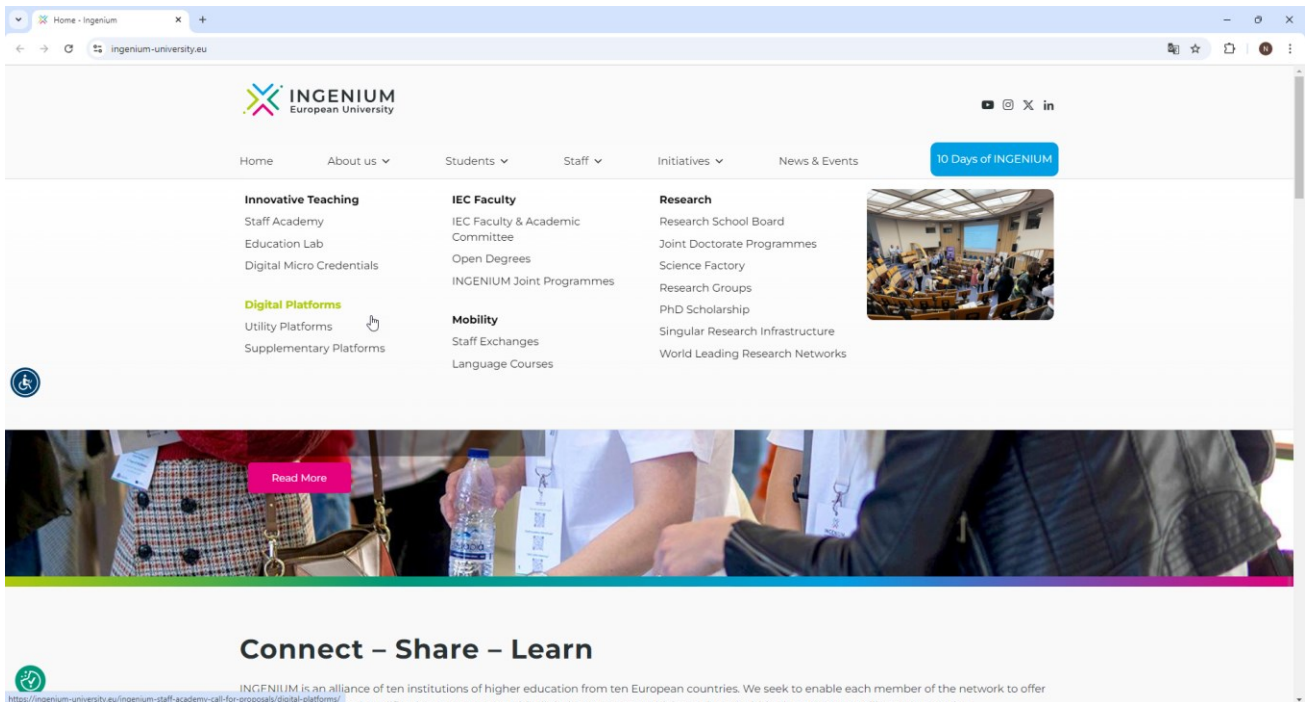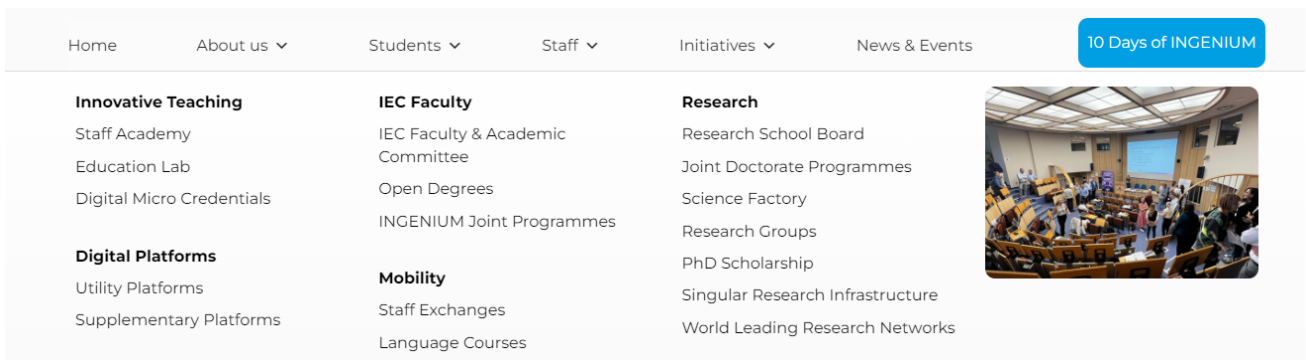

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

3. Administrative / Technical / Institutional

4. Under the supervision of WP7 (HS)

9. Development and configuration of Open Data & Open Science Repository (https://opendata.ingenium-university.eu/)

1. Enhance Data Accessibility

2. Promote Interdisciplinary Research
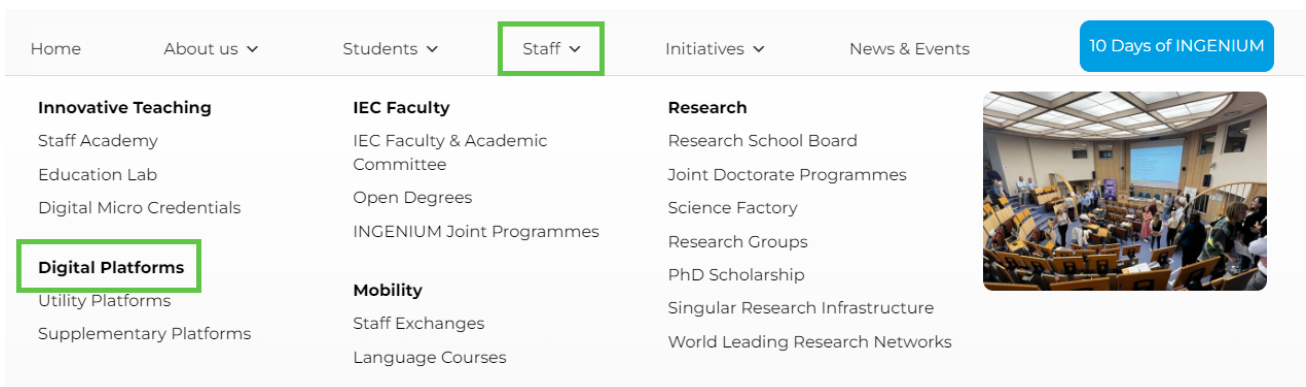
3. Improve Decision-Making Processes

Figure 6

3. Administrative / Technical / Institutional

4. Under the supervision of WP7 (HS)

9. Development and configuration of Open Data & Open Science Repository (https://opendata.ingenium-university.eu/)

1. Enhance Data Accessibility

2. Promote Interdisciplinary Research

3. Improve Decision-Making Processes

Figure 7

2. Methodology Applied

1. System Selection: Dataverse was chosen as the platform due to its flexibility, robust community support, and extensive features for data management and sharing.

2. Data Collection and Organization: Data from University of Crete was gathered, standardized, and categorized.

3. Platform Development: Customizations specific to INGENIUM University needs, were implemented, including branding and specialized data access controls.

4. Testing and Feedback: Before official launch, the platform will be sent to all the WP3 members for testing and feedback.

3. Constraints Faced

Several challenges emerged during the development process:

1. Technical Complexity: Handling the technical aspects of setting up an open data platform, especially one based on Dataverse, involves dealing with complexities such as configuring servers, ensuring compatibility with various data formats, and establishing reliable data retrieval and storage mechanisms.

2. Data Quality and Consistency: Ensuring that the data uploaded to the platform is of high quality, consistent, and reliable can be a significant challenge. Disparities in data format, accuracy, and completeness from various departments can lead to integration problems, affecting the usability of the data.

4. Final Outcome

4.1 Pathway Towards Results

The pathway towards achieving results involved iterative refinement and engagement with the WP3 members:

1. Integration: The platform will be integrated with research projects, promoting active use and continuous contribution of new datasets.

4.2 Results Actually Obtained

We expect to obtain results in the imminent future.

CONCLUSION

The development of the open data website at https://opendata.ingenium-university.eu/ marks a significant milestone in INGENIUM University's commitment to transparency, collaboration, and innovation.

Future Expectations and Uses

Looking ahead, the results from the open data website are expected to have lasting impacts:

- Research Advancement: As the platform grows, it will continue to facilitate not only current research but also spawn new opportunities for discovery and innovation, potentially leading to partnerships beyond the university's traditional boundaries.
- Operational Improvements: Continued refinement of the data available on the platform will enhance its utility in operational decision-making, helping to streamline processes and improve resource management.
- Community Expansion: The platform is poised to extend its reach by including alumni, external researchers, and the public, thus increasing its impact and the utility of its data.

The open data platform at INGENIUM University is well-positioned to continue its growth and contribution to the academic community. As more users engage with the platform, their feedback will drive further enhancements, ensuring that it remains a valuable resource for years to come. The university anticipates that this initiative will serve as a model for other institutions aiming to harness the power of open data in higher education.

References

Annex 1. Matrix to be used by partners to list and to monitor the progress of their key institutional priorities related to the deliverable.

Institutional transformation objectives	• *Use of the Dataverse system by the University of Crete* • *Access to open research data and results by members of the academic community* • *Cooperation between members of the university*
Barriers faced to achieve those objectives at the institutional level	• *Using an old open data system* • *Establish rules for sharing data* • *Confidence in the system and cooperation between members*
Potential Actions to be taken at the institutional level	• *Replacement of the existing open data system with the one to be used by IN-GENIUM* • *Presentation of the system to the academic community* • *Encouragement to use the open data system* • *Transfer of existing data to the new system* • *Update data*
Actions to be taken at other levels	
Responsible(s) within the institution	• *Rector* • *Vice-rectors* • *Directors of schools* • *Directors of research laboratories* • *PhD Candidates* • *Researchers* • *Postdocs*
Expected timeline and key milestones	

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Annex 2. Questionnaire

1. Personal Data
2. How familiar are you with open data platforms?
3. Have you used any open data platforms before?
4. If yes, which platform?
5. If yes, what type of data do you upload?
6. Did you log in and explore both CKAN, Dataverse and DSpace using the provided credentials?
7. How easy was it to get started with CKAN?
8. How easy was it to get started with Dataverse?
9. How easy was it to get started with DSpace?
10. How well does CKAN support the types of data you work with (e.g., datasets, metadata, file formats)?
11. How well does Dataverse support the types of data you work with (e.g., datasets, metadata, file formats)?
12. How well does DSpace support the types of data you work with (e.g., datasets, metadata, file formats)?
13. How intuitive is the user interface of CKAN?
14. How intuitive is the user interface of Dataverse?
15. How intuitive is the user interface of DSpace?
16. Which platform has a more user-friendly interface in your opinion?
17. Which platform do you think is more suitable for our university's needs in terms of overall usage?
18. Which platform better supports the data types you typically work with?
19. Which platform do you find easier to navigate and use on a daily basis?
20. Please provide any additional comments or considerations regarding CKAN.
21. Please provide any additional comments or considerations regarding Dataverse.
22. Please provide any additional comments or considerations regarding DSpace.
23. Based on your experience, which platform would you prefer INGENIUM University to adopt?