D4.8 – Software tests and validation by use case

WP4: DECISION-MAKING TOOLS FOR NUTRITIONAL AND SUSTAINABLE FOOD SYSTEMS

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Table of Contents

1. Introduction 12
2. Testing Methodology and Standards 14
   2.1 Testing Standards 14
   2.2 Methodology Overview 15
3. Software Overview 16
   3.1 Data Lake Architecture 16
   3.2 Predictive Dashboard Overview 18
   3.3 Consumer Application Overview 18
4. Requirements and Tests 20
   4.1 Data Lake Requirements and Tests 20
   4.2 Predictive Dashboard Requirements and Tests 32
   4.3 Consumer Application Requirements and Tests 36
5. Validation by use case 40
   5.1 Validation Roadmap 40
   5.2 Tester Involvement Across Use Cases 41
   5.3 Data Lake Test Results 41
   5.4 Predictive Dashboard Test Results 43
   5.5 Consumer Application Test Results 44
6. Conclusions 45

References 46

Bibliography 46

Annex I: Validation by use case 47

1. Validation by Galician Use Case 47
   1.1 Tester A 47
   1.2 Tester B 57
2. Validation by Greek Use Case 74
   2.1 Tester C 74

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2.2 Tester D 84
2.3 Tester E 95
3. Validation by Lithuanian Use Case 105
3.1 Tester F 105
3.2 Tester G 115
3.3 Tester H 127

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Table of Acronyms

Acronym	Description
AI	Artificial Intelligence
DDK	Dashboard Development Kit
DIH	Digital Innovation Hub
DLMS	Data Lake Management System
ELK	Elasticsearch, Logstash, Kibana
GDPR	General Data Protection Regulation
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
ISO	International Organization for Standardization
ML	Machine Learning
PDC	Personal Data checker
SOS Food	Sustainable Optimization of the European Food System Project

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List of Figures

Figure 1: Login page of the data lake portal for data providers 16
Figure 2: Library page of the data providers portal 17
Figure 3: Reviewers portal welcome page 17
Figure 4: SOSFood Consumer App Mockup 19

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List of Tables

Table 1: Data Lake Requirements 21
Table 2: Register Data Provider Test 22
Table 3: Data Provider Authentication Test 23
Table 4: Update Profile Test 24
Table 5 : Create a new Dataset 25
Table 6: Upload of File Test 26
Table 7: Update Dataset Metadata Test 27
Table 8: File Download Test 29
Table 9: Personal Data Checker Test 30
Table 10: Usability Test 30
Table 11: Delete Dataset Test 31
Table 12: Predictive Dashboard Requirements 33
Table 13: Test Data Ingestion 33
Table 14: Test Kibana is used 34
Table 15: Test Multiplatform 34
Table 16: Test User Roles 34
Table 17: Test Real-time Visualizations 35
Table 18: Test Dashboard Creation 36
Table 19: Test User Notifications 36
Table 20: Consumer Application Requirements 37
Table 21: Test Intuitive Navigation of the Consumer App 38
Table 22 : Validation Roadmap 40
Table 23 : Summary of Test Execution and Feedback by Requirement 42
Table 24 : Average Scores for Visual Appeal and Interface Usability Based on Tester Feedback 42
Table 41: Test execution Report – ReqDL1 by Tester A 47
Table 43: Test execution Report – ReqDL2 by Tester A 47
Table 44: Test execution Report – ReqDL3 by Tester A 48
Table 45: Test execution Report – ReqDL4 by Tester A 48
Table 46: Test execution Report – ReqDL7 by Tester A 49
Table 47: Test execution Report – ReqDL5 by Tester A 50
Table 48: Test execution Report – ReqDL6a by Tester A 51
Table 49: Test execution Report – ReqDL8 by Tester A 51
Table 50: Test execution Report – ReqDL9 by Tester A 52
Table 51: Test execution Report – ReqDL10 by Tester A 52
Table 52: Test execution Report – ReqPD2 by Tester A 53
Table 53: Test execution Report – ReqPD3.1 by Tester A 54
Table 54: Test execution Report – ReqPD3.2 by Tester A 55
Table 55: Test execution Report – ReqPD3.3 by Tester A 55
Table 56: Test execution Report – ReqPD3.4 by Tester A 56
Table 57: Test execution Report - ReqCA1 by Tester A 56
Table 58: Test execution Report – ReqDL1 by Tester B 57
Table 59: Test execution Report – ReqDL2 by Tester B 58
Table 60: Test execution Report – ReqDL3 by Tester B 58
Table 61: Test execution Report – ReqDL4 by Tester B 59

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Table 62: Test execution Report – ReqDL7 by Tester B 60
Table 63: Test execution Report – ReqDL15 by Tester B 61
Table 64: Test execution Report – ReqDL6a by Tester B 62
Table 65: Test execution Report – ReqDL8 by Tester B 64
Table 66: Test execution Report – ReqDL9 by Tester B 65
Table 67: Test execution Report – ReqDL10 by Tester B 66
Table 68: Test execution Report – ReqPD2 by Tester B 67
Table 69: Test execution Report – ReqPD3.1 by Tester B 68
Table 70: Test execution Report – ReqPD3.2 by Tester B 69
Table 71: Test execution Report – ReqPD3.3 by Tester B 70
Table 72: Test execution Report – ReqPD3.4 by Tester B 73
Table 73: Test execution Report - ReqCA1 by Tester B 74
Table 74: Test execution Report – ReqDL1 by Tester C 74
Table 75: Test execution Report – ReqDL2 by Tester C 75
Table 76: Test execution Report – ReqDL3 by Tester C 75
Table 77: Test execution Report – ReqDL4 by Tester C 76
Table 78: Test execution Report – ReqDL7 by Tester C 76
Table 79: Test execution Report – ReqDL15 by Tester C 77
Table 80: Test execution Report – ReqDL6a by Tester C 77
Table 81: Test execution Report – ReqDL8 by Tester C 78
Table 82: Test execution Report – ReqDL9 by Tester C 78
Table 83: Test execution Report – ReqDL10 by Tester C 79
Table 84: Test execution Report – ReqPD2 by Tester C 80
Table 85: Test execution Report – ReqPD3.1 by Tester C 80
Table 86: Test execution Report – ReqPD3.2 by Tester C 81
Table 87: Test execution Report – ReqPD3.3 by Tester C 82
Table 88: Test execution Report – ReqPD3.4 by Tester C 83
Table 89: Test execution Report - ReqCA1 by Tester C 84
Table 90: Test execution Report – ReqDL1 by Tester D 84
Table 91: Test execution Report – ReqDL2 by Tester D 85
Table 92: Test execution Report – ReqDL3 by Tester D 86
Table 93: Test execution Report – ReqDL4 by Tester D 87
Table 94: Test execution Report – ReqDL7 by Tester D 87
Table 95: Test execution Report – ReqDL15 by Tester D 88
Table 96: Test execution Report – ReqDL6a by Tester D 88
Table 97: Test execution Report – ReqDL8 by Tester D 89
Table 98: Test execution Report – ReqDL9 by Tester D 89
Table 99: Test execution Report – ReqDL10 by Tester D 90
Table 100: Test execution Report – ReqPD2 by Tester D 90
Table 101: Test execution Report – ReqPD3.1 by Tester D 91
Table 102: Test execution Report – ReqPD3.2 by Tester D 92
Table 103: Test execution Report – ReqPD3.3 by Tester D 92
Table 104: Test execution Report – ReqPD3.4 by Tester D 93
Table 105: Test execution Report - ReqCA1 by Tester D 94
Table 106: Test execution Report – ReqDL1 by Tester E 95
Table 107: Test execution Report – ReqDL2 by Tester E 95

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Table 108: Test execution Report – ReqDL3 by Tester E 96
Table 109: Test execution Report – ReqDL4 by Tester E 96
Table 110: Test execution Report – ReqDL7 by Tester E 97
Table 111: Test execution Report – ReqDL15 by Tester E 97
Table 112: Test execution Report – ReqDL6a by Tester E 98
Table 113: Test execution Report – ReqDL8 by Tester E 98
Table 114: Test execution Report – ReqDL9 by Tester E 99
Table 115: Test execution Report – ReqDL10 by Tester E 99
Table 116: Test execution Report – ReqPD2 by Tester E 100
Table 117: Test execution Report – ReqPD3.1 by Tester E 100
Table 118: Test execution Report – ReqPD3.2 by Tester E 101
Table 119: Test execution Report – ReqPD3.3 by Tester E 102
Table 120: Test execution Report – ReqPD3.4 by Tester E 103
Table 121: Test execution Report - ReqCA1 by Tester E 104
Table 121: Test execution Report – ReqDL1 by Tester F 105
Table 123: Test execution Report – ReqDL2 by Tester F 105
Table 124: Test execution Report – ReqDL3 by Tester F 106
Table 125: Test execution Report – ReqDL4 by Tester F 106
Table 126: Test execution Report – ReqDL7 by Tester F 107
Table 127: Test execution Report – ReqDL15 by Tester F 108
Table 128: Test execution Report – ReqDL6a by Tester F 108
Table 129: Test execution Report – ReqDL8 by Tester F 109
Table 130: Test execution Report – ReqDL9 by Tester F 110
Table 131: Test execution Report – ReqDL10 by Tester F 110
Table 132: Test execution Report – ReqPD2 by Tester F 111
Table 133: Test execution Report – ReqPD3.1 by Tester F 112
Table 134: Test execution Report – ReqPD3.2 by Tester F 112
Table 135: Test execution Report – ReqPD3.3 by Tester F 113
Table 136: Test execution Report – ReqPD3.4 by Tester F 114
Table 137: Test execution Report - ReqCA1 by Tester F 114
Table 138: Test execution Report – ReqDL1 by Tester G 115
Table 139: Test execution Report – ReqDL2 by Tester G 116
Table 140: Test execution Report – ReqDL3 by Tester G 117
Table 141: Test execution Report – ReqDL4 by Tester G 117
Table 142: Test execution Report – ReqDL7 by Tester G 118
Table 143: Test execution Report – ReqDL15 by Tester G 118
Table 144: Test execution Report – ReqDL6a by Tester G 119
Table 145: Test execution Report – ReqDL8 by Tester G 120
Table 146: Test execution Report – ReqDL9 by Tester G 120
Table 147: Test execution Report – ReqDL10 by Tester G 121
Table 148: Test execution Report – ReqPD2 by Tester G 122
Table 149: Test execution Report – ReqPD3.1 by Tester G 123
Table 150: Test execution Report – ReqPD3.2 by Tester G 124
Table 151: Test execution Report – ReqPD3.3 by Tester G 124
Table 152: Test execution Report – ReqPD3.4 by Tester G 125
Table 153: Test execution Report - ReqCA1 by Tester G 126

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Table 154: Test execution Report – ReqDL1 by Tester H 127
Table 155: Test execution Report – ReqDL2 by Tester H 127
Table 156: Test execution Report – ReqDL3 by Tester H 128
Table 157: Test execution Report – ReqDL4 by Tester H 128
Table 158: Test execution Report – ReqDL7 by Tester H 129
Table 159: Test execution Report – ReqDL15 by Tester H 130
Table 160: Test execution Report – ReqDL6a by Tester H..... 131
Table 161: Test execution Report – ReqDL8 by Tester H 131
Table 162: Test execution Report – ReqDL9 by Tester H 132
Table 163: Test execution Report – ReqDL10 by Tester H 133
Table 164: Test execution Report – ReqPD2 by Tester H 133
Table 165: Test execution Report – ReqPD3.1 byTester H..... 134
Table 166: Test execution Report – ReqPD3.2 by Tester H..... 135
Table 167: Test execution Report – ReqPD3.3 by Tester H..... 135
Table 168: Test execution Report – ReqPD3.4 by Tester H..... 137
Table 169: Test execution Report - ReqCA1 by Tester H..... 138

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1. Introduction

With increasing issues regarding climate change, food safety and public health, never has the need for a sustainable, efficient, and fair food system ever been so critical. SOS Food suggests addressing these challenges through a data-driven path utilizing Artificial Intelligence (AI) and Machine Learning (ML) solutions to enable the European food system to move towards increased sustainability. Through providing actionable intelligence and decision-making tools, SOS Food empowers stakeholders across the food value chain—from farmers to consumers—to make evidence-based, informed decisions that improve the sustainability of food consumption and production.

This deliverable is directly concerning Task 4.6, which guarantees that the tools, functionality, and applications developed in the project satisfy the required specifications and function correctly. These tasks are handled in a systematic way to ensure uniformity, quality, and compliance with project objectives.

The report outlines the testing and validation phase for three critical tools developed through the project. The tools are the prime drivers of facilitating informed decision-making in the food value chain in addition to monitoring the sustainability impacts across the various sectors. The tested tools are:

1. **Test of the SOS Food Data Lake (Softeam):** The Data Lake allows the aggregation of diverse datasets, enabling advanced analytics for stakeholders across the food chain to optimize practices for sustainability and efficiency.
2. **Test of the predictive Dashboards (JIBE):** This tool provides stakeholders with real-time insights and visualizations on sustainability metrics, supporting decision-making at various levels of the food system.
3. **Test of the Consumer Application (DIH DATAlife):** This tool allows consumers to make informed choices about their food consumption, incorporating sustainability and health factors.

Each test involves a detailed validation process by project pilots, ensuring the functionality and effectiveness of the tools in real-world settings. This validation process is critical for ensuring that the tools meet the specific needs of users and contribute to the overarching goal of creating a more sustainable European food system.

This deliverable document the testing procedures, the criteria used for validation, and the outcomes of each test. It provides valuable insights into the functionality of each tool, their practical applications, and their readiness for deployment in real-world settings. The successful testing and validation of these tools will be a key milestone in ensuring the broader impact of SOS Food's technological solutions in improving sustainability across the European food value chain.

This deliverable is organized into six main sections. **Section 2** outlines the testing methodology and standards applied in the project, including an overview of the methodology and the specific testing standards used to ensure compliance and reliability. **Section 3** provides a comprehensive overview of the software components, detailing the architecture of the data lake, the predictive dashboard's features, and the consumer application's functionality. **Section 4** focuses on the requirements and corresponding tests for each component. **Section 5** presents the validation process, including the

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roadmap and detailed validation results for the data lake, predictive dashboard, and consumer application. Finally, the document concludes with a summary of findings and recommendations in the Conclusions section, followed by a list of references used throughout the deliverable.

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2. Testing Methodology and Standards

The methodology encompasses a structured approach to defining test cases, executing tests, and documenting results. This section outlines the principles, practices, and standards applied during the testing and validation phase.

2.1 Testing Standards

The testing processes in this deliverable adhere to established industry standards to ensure quality, consistency, and reliability. Specifically, our framework aligns with the **ISO/IEC/IEEE 29119 Software Testing Standards**, which provide structured guidelines for managing and documenting testing activities. These standards form the foundation of our testing practices, encompassing both the **test processes** and **test documentation**.

Test Processes (29119-2) [1]

ISO/IEC/IEEE 29119-2 specifies standardized test processes at three levels: organizational, test management, and dynamic test levels. Our methodology incorporates the following key processes:

1. **Test Strategy and Planning Process**
    - **Objective**: Define the objectives, scope, and resources for testing activities.
    - **Activities**: Developing a comprehensive test plan that outlines the testing approach, schedules, and resource allocation.
2. **Test Monitoring and Control Process**
    - **Objective**: Oversee test execution and monitor progress.
    - **Activities**: Tracking test progress, managing risks, and ensuring that testing stays aligned with project goals.
3. **Test Completion Process**
    - **Objective**: Finalize test activities and document outcomes.
    - **Activities**: Reviewing test results, ensuring all tests are completed, and compiling final test reports.
4. **Test Design and Implementation Process**
    - **Objective**: Create detailed test cases and procedures.
    - **Activities**: Designing test scenarios, specifying test data, and developing procedural steps for each test case.
5. **Test Environment Set-Up and Maintenance Process**
    - **Objective**: Prepare and maintain the test environment.
    - **Activities**: Configuring hardware and software environments, ensuring they are stable and consistent for testing purposes.

Test Documentation (29119-3) [2]

ISO/IEC/IEEE 29119-3 provides comprehensive guidelines for documenting the testing process, ensuring consistency and thoroughness. Our documentation practices include:

- **Organizational Test Documentation**
    - **Components**: Test Policy and Organizational Test Strategy.
    - **Purpose**: Establish high-level testing objectives and strategies aligned with organizational goals.
- **Test Management Documentation**
    - **Components**: Test Plan, Test Status Report, and Test Completion Report.
    - **Purpose**: Manage and report on the progress and status of testing activities.
- **Dynamic Test Documentation**

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- **Components**: Test Model Specification, Test Case Specification, Test Procedure Specification, Test Data Requirements, Test Environment Requirements, and various readiness and execution reports.
- **Purpose**: Provide detailed documentation for individual test cases, ensuring clarity and traceability.

Each test case typically includes (ISO/IEC/IEEE 29119-3:2013):

- **Test Objectives and Preconditions**: Define the purpose of the test and any necessary initial conditions or setup requirements.
- **Step-by-Step Procedures**: Provide a detailed sequence of actions to execute the test, ensuring consistency and repeatability.
- **Expected Results and Success Criteria**: Specify the anticipated outcomes and benchmarks for determining if the test passes or fails.
- **Test Data Requirements**: Outline the specific data sets or conditions needed to properly execute the test case.
- **Test Environment Specifications**: Detail the hardware, software, network configurations, and other environmental factors required to run the test.

By adhering to both **ISO/IEC/IEEE 29119-2** and **29119-3**, our testing methodology ensures a comprehensive, systematic, and well-documented approach to software testing. This alignment not only enhances the quality and reliability of our testing processes but also facilitates effective communication and traceability throughout the project lifecycle.

2.2 Methodology Overview

The testing process begins with identifying the **requirements** for each tool, followed by the creation of detailed **test cases**. In accordance with the ISO/IEC/IEEE 29119-3:2021 standard for test documentation, we adhere to its guidelines to ensure that our test cases are thoroughly documented and maintain consistency throughout the testing process. Our documentation method follows the structure outlined by the standard, including defining the objectives, preconditions, steps, expected results, and other necessary parameters. Specifically, we document each test case in a structured format. Each test case includes:

1. **Test Scenario ID**: A unique identifier for the test case.
2. **Requirement ID**: The requirement that the test case is validating.
3. **Test Type**: Specifies whether the test is functional, performance-related, or otherwise, indicating the nature of the system behavior being tested.
4. **Test Objective**: Clearly defines the purpose of the test, such as validating a feature or ensuring compliance with user expectations.
5. **Preconditions**: This section lists any prerequisites or initial conditions required before the test can be executed. These may include specific user permissions, the existence of metadata fields, or the state of the system.
6. **Used Data**: Specifies the data required for the test.
7. **Procedural Steps**: This is a step-by-step instruction to carry out the test. The test case outlines a series of precise actions the tester must perform to simulate the scenario. These steps ensure consistency across test executions and provide clear instructions for achieving the test objective.
8. **Expected Results**: This describes the anticipated outcomes for each step, including warnings, validation errors, or successful operations. It ensures that testers know what constitutes a pass or fail for the scenario.

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3. Software Overview

3.1 Data Lake Architecture

The **SOS Food data lake** serves as a centralized, secure repository for storing and analyzing datasets generated within the context of the SOS Food project. It plays a pivotal role at the conclusion of the project's phase, where finalized datasets from all project partners and case studies are consolidated.

SOS Food's data lake is a restricted-access system. It is exclusively accessible to project pilots and reviewers through a dedicated, credentials-protected platform. This ensures controlled data sharing within the project while maintaining data security and regulatory compliance.
The data lake is divided into two distinct portals to cater to the needs of its users:

- **Data Provider Portal**[1]: This portal is exclusively for project pilots who contribute datasets to the data lake. Data providers can upload and manage their datasets through a secure, credentials-protected interface, ensuring compliance with project guidelines.
- **Reviewer Portal**[2]: This portal is dedicated to project partners and reviewers who need access to these datasets. Access to the reviewer portal is also credentials-protected, ensuring that only authorized personnel can explore and analyze the datasets.

This structure supports controlled data sharing within the project while maintaining strict adherence to privacy, security, and regulatory compliance. The following figures illustrate key pages from the SOS Food data lake portals: Figure 1 showcases the login page of the data lake portal for data providers, Figure 2 presents the library page of the data providers portal, and Figure 3 depicts the welcome page of the reviewer's portal.

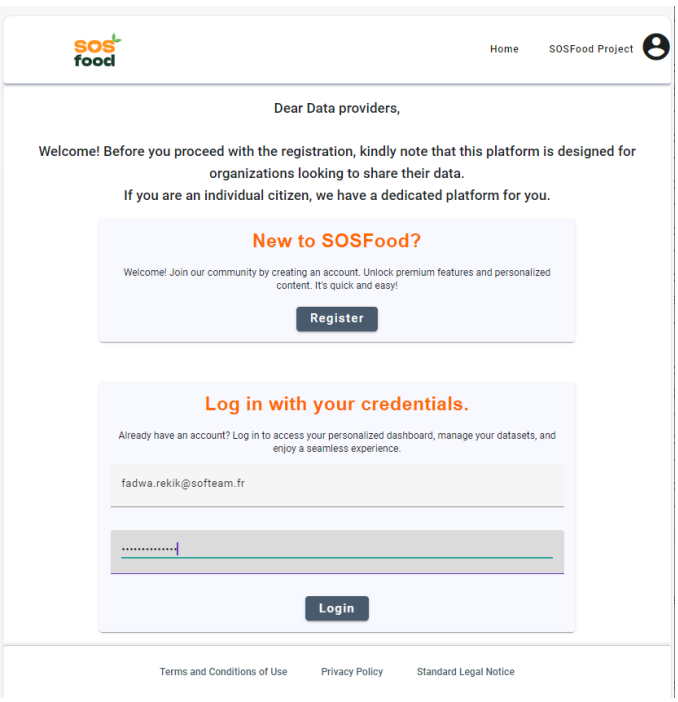

Figure 1: Login page of the data lake portal for data providers

[1] https://sosfooddp.e-citiz.com/
[2] https://sosfooddl.e-citiz.com/

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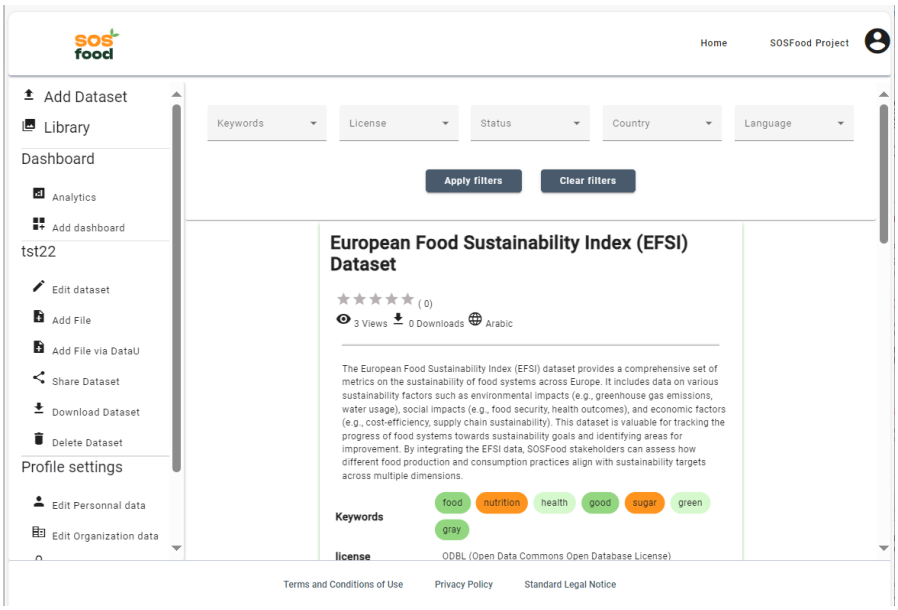

Figure 2: Library page of the data providers portal

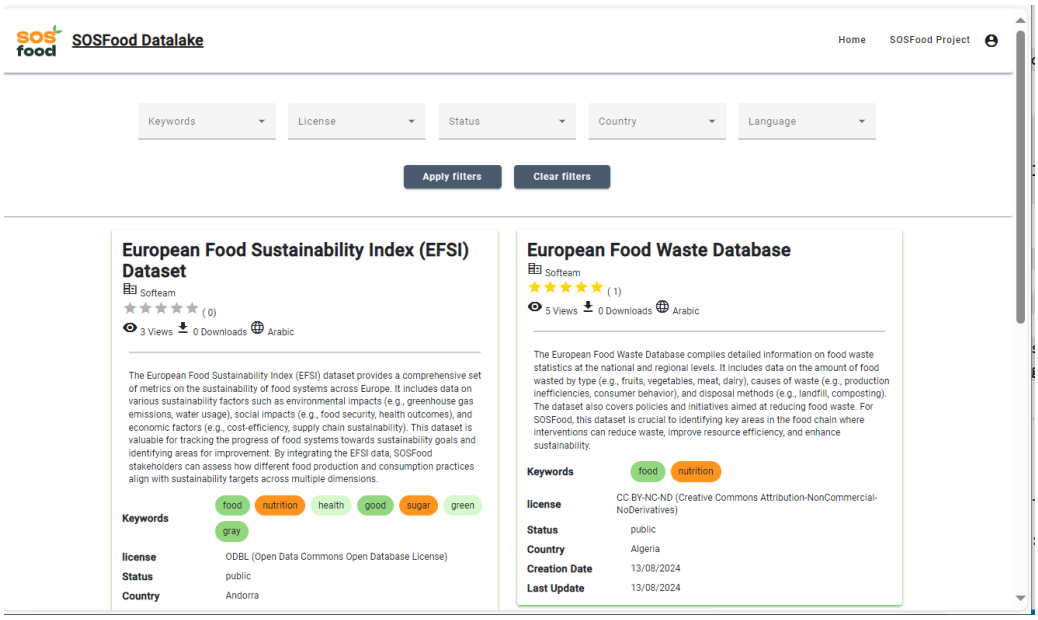

Figure 3: Reviewers portal welcome page

Data Provider Workflow

Data providers interact with the SOS Food Data Lake through the dedicated Data Provider Portal. Key features include:

- Navigation & Customization: The portal is equipped with an intuitive side navigation menu that provides easy access to datasets, dashboards, profile settings, and other relevant sections.
- Dataset Submission: Providers can upload new datasets, ensuring all submissions are accompanied by detailed metadata (e.g., descriptions, keywords, and license information).
- Dataset Management: Providers can update or download their datasets as needed.
- Dashboard Creation: Providers can create dashboards for visualizing and analyzing their data.

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- Profile Management: Data providers can update their personal and organizational information, manage their credentials, and perform account actions like logging out or deleting their accounts.

Reviewers' workflow

Reviewers access the SOS Food Data Lake through the Reviewer Portal, which requires authentication to ensure secure access. Key features include:

- Dataset Browsing: Reviewers can browse datasets and associated metadata.
- Visualization: Dashboards can be generated to visualize data trends and outcomes.
- Analysis: Kibana dashboards are provided to perform detailed analyses of the datasets and to evaluate their impact and outcomes.

3.2 Predictive Dashboard Overview

The Predictive Dashboard developed under the SOS Food project is designed to provide stakeholders across the food value chain with actionable insights. This dashboard is tailored to support informed decision-making, addressing sustainability and efficiency challenges within the European food system.

The Predictive Dashboard serves the following primary objectives:

1. **Facilitate Data Exploitation**: the dashboard integrates outputs from various tools and services developed in the SOS Food project. It ensures seamless interaction with the data lake and associated systems, enabling comprehensive data analysis.

2. **Provide Actionable Insights**: Tailored for various user groups, the dashboard delivers timely and meaningful information to support sustainable practices, utilizing advanced visualizations and real-time analytics.

The Predictive Dashboard's key features include multiplatform accessibility, customizable data visualizations, and role-based access system, making it adaptable to the needs of a diverse range of users. With dynamic views for graphs, maps, and tables, stakeholders can analyze data across indicators such as climate, soil, economic variables, crop-related metrics or others. The dashboard's ability to process historical data, current conditions, and future predictions, completed with uncertainty measures, ensures a comprehensive perspective on sustainability trends and challenges.

A first prototype of the predictive dashboards was delivered in Month 12 (M12), with subsequent updates at the end of each validation cycle (M24, M36, and M48). Each iteration will reflect insights gained during testing and validation to ensure the tool meet the platform's requirements and user expectations.

3.3 Consumer Application Overview

The consumer application represents a critical deliverable within the SOS Food platform, providing end-users with tools for informed and sustainable decision-making. Developed under Task 4.5, this application integrates tightly with the predictive dashboard, leveraging the services implemented in WP3.

Target Audience: The app is designed for consumers across five geographical EU zones: Eastern, Western, Southern, Northern, and Central Europe. By tailoring its features to the diverse needs of these

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regions, the application ensures accessibility and relevance to all users. The application adheres to GDPR-compliant data sharing protocols, particularly when data owners are citizens.

Features:

1. Eco-healthy Fingerprint Visualization: The app provides a plot that visualizes the environmental and health impact of the user's consumption habits, enabling individuals to understand their eco-health profile at a glance.
2. Sustainable and Nutritious Alternatives: Users receive suggestions for replacing unhealthy or unsustainable products with sustainable and nutritious alternatives, helping them make better choices for both personal health and the planet.
3. Seasonal Sustainable Menu Tips: Tailored tips are offered for creating sustainable and nutritious menus, adapted to seasonal availability and the specific dietary needs of each user.
4. Ecosystem Risk Information: The app includes updates about ecosystems at risk under various scenarios, raising awareness and fostering environmental stewardship among users.
5. Information Sharing: Users can share relevant data, such as eco-healthy insights and tips, with their contact networks to promote collective action and awareness.

Technical Aspects: The consumer app will be a multi-platform mobile application built with usability, ergonomics, and configurability as priorities. The predictive dashboard, which the app complements for ingesting, searching, analyzing, and visualizing data. This ensures timely, defensible, and comprehensible assessments tailored to different user types and device types.

A first mockup of the consumer app, shown in Figure 4, was delivered in Month 12 (M12) and used to gather initial feedback from the three use cases.

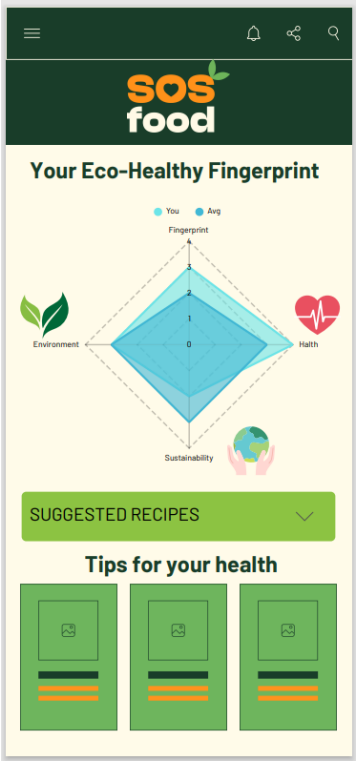

Figure 4: SOSFood Consumer App Mockup

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4. Requirements and Tests

This section defines the requirements and corresponding testing processes for the three main components of the SOS Food ecosystem: the **Data Lake Management System (DLMS)**, the **Predictive Dashboards**, and the **Consumer Application**.

The requirements are categorized using standardized priority levels (**SHALL, SHOULD, MAY, TBD, N/A**) to guide design choices and implementation efforts:

- **SHALL**: This denotes a **mandatory requirement**. The application **will not function properly** without it. For example, *"The platform SHALL provide means to execute the application."*
- **SHOULD**: Recommended requirement. Not strictly essential but improves performance, usability, or interoperability. Trade-offs may be considered if cost or complexity is high. Example: *"The platform SHOULD offer configuration capabilities for advanced settings".*
- **MAY**: Optional requirement. Provides additional value (e.g., improved user experience) but does not affect core functionality. Example: *"The platform MAY allow runtime reconfiguration."*
- **TBD** (*To Be Determined*): The requirement is still under discussion or pending clarification. It will be revisited and defined later as more information becomes available.
- **N/A** (*Not Applicable*): This tag is used when a requirement **does not apply** to a specific use case, component, or context.

The section is structured as follows:

1. **Data Lake Requirements and Tests** — focusing on data provider registration, dataset management, and secure file handling.
2. **Predictive Dashboard Requirements and Tests** — addressing visualization, role management, and real-time analytics using Kibana.
3. **Consumer Application Requirements and Tests** — covering usability and accessibility.

This combined approach ensures traceability from requirements to validation, enabling systematic monitoring of progress and guaranteeing that the delivered system aligns with the SOS Food project's goals.

4.1 Data Lake Requirements and Tests

This section focuses on the requirements and testing procedures associated with the DLMS. The Data Lake serves as the backbone of the project, facilitating the secure and efficient storage, management, and sharing of datasets. The requirements ensure the system's scalability, security, and usability, while the tests validate the implementation of these features to meet both functional and non-functional objectives.

(i) Data Lake Requirements

Table 1 outlines the key requirements for the DLMS, detailing the features and functionalities to be implemented to meet the project objectives. Each requirement is categorized based on its priority—classified as "SHALL" for mandatory features or "MAY" for optional enhancements.
The requirements aim to address the following aspects of the DLMS:

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1. **Core Functionality**: Registration, authentication, dataset management, and file handling.
2. **User Experience**: Ensuring ease of use, visual appeal, and accessibility.
3. **Security and Compliance**: Adhering to best practices such as OWASP guidelines for secure file uploads.
4. **Future Enhancements**: Optional features, including advanced data quality checks, basic data visualization, and extended accessibility.

Table 1: Data Lake Requirements

ID	Requirement	Priority	Task
ReqDL1	The DLMS shall provide a feature to register a new data provider.	SHALL	4.1
ReqDL2	The DLMS shall provide authentication functionality for data providers.	SHALL	4.1
ReqDL3	The DLMS shall provide a feature to edit data provider information.	SHALL	4.1
ReqDL4	The DLMS shall provide a module for creating new datasets, accompanied by detailed metadata information.	SHALL	4.1
ReqDL5	The DLMS shall support the update of a dataset.	SHALL	4.1
ReqDL6	The DLMS shall support the deletion of a dataset.	SHALL	4.1
ReqDL6a	The DLMS shall support the deletion of a file in a dataset.	SHALL	4.1
ReqDL7	The DLMS should facilitate the efficient upload of a dataset file.	SHOULD	4.1
ReqDL8	The DLMS should facilitate the efficient download of a dataset file.	SHOULD	4.1
ReqDL9	The DLMS shall provide advanced functions for the Personal Data checker (PDC).	SHALL	4.1
ReqDL10	The DLMS should be visually appealing and easy to understand.	SHOULD	4.1
ReqDL11	The DLMS Accessibility features should be implemented for inclusive usability.	SHOULD	4.1
ReqDL12	The DLMS may be accessible on the major last version of web browsers (Chrome, Firefox, Edge).	MAY	4.1
ReqDL13a	The DLMS should provide a user-friendly interface for data upload and download.	SHOULD	4.1
ReqDL13b	The DLMS should have a user-friendly interface for easy navigation and data access.	SHOULD	4.1
ReqDL14a	The DLMS should provide basic features to visualise the datasets data (no predictions potential SOFTEAM research on data quality).	SHOULD	4.1

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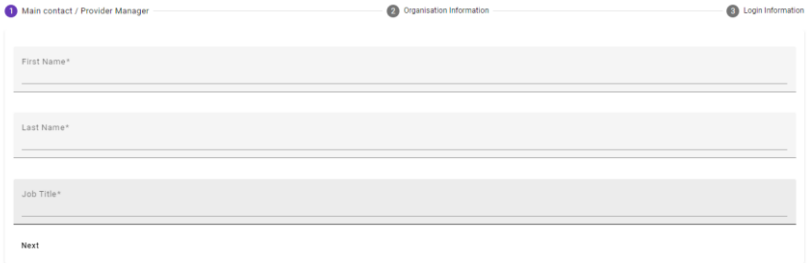
ReqDL15	The DLMS shall comply with OWASP guidelines to ensure secure file uploads by validating file type, content, and size to prevent security vulnerabilities.	SHALL	4.1

(ii) Data Lake Tests

Table 2: Register Data Provider Test

Test Metadata	
Scenario ID:	dp_registration
Requirement ID:	ReqDL1: The DLMS shall provide a feature to register a new data provider.
Test Type:	☒ functional ☐ non-functional
Test Execution Details	
Test objective	Test the registration of a new data provider.
Preconditions	The website is accessible Data Providers – SOSFood.
Used Data:	Each pilot will complete the registration form with their data.
Procedural Steps:	1. Navigate to the Data Provider Portal. 2. Click "Register". 3. Fill in the registration form with valid inputs.  4. Submit the form by clicking on the Register button.

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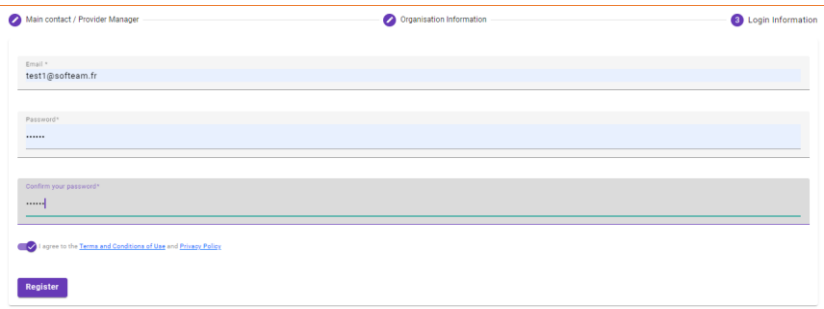
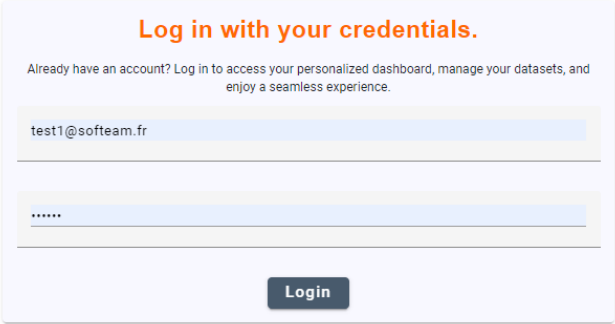
	
Expected Results:	Registration succeeds, and the data provider receives a confirmation message. You have successfully registered as a Data Provider! You will not be able to login until your profile will be validated It shouldn't take more than 3 days. See you soon ! Ok The validation is done manually. The provider can log in after the confirmation email.

Table 3: Data Provider Authentication Test

Test Metadata	
Scenario ID:	dp_authentication
Requirement ID:	ReqDL2: The DLMS shall provide authentication functionality for data providers.
Scenario Type:	☒ functional ☐ non-functional
TEST	
Test objective	Ensure the registration process works as intended.
Preconditions	Website accessible Data Providers – SOSFood.
Used Data:	Login and password of the data provider.
Procedural Steps:	1. Navigate to the login page.  2. Enter valid credentials and click "Login". 3. Log out and reattempt with invalid credentials (e.g., wrong password).

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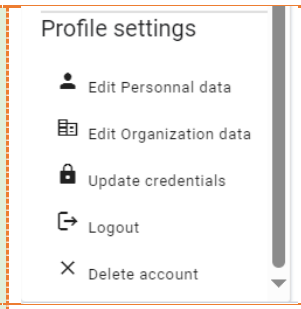
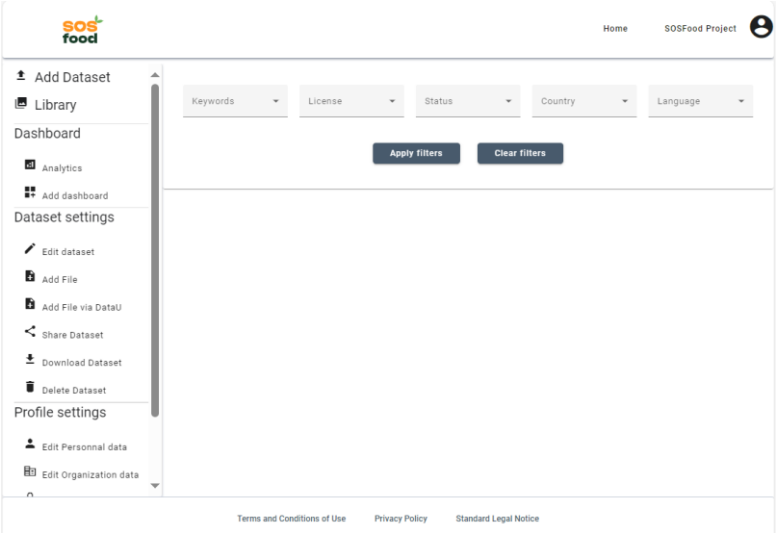
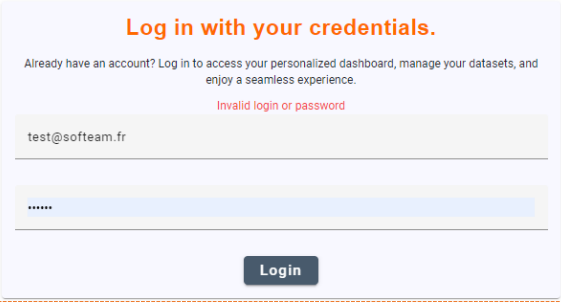
	
Expected Results:	Valid credentials result in successful login and redirection to home page.  Invalid credentials show an error message without login. 

Table 4: Update Profile Test

Test Metadata	
Scenario ID:	Update_profile
Requirement ID:	ReqDL3: The DLMS shall provide a feature to edit data provider information.
Test Type:	☒ functional ☐ non-functional
TEST	
Test objective	Ensure a data provider can update their profile.
Preconditions	Website accessible and data provider authenticated. Login page can be accessible via [Data Providers - SOSFood]()

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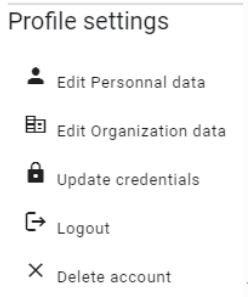
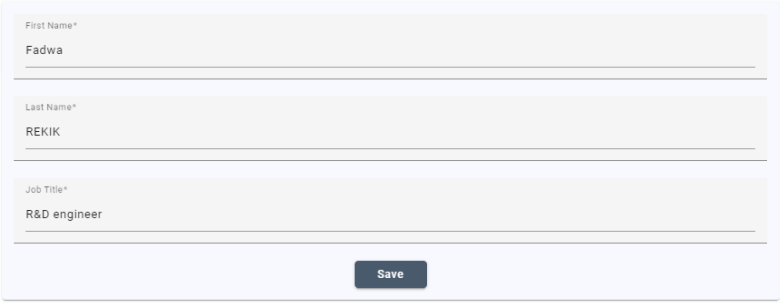
Used Data:	Data provider will update the data according to their needs.
Procedural Steps:	1. Navigate to Profile Settings: Open the profile settings menu and select the appropriate submenu to update specific categories: Personal Data, Organization Data, or Credentials.  2. Edit Relevant Fields: Update details such as your name, organization, and contact information as needed. 3. Save Changes: Click the "Save" button to confirm and apply the updates. 
Expected Results:	Changes are saved and reflected in the profile.

Table 5 : Create a new Dataset

Test Metadata	
Scenario ID:	create_dataset
Requirement ID:	ReqDL4: The DLMS shall provide a module for creating new datasets, accompanied by detailed metadata information.
Scenario Type:	☒ functional ☐ non-functional
TEST	
Test objective	Test creation of a new dataset.
Preconditions	Website accessible and data provider authenticated. Login page can be accessible via Data Providers – SOSFood
Used Data:	Dataset Name: choose a name for your dataset Description: Sustainable agriculture and food production dataset. Keywords: food, nutrition, health, good, sugar, green
Procedural Steps:	1. Click on "Add Dataset" at the very top of the menu on the left.

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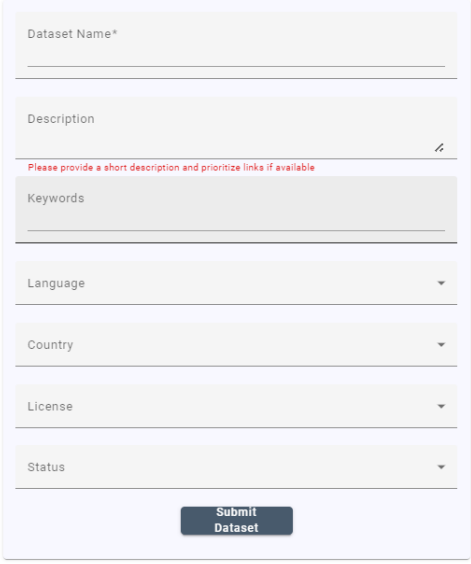
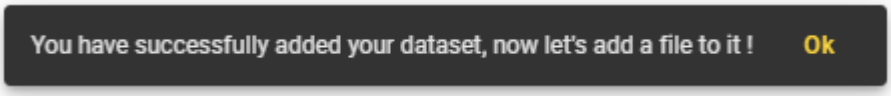
	Add Dataset 2. Provide dataset information (name, description, status, and license).  3. Upload a csv file. 
Expected Results:	Dataset is created and listed in the data provider's dashboard.

Table 6: Upload of File Test

Test Metadata	
Scenario ID:	upload_file
Requirement ID:	ReqDL7: The DLMS should facilitate the efficient upload of a dataset file.
Scenario Type:	☒ functional ☐ non-functional
TEST	
Test objective	Test dataset file upload functionality.

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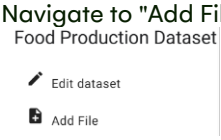
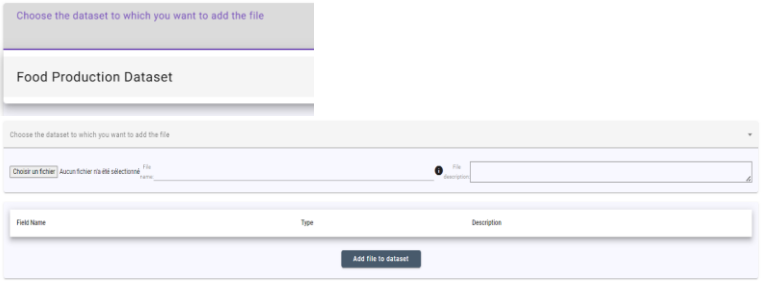
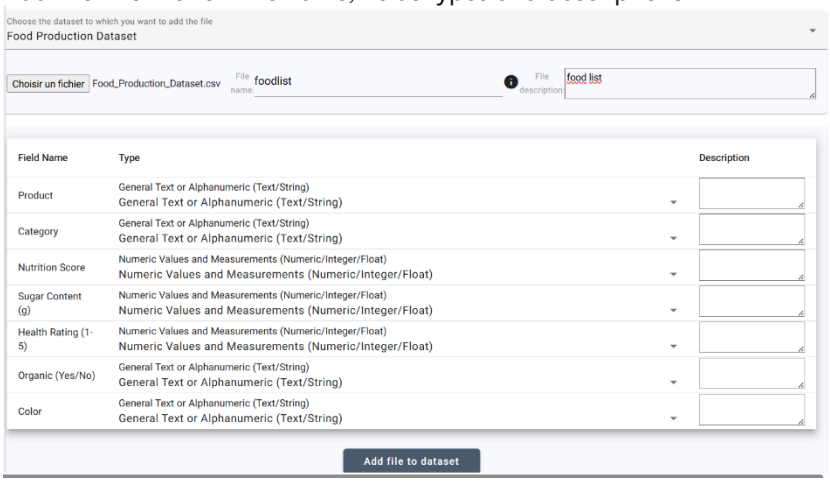
Preconditions	Website accessible and data provider authenticated. Login page can be accessible via Data Providers – SOSFood
Used Data:	Food_Production_Dataset.csv
Procedural Steps:	1. Navigate to "Add File".  2. Select dataset to which the file will be added  3. Click "Choose File" and select the csv file provided for the test. 4. Add File information: file name, fields types and descriptions  5. Submit the upload by clicking on the button “Add file to dataset”.
Expected Results:	Dataset file is uploaded successfully, and a success message is displayed.

Table 7: Update Dataset Metadata Test

Test Metadata	
Scenario ID:	update_dataset
Requirement ID:	ReqDL5: The DLMS shall support the update of a dataset..
Scenario Type:	☒ functional ☐ non-functional
TEST	
Test objective	Test updates to dataset metadata.
Preconditions	Website accessible and data provider authenticated. Login page can be accessible via Data Providers – SOSFood

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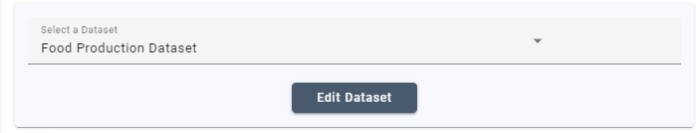
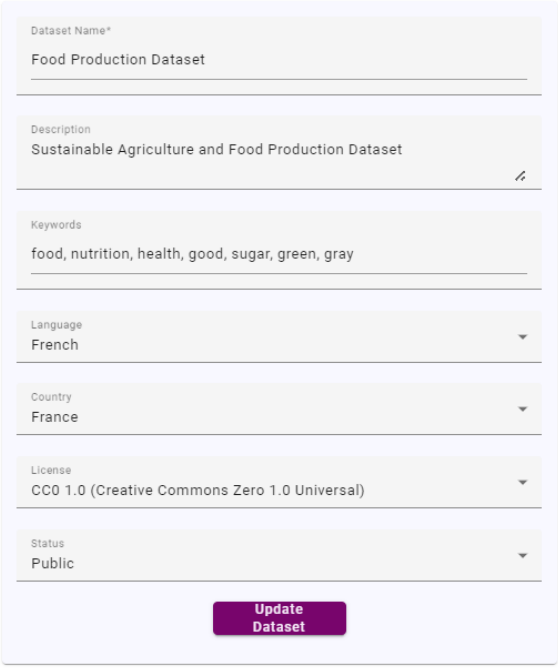
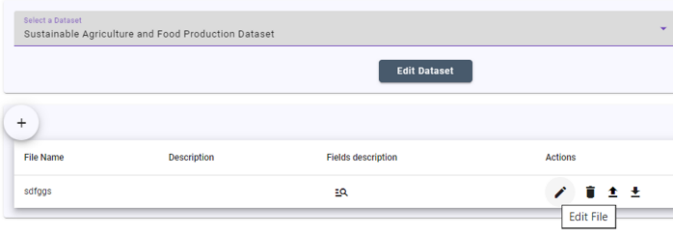
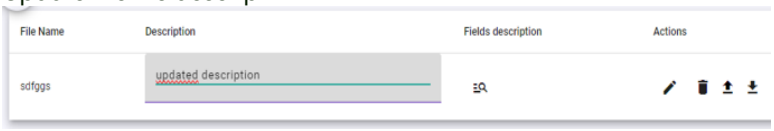
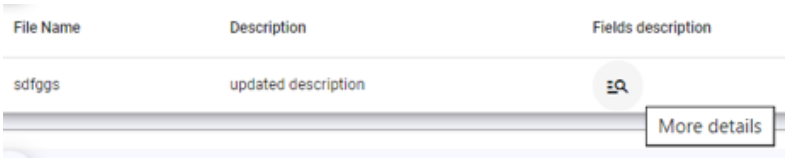
Used Data:	
Procedural Steps:	1. Access the "Library" in the side navigation. 2. Select a dataset and click "Edit Dataset".  3. Modify metadata such as description or field types.  4. Click "Update Dataset". **Steps to update file metadata** 1. Click on Edit File  2. Update the file descript  **Steps to update the fields metadata:** 1. Click on More details icon.  2. Select the type and update the description.

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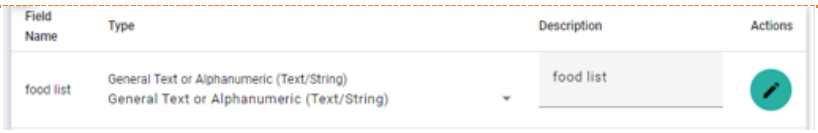
	 3. Verify the modifications
Expected Results:	For the dataset metadata a confirmation message is displayed. You have successfully updated your dataset information Ok For the file metadata, including file description, field types, and description, updates are saved and displayed correctly.

Table 8: File Download Test

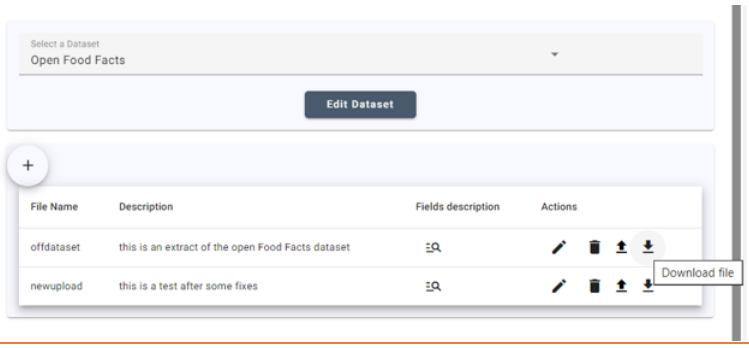
Test Metadata	
Scenario ID:	file_download
Requirement ID:	ReqDL8: The DLMS should facilitate the efficient download of a dataset file.
Scenario Type:	☒ functional ☐ non-functional
TEST	
Test objective	
Preconditions	Website accessible and data provider authenticated. Login page can be accessible via Data Providers – SOSFood
Used Data:	
Procedural Steps:	1. Navigate to the "Library". 2. Select a dataset. If the dataset contains files they will be displayed 3. Click on “Download file” button 
Expected Results:	File is downloaded to the user’s system.

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Table 9: Personal Data Checker Test

Test Metadata	
Scenario ID:	PDC_test
Requirement ID:	ReqDL9: The DLMS shall provide advanced functions for the PDC.
Test Type:	☒ functional ☐ non-functional
TEST	
Test objective	To validate that the PDC correctly identifies the presence of personal data in an uploaded file and prevents the file from being uploaded.
Preconditions	• The DLMS is up and running. • The user is logged in to the Data Provider Portal. The login page can be accessible via Data Providers – SOSFood. • A dataset exists to which files can be uploaded. • A test file containing personal data (e.g., a column with the header First Name and corresponding entries) is prepared.
Used Data:	Test File Name: test_file_with_personal_data.csv You can find the file here: csv file
Procedural Steps:	1. Navigate to "Add File": 2. From the dashboard, click on the "Add File" option. 3. Select Dataset: Choose the dataset to which the file will be added. 4. Choose File: Click "Choose File" and select test_file_with_personal_data.csv. 5. Add File Information: Fill in the file Name: test_file_with_personal_data 6. Click on the button labelled "Add file to dataset."
Expected Results:	The PDC scans the uploaded file and detects the column labeled First Name. A warning message is displayed: Keyword: first name in line: first name;last name;age Ok The file upload process is terminated, and the file is not added to the dataset.

Table 10: Usability Test

Test Metadata	
Scenario ID:	Usability_test
Requirement ID:	ReqDL10: The DLMS should be visually appealing and easy to understand.
Test Type:	☐ functional ☒ non-functional
TEST	
Test objective	Verify that the DLMS interface is visually appealing and user-friendly.
Preconditions	DLMS is deployed and accessible; tasks are defined.
Used Data:	

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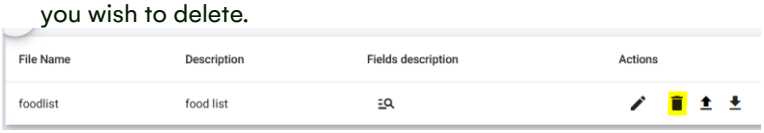
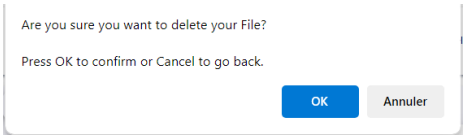
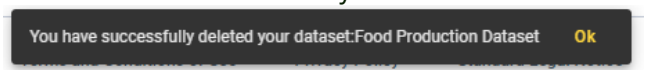
Procedural Steps:	1. Recruit 5 representative users. 2. Ask users to perform key tasks, such as uploading data, searching datasets, or accessing documentation. 3. Observe user behavior and record metrics. 4. Administer a survey for subjective feedback.
Expected Results:	– **Usability**: ≥ 90% of users complete tasks successfully. – **Aesthetic Appeal**: ≥ 80% of users rate the system as visually appealing. – **Ease of Understanding**: ≥ 85% of users find the interface intuitive.

Table 11: Delete Dataset Test

Test Metadata	
Scenario ID:	Delete_file
Requirement ID:	ReqDL6a: The DLMS shall support the deletion of a file in a dataset.
Scenario Type:	☒ functional ☐ non-functional
TEST	
Test objective	Verify that files can be deleted.
Preconditions	Website accessible and data provider authenticated. Login page can be accessible via Data Providers – SOSFood
Used Data:	
Procedural Steps:	1. Navigate to the "Library," select the relevant dataset, display the files associated with this dataset, and click on the "Delete File" icon for the file you wish to delete.  2. Select a file and click "Delete". 3. Confirm deletion in the prompt.
Expected Results:	For the file deletion, a warning message is displayed to confirm or cancel the deletion of the file.  Then, a confirmation message is displayed, and the file is deleted from the list of dataset files. For the dataset deletion, a warning message is displayed to confirm or cancel the deletion. Then if confirmed, the concerned dataset is removed from the dashboard and the system. A confirmation message is displayed. 

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4.2 Predictive Dashboard Requirements and Tests

This section outlines the technical and functional requirements necessary for implementing the Predictive Dashboard and evaluates these requirements through structured testing procedures. This section also includes the testing scenarios that validate the Predictive Dashboard's features and operational reliability.

I. Predictive Dashboard Requirements

The Predictive Dashboard requirements define the essential features, integrations, and priorities for its successful implementation.

The technical requirements for the predictive dashboard were determined based on the foreseen needs of the intended users, the nature of the input data, and the methods for visualizing that data effectively. These considerations guided the selection of technologies and specifications to ensure that the dashboard could meet the project's objectives while remaining functional and user-friendly.

The use of Kibana, an open-source data visualization tool, was specified in the Grant Agreement and chosen for its compatibility with the dashboard's requirements, including its ability to manage large datasets and create dynamic visualizations across multiple platforms. Kibana offers advanced visualization tools for large and complex datasets as well as built-in role management and customizable dashboards to adapt to different user needs which made it a suitable choice to fulfil the goals:

1. provide stakeholders with actionable insights to improve sustainability in food systems
2. ensure the tool is accessible, adaptable, and transparent for all users
3. create a system that integrates diverse datasets and predictive insights into a unified platform

The Predictive Dashboard's functional requirements are:

1. **Multi-platform Accessibility**: A responsive design ensures compatibility across desktop and mobile devices. Users can access the dashboard through a web-based interface, ensuring convenience and flexibility.
2. **Customizable Dashboards**: The dashboard provides tools (the Dashboard Development Kit) that allow stakeholders to create and customize their own widgets and visualizations, tailored to specific scenarios or regions.
3. **Real-time Visualizations**: Powered by the ELK stack (Elasticsearch, Logstash, and Kibana), the dashboard provides interactive visualizations of sustainability metrics and food chain dynamics.
    a. Creation of charts, graphs, and maps to visualize predictions across parameters such as climate, soil, economic indicators, crop-related data or others.
    b. A menu listing all available parameters, allowing users to navigate and explore datasets from multiple perspectives
    c. Time and Data Filters: Users can adjust time granularity (e.g., daily, weekly, monthly) and filter data by specific parameters or regions to suit their needs.
    d. View types: Different views options such as graph view, map view, and table view
4. **User Notifications**: Alerts and notifications are integrated to guide users on critical actions or insights, ensuring proactive decision-making.

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5. User roles:
   a. Guest Users: Can view dashboards and visualizations but are restricted from editing or deleting any content.
   b. Dashboard Designers: Have permissions to create, edit, and manage dashboards and visualizations within their scope.
   c. Admin Users: Manage system configurations and user permissions.
   d. Additional user roles can be configured if needed.

Table 12: Predictive Dashboard Requirements

ID	Requirement	Description	Priority	Task
ReqPD1	Predictive Dashboard should be able to ingest data	Create a pipeline with Elastic & Logstash to ingest data	SHALL	4.5
ReqPD2	Predictive Dashboard should use Kibana	Setup an instance with Kibana	SHALL	4.5
ReqPD3	Predictive Dashboard should have multiple features	Configure a dashboard with: 1. Multi-platform Accessibility 2. User Roles 3. Real-time Visualizations 4. Dashboard Creation 5. User Notifications	SHALL	4.5

II. Predictive Dashboard Tests

This subsection describes the tests designed to validate the Predictive Dashboard requirements. Each test focuses on evaluating specific scenarios, ensuring the functionality, security, and usability of the features detailed in Table 21the following tables.

Table 13: Test Data Ingestion

Test Metadata	
Scenario ID:	Data_Ingestion
Requirement ID:	ReqPD1. Predictive Dashboard should be able to ingest data
Test Type:	functional
TEST	
Test objective	Verify that the Predictive Dashboard can collect data via API from data providers
Preconditions	Data Providers API
Used Data:	
Procedural Steps:	*NOT IMPLEMENTED in the first prototype*
Expected Results:	

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Table 14: Test Kibana is used

Test Metadata	
Scenario ID:	Kibana_data_visualization_tool
Requirement ID:	ReqPD2. Predictive Dashboard should use Kibana
Test Type:	☒ Functional
TEST	
Test objective	Verify that the Predictive Dashboard is using Kibana
Preconditions	
Used Data:	https://dashboard.sosfood.jibe.cloud
Procedural Steps:	*1. Access the provided URL in a web browser* *2. Choose the 'Continue as guest' option* *3. Check that the Kibana data visualization tool appears*
Expected Results:	*Kibana interface can be seen*

Table 15: Test Multiplatform

Test Metadata	
Scenario ID:	Multiplatform_Accessibility
Requirement ID:	ReqPD3.1 Predictive Dashboard should have multi-platform accessibility
Test Type:	☒ functional ☐ non-functional
TEST	
Test objective	Verify that the Predictive Dashboard is web responsive based on the used device
Preconditions	
Used Data:	Dashboard link
Procedural Steps:	*1. Access the provided URL in a web browser* *2. Choose the 'Continue as guest' option* *3. Check that the Dashboard renders correctly on both web and mobile*
Expected Results:	*The application should be web responsive based on the used device*

Table 16: Test User Roles

Test Metadata	
Scenario ID:	Multiple_User_Roles
Requirement ID:	ReqPD3.2 Predictive Dashboard should have user roles

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Test Type:	☒ functional ☐
TEST	
Test objective	Verify that the Predictive Dashboard has a Guest user and a Dashboard Editor user
Preconditions	
Used Data:	Dashboard Link
Procedural Steps:	*For the Guest user:* *1. Access the provided URL in a web browser* *2. Choose the 'Continue as guest' option* *3. Check you can see the dashboard as a Guest user* *For the Dashboard Editor user:* *1. Access the provided URL in a web browser* *2. Choose the 'Log in with Elasticsearch' option* *3. Enter 'dashboard_editor' as username and 'dashedit' for password* *4. Check that the 'Edit' button on the top right corner is enabled.* *!Please don't make any edits!*
Expected Results:	Predictive Dashboard enables access as a Guest user and as a Dashboard Editor

Table 17: Test Real-time Visualizations

Test Metadata	
Scenario ID:	Real-time_Visualizations
Requirement ID:	ReqPD3.3 Predictive Dashboard should have real-time visualizations
Test Type:	☒ functional ☐
TEST	
Test objective	Check the existing dashboard has real time visualizations
Preconditions	
Used Data:	Dashboard Link
Procedural Steps:	*1. Access the provided URL in a web browser* *2. Choose the 'Continue as guest' option* *3. Check you can identify the following in the dashboard:* *- a time filter in the top right corner* *- two filters for some mocked data (one for 'DestCountry' and one 'DestRegion')* *- the panel with the 3 views* *- in the Graph view (current view) a line graph with:* *a. the legend of the graph* *b. a data source panel with a link for a mocked site* *c. a panel for the graph 'definition', 'prediction explanations' and 'others'* *- in the Map view: a map of one of Italy's regions* *- in the Table view: a table*

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Expected Results:	The dashboard should display a time filter, two category filters and three main views for analyzing indicators.

Table 18: Test Dashboard Creation

Test Metadata	
Scenario ID:	Dashboard_Creation
Requirement ID:	ReqPD3.4 Predictive Dashboard should allow for dashboard creation
Test Type:	☒ functional ☐
TEST	
Test objective	Check that a Dashboard Editor user can create a new dashboard
Preconditions	
Used Data:	https://dashboard.sosfood.jibe.cloud/app/dashboards
Procedural Steps:	*1. Access the provided URL in a web browser* *2. Choose the 'Log in with Elasticsearch' option* *3. Enter 'dashboard_editor' as username and 'dashedit' for password* *4. Check that the 'Create Dashboard' button on the top right corner is enabled.*
Expected Results:	A dashboard editor should be able to create a new dashboard.

Table 19: Test User Notifications

Test Metadata	
Scenario ID:	User_Notifications
Requirement ID:	ReqPD3.5 Predictive Dashboard should have user notifications
Test Type:	Functional
TEST	
Test objective	
Preconditions	
Used Data:	
Procedural Steps:	*NOT IMPLEMENTED in the first prototype*
Expected Results:	

4.3 Consumer Application Requirements and Tests

The Consumer Application section focuses on the requirements and testing protocols for the platform's end-user interface. This application serves as the primary interaction point for consumers, facilitating seamless data sharing, access, and analysis. The requirements aim to enhance user experience while ensuring compliance with data protection standards.

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(i) Consumer Application Requirements

Consumer Application requirements are designed to optimize functionality and user accessibility. These include integrating advanced data-sharing systems and ensuring the application meets modern accessibility standards. Table 20 lists the prioritized requirements for the Consumer Application.

Table 20: Consumer Application Requirements

ID	Requirement	Priority	Task
ReqCA1	Intuitive Navigation: Easy-to-use interface, clear icons, and logical flow between features. Consider user testing with diverse demographics.	SHALL	4.2
ReqCA2	Multilingual Support: Translate the app into the dominant languages of each zone.	SHALL	4.3
ReqCA3	Accessibility: Adhere to accessibility guidelines (WCAG) for users with disabilities (e.g., screen readers, alternative text for images, adjustable font sizes).	SHALL	4.3
ReqCA4	Security: Implement robust security measures to protect user data (e.g., encryption, secure authentication). Comply with GDPR regulations.	SHALL	4.3
ReqCA5	Offline Functionality: Design certain features (e.g., viewing saved menus, accessing previously viewed tips) to work offline or with limited connectivity.	SHOULD	4.5
ReqCA6	Performance: Optimize for speed and responsiveness. Minimize loading times and ensure smooth transitions.	SHOULD	4.5
ReqCA7	Data Accuracy: Ensure the accuracy of product information, nutritional data, and ecosystem information. Establish processes for data validation and updates.	SHALL	4.5
ReqCA8	Platform Compatibility: Develop for both iOS and Android	SHALL	4.2
ReqCA9	API Integrations: Identify and integrate with necessary APIs (e.g., for nutritional data, ecosystem information, social media sharing).	SHALL	4.2
ReqCA10	Scalability: Design the app architecture to handle a large number of users and increasing data volume.	SHOULD	4.5
ReqCA11	Data Input: Allow users to input their dietary habits (e.g., food consumed, frequency, quantity). Consider options for manual input, barcode scanning, or integration with food tracking apps.	SHALL	4.2
ReqCA12	Visualization: Create a clear and informative visualization of the user's eco-healthy footprint. Use charts, graphs, or other visual	SHALL	4.5

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	elements to represent the impact of their food choices on the environment and their health.		
ReqCA13	Customization: Allow users to customize the visualization (e.g., by selecting different metrics or time periods).	SHOULD	4.5
ReqCA14	Product Database: Maintain a comprehensive database of products with information on their sustainability and nutritional value.	SHOULD	4.2
ReqCA15	Recommendation Engine: Develop an algorithm to suggest sustainable and nutritious alternatives to unhealthy and unsustainable products. Consider factors like environmental impact, nutritional content, availability, and user preferences.	SHOULD	4.2
ReqCA16	Filtering and Sorting: Allow users to filter and sort suggestions based on different criteria.	SHOULD	4.5
ReqCA17	Personalization: Allow users to personalize the menus based on their dietary restrictions, preferences, and health goals.	MAY	4.5
ReqCA18	Social Media Integration: Integrate with social media platforms to allow users to share information about their eco-healthy footprint, suggested alternatives, or menus.	SHOULD	4.2
ReqCA19	Cultural Considerations: Adapt the app's content, language, and design to the cultural norms and preferences of each zone	SHALL	4.3
ReqCA20	Local Regulations: Comply with any local regulations related to food labeling, advertising, or data privacy	SHALL	4.3

(ii) Consumer Application Tests

To ensure the Consumer Application operates as intended, comprehensive testing is carried out. This includes functional, non-functional, and edge-case scenarios. The tests assess usability, security, and compliance with specified requirements. The following tables outlines the test cases for the Consumer Application.

Table 21: Test Intuitive Navigation of the Consumer App

Test Metadata	
Scenario ID:	User_Interface_test
Requirement ID:	ReqCA1
Test Type:	☐ functional ☒ non-functional
TEST Execution Details	
Test objective	Verify that the User interface of the APP is visually appealing

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Preconditions	Mockup of the APP available.
Used Data:	Cosumer App - Mockup link
Procedural Steps:	1. Recruit 6 representative users. 2. Explain the functionalities of the APP to the users. 3. Show the mockup to the users and ask for their evaluations and expectations, considering the functionalities. 4. Administer a survey for subjective feedback.
Expected Results:	– **Aesthetic Appeal**: ≥ 80% of users rate the system as visually appealing. – **Ease of Understanding**: ≥ 85% of users find the interface intuitive.

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5. Validation by use case

5.1 Validation Roadmap

The Validation Roadmap outlines the planned activities, timeline, and key milestones for the validation phase of the SOS Food tools (Data Lake, Predictive Dashboard, and Consumer App). This phase focuses on ensuring that the tools and applications meet their functional and user requirements and that they effectively support the project's goals. The roadmap is divided into two main components:

1. Software Tests: Ensuring the tools' functionality, usability, and compliance with specifications.
2. Validation by Use Case: Engaging end-users and stakeholders to validate the tools in real-world scenarios through targeted sessions and workshops.

Timeline Overview: The validation phase spans from March 2025 to July 2025 and includes structured steps designed to achieve comprehensive validation. Table 22 details the timeline and gives a description of each planned activity.

Table 22 : Validation Roadmap

Timeline	Activity	description
March 2025	**Workshop: road map presentation**	Conduct a workshop to present test roadmaps
April -May 2025	**Workshop: Tool Presentation & Hands-on Sessions**	Conduct three workshops to introduce the SOS Food tools: Data Lake, Predictive Dashboard, and Consumer App. Gather initial feedback and refine testing scenarios. During the Data Lake and Predictive Dashboard workshops, facilitate hands-on sessions with end-users to assess the tools' usability and functionality. - **Workshop Predictive dashboards:** 1 April, 3:00 PM - **Workshop Data Lake:** 15 April, 3:00 PM - **Workshop Consumer App:** 6 Mai, 3:00 PM
May-June 2025	**Pilots Document Test Results**	Pilots will document test results and feedback using standardized tables provided by Softeam. Each test report will include: - **Test Scenario ID:** As defined in the use case. - **Requirement ID:** Associated requirement. - **Test Type:** Functional, non-functional, or . - **Execution Date:** Date of test execution. - **Tester Role:** Information about the tester. - **Results:** Pass/fail outcomes, recorded during execution. Comparing actual vs. expected results will help identify defects and validate system behavior. - **Output Notes:** Feedback from the testers. The detailed validation results collected from individual testers are provided in Annex I. The content is structured by use case, then by tester, and within each tester by the validated tools.

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July–August 2025	**Final Validation Review**	Summarize insights and recommendations from testing sessions.

Supporting Activities

- **Collaboration with JIBE:** Regular coordination meetings to discuss and refine the roadmap, ensuring alignment with the development and testing progress.
- **Use case Contributions**: Engage with use cases to gather practical insights and validate tools in diverse environments.
- **Stakeholder Feedback Loop:** Maintain a structured feedback mechanism to integrate suggestions from both consortium members and project pilots effectively.
- An Ethics Presentation[3] has been shared with partners in July 2025, outlining the principles of data ethics and providing guidelines for ethical data practices.

5.2 Tester Involvement Across Use Cases

The test activities involved representatives from the three SOS Food use cases — Galicia, Greece, and Lithuania — ensuring that the tools were assessed in diverse organizational and cultural contexts. In total, nine testers contributed to the validation process, covering a broad spectrum of professional profiles and expertise. From Galicia, testers included an IT manager and technical staff from UC CUEVAS and DIH DATAlife, supported by a project consultant with extensive field experience. The Greek use case was represented by members of UC JOTIS, including professionals from the sourcing and IT departments, bringing valuable operational and technical perspectives. Finally, the Lithuanian use case engaged testers from UC VKA and AFL DIH, comprising financial analysts, project managers, and CFOs, thereby incorporating decision-making and business-oriented viewpoints.

This heterogeneous composition of testers not only ensured that validation reflected real-world conditions across different regions of the European food value chain but also enriched the feedback with both technical and managerial insights. Their diverse years of experience (ranging from junior to senior roles) further contributed to a comprehensive evaluation, strengthening the reliability and applicability of the validation results.

5.3 Data Lake Test Results

Functional requirements:

Overall, the system demonstrated strong performance and reliability across core functionalities. All testers successfully completed tasks related to data provider registration, authentication, profile editing, dataset creation, and file updates (ReqDL1—ReqDL6a), with no major issues reported. The upload and download features (ReqDL7 and ReqDL8) were also mostly successful, though one tester noted confusion regarding file naming conventions. Advanced PDC functions (ReqDL9) were tested by most users, with one tester unable to execute the test.

[3] https://nubeusc.sharepoint.com/:p:/r/sites/SOSFood/_layouts/15/Doc.aspx?sourcedoc=%7B56C7F94F-40F9-4549-B86E-A86C6793B3F3%7D&file=data_Ethics%20%E2%80%93%20Softeam.pptx&action=edit&mobileredirect=true&wdLOR=c879D5939-D508-4B1C-8C4F-280BA412832C

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Table 23 : Summary of Test Execution and Feedback by Requirement

Requirement ID	Feature	Successful Feedback Reported	Noted Issues or Observations
ReqDL1	Data Provider Registration	Yes (all testers)	No major issue reported
ReqDL2	Data Provider Authentication	Yes (all testers)	No major issue reported
ReqDL3	Edit Profile	Yes (all testers)	No specific issues reported
ReqDL4	Create a Dataset with Metadata	Yes (all testers)	Minor metadata input remarks
ReqDL7	Upload Dataset File	Yes (all except tester G)	Confusion with file naming convention (Tester G)
ReqDL5	Update Dataset	Yes (all testers)	No major issues reported
ReqDL6a	Delete File from Dataset	Yes (all testers)	Confirmation step worked as intended
ReqDL8	Download Dataset File	Yes (all testers)	Download delivered as ZIP file
ReqDL9	Advanced PDC Functions	Yes (all except tester G)	Tester G didn't manage to do the test. Output Results: N/A

The success rate throughout the tested features reflects a high level of platform stability and functional readiness. This is especially relevant given the variety of user profiles (PMs, CFOs, financial analysts), which reflects the level of technical backgrounds accessibility.

Non-functional requirements:

The platform meets the ReqDL10 non-functional requirement: it is visually appealing and easy to understand by a wide range of testers with an average of 4.3 as shown in Table 24. These results also prove that the DLMS meets expected usability and operation standards, with few places for improvement.

Table 24 : Average Scores for Visual Appeal and Interface Usability Based on Tester Feedback

Question	Average Score
Visual Appeal	4.38 / 5
Ease of Understanding the Interface	4.5 / 5

Positive Aspects Highlighted:

- Simplicity & clarity: Testers mentioned the design is easy to follow and navigate.
- Intuitive flow: Several testers described the platform as intuitive and user-friendly.

Suggestions for Improvement:

- Add more images or visuals to enhance attractiveness (Tester B).
- First-time user guidance: One tester suggested the interface could be more user-friendly for first-time users, perhaps via a tutorial or homepage guide.
- UI enhancements: Improve filter usability, particularly for language or country selection.
- Documentation & Guidance: Tester G reported confusion regarding the file naming process during uploads (ReqDL7). To address this, the guidance will be displayed directly next to the file name input field instead of being hidden behind an information icon, making it more visible and easier to follow.

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5.4 Predictive Dashboard Test Results

This section outlines the validation of the predictive dashboard. The validation focused on collecting feedback from the 3 use cases in the Galicia, Greece and Lithuania regions about the Predictive Dashboard basic functionalities. All the required use cases have been tested and passed the testers' validation. No extra feedback or suggestions were received about the Predictive Dashboard's user interface or its functionalities.

Positive Aspects Identified

- **Kibana Integration (ReqPD2):**
  - All testers confirmed that the Kibana interface was visible and functional.
- **Multi-Platform Accessibility (ReqPD3.1):**
  - The dashboard rendered correctly across **laptops, PCs, and mobile devices**.
- **User Roles (ReqPD3.2):**
  - **Guest vs. Editor roles** are consistently available.
  - Guests can view dashboards in read-only mode, while Editors can create and save dashboards.
- **Real-Time Visualizations (ReqPD3.3):**
  - Filters (time, price, country, region) were applied successfully, with graphs, tables, and maps updating accordingly.
  - Testers noted:
    - Time filters, graph legends, data source panels, and multiple visualization modes (graph/map/table) all worked (Tester B).
    - Price filtering (e.g., AvgPrice ranges) produced correct outputs (Testers D & E).
    - Map view correctly displayed Italian regions, and table view produced ticket price results (Tester F).
- **Dashboard Creation (ReqPD3.4):** All the testers successfully created and saved new dashboards.

Issues / Areas for Improvement

- **Minor Functionality Issues:**
  - **Tester F:** Link in the Data Source panel did not work (ReqPD3.3).
  - **Tester G:** Real-time visualizations required **several resets** before functioning smoothly.

Overall Outcome

The predictive dashboard **meets its functional requirements** across all tested areas:

- Kibana is integrated and accessible.
- Multi-platform support is effective (desktop + mobile).
- User roles are correctly implemented (Guest vs. Editor).

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- Real-time visualizations function correctly with multiple filters and visualization modes.
- Dashboards can be created and saved by Editors.

Despite some minor issues (resetting visualizations, broken link), the **core functionalities are validated and operational**.

5.5 Consumer Application Test Results

This section outlines the validation of the Consumer Application. Validation focuses on collecting feedback concerning the User Interface appearance and functionalities to provide a clear set of requirements to the APP developers team.

As results of this validation, **the visual appealing of the APP received a mean evaluation of 4,1 on a maximum of 5**.

The general consensus is that **the design is well-received, with many appreciating its clean, modern, and user-friendly interface**. The simplicity and clear layout make the app intuitive and easy to navigate. Users also found the visual design appealing and professional, with a pleasing color scheme and balanced layout. The graph's ability to clearly show performance against average numbers was also highlighted as a positive.

However, there are a few **areas for improvement**:

- **Scorecard Enhancement**: A suggestion was made to improve the overall scorecard.
- **Additional KPI**: Users would like to see a fifth KPI on the chart, specifically "kcal of the recipe."
- **Clarity on "Fingerprint"**: The purpose of the "fingerprint" at the top of the chart is unclear and needs clarification.

Overall, the feedback indicates a **strong foundation in design and usability**, with specific actionable insights for further refinement.

Concerning the **usability**, the interface is praised for its simplicity, intuitive design, and user-friendliness, with clear categories and straightforward navigation. **Users generally find it easy to understand** and access key features.

However, several **areas for improvement** were identified:

- **Visual Framework**: There's a suggestion to enhance the overall visual framework.
- **Onboarding Tutorial**: A brief tutorial upon the app's first launch would be beneficial to guide new users.
- **Diagram Interaction and Input**: It's unclear how users interact with the diagram and how they provide their input or information to it. This needs clearer explanation or a more intuitive interaction method.
- **"Local" Comparison in Eco-Healthy Fingerprint**: In the "Eco-Healthy Fingerprint" section, adding a "Local" comparison parameter (alongside "You" and "Avg") would provide a more relevant benchmark for users, potentially increasing engagement and encouraging behavior change.
- **Clarity on Environmental Impact Translation**: Users expressed difficulty understanding how their actions translate into environmental impact. Information regarding energy savings or CO2 reductions should be more prominent or explained more clearly within the interface.

In essence, while the interface is largely successful in its ease of use, there's a **clear need to improve how users interact with data**, understand their impact, and to offer a guiding hand for first-time users.

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6. Conclusions

This deliverable has presented the extensive validation activities performed for the SOS Food Data Lake, Predictive Dashboards, and Consumer Application with a road mapping and use case—led testing strategy. The results confirm that the tools deployed to a large degree meet their functional and non-functional requirements, demonstrating strength, usability, and readiness for large-scale deployment. Most importantly, validation was led by multicultural stakeholder groups to ensure that the assessment captured technical compliance as well as user-centric perceptions.

Across all three tools, the validation did not only report high consistency with the goals of the project but also areas of particular improvement. For instance, the Data Lake consistently performed well in all necessary functionalities, and only minor fine-tuning was required in usability guidelines. The Predictive Dashboards were validated to be functionally effective in regional contexts, confirming them to be suitable for decision-support. Concurrently, Consumer App testing exhibited great acceptance for the navigation and design, and gave very insightful feedback for the onboarding, KPI visualization, and impact presentation enhancements.

In conclusion, the SOS Food tools are effective and user-oriented innovations that contribute meaningfully towards sustainable food consumption and greater transparency across the European food value chain. Through continued user feedback and test results, the tools can only go on to further enhance their relevance, usefulness, and long-term impact.

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[2] "ISO-IEC-IEEE-29119-3," 1 september 2013. [Online]. Available: https://wildart.github.io/MISG5020/standards/ISO-IEC-IEEE-29119-3.pdf.

[3] "Test Documentation with ISO/IEC/IEEE 29119-3:2021," [Online]. Available: https://www.microtool.de/en/document-management/test-documentation-with-iso-iec-ieee-29119-32021/.

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Annex I: Validation by use case

1. Validation by Galician Use Case

1.1 Tester A

(i) Data Lake Validation

Table 25: Test execution Report — ReqDL1 by Tester A

Test Metadata	
Scenario ID:	dp_registration
Requirement ID:	ReqDL1: The DLMS shall provide a feature to register a new data provider.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH DATAlife
Execution Date:	16/04/2025
Tester Role:	Project Consultant
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	OK, the registration procedure worked properly.

Table 26: Test execution Report — ReqDL2 by Tester A

Test Metadata	
Scenario ID:	dp_authentication
Requirement ID:	ReqDL2: The DLMS shall provide authentication functionality for data providers.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH DATAlife
Execution Date:	16/04/2025
Tester Role:	Project Consultant
Results:	☒Pass ☐Fail
ACTUAL RESULTS	

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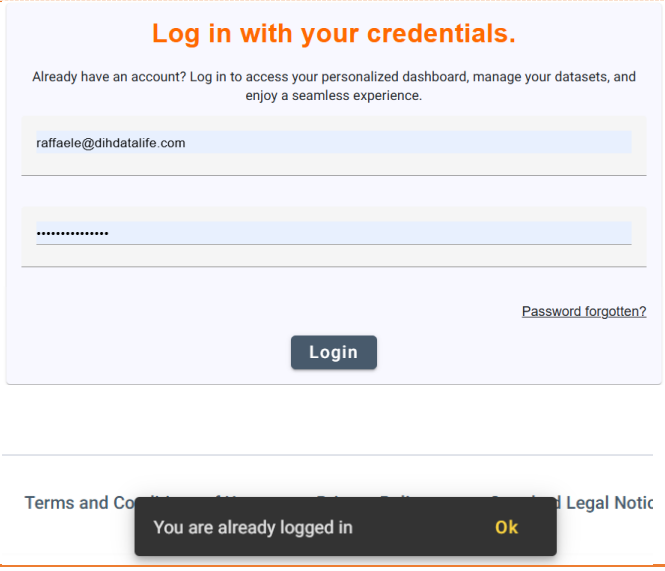
Output notes:	

Table 27: Test execution Report — ReqDL3 by Tester A

Test Metadata	
Scenario ID:	Update_profile
Requirement ID:	ReqDL3: The DLMS shall provide a feature to edit data provider information.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH DATAlife
Execution Date:	16/04/2025
Tester Role:	Project Consultant
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	

Table 28: Test execution Report — ReqDL4 by Tester A

Test Metadata	
Scenario ID:	create_dataset

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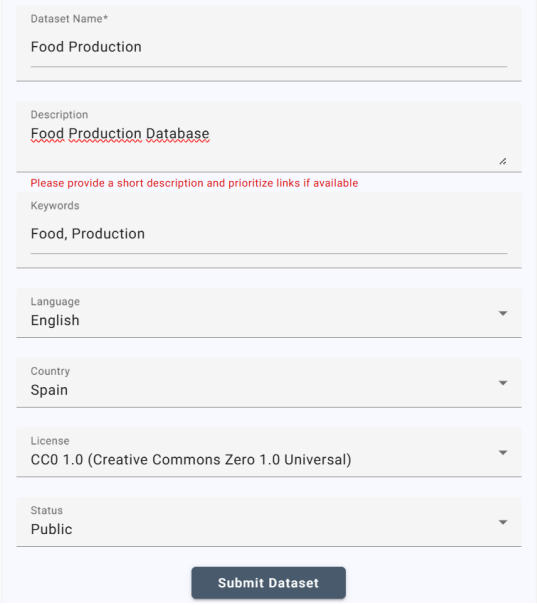
Requirement ID:	ReqDL4: The DLMS shall provide a module for creating new datasets, accompanied by detailed metadata information.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH DATAlife
Execution Date:	16/04/2025
Tester Role:	Project Consultant
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	

Table 29: Test execution Report — ReqDL7 by Tester A

Test Metadata	
Scenario ID:	upload_file
Requirement ID:	ReqDL7: The DLMS should facilitate the efficient upload of a dataset file.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH DATAlife
Execution Date:	16/04/2025
Tester Role:	Project Consultant
Results:	☒Pass ☐Fail
ACTUAL RESULTS	

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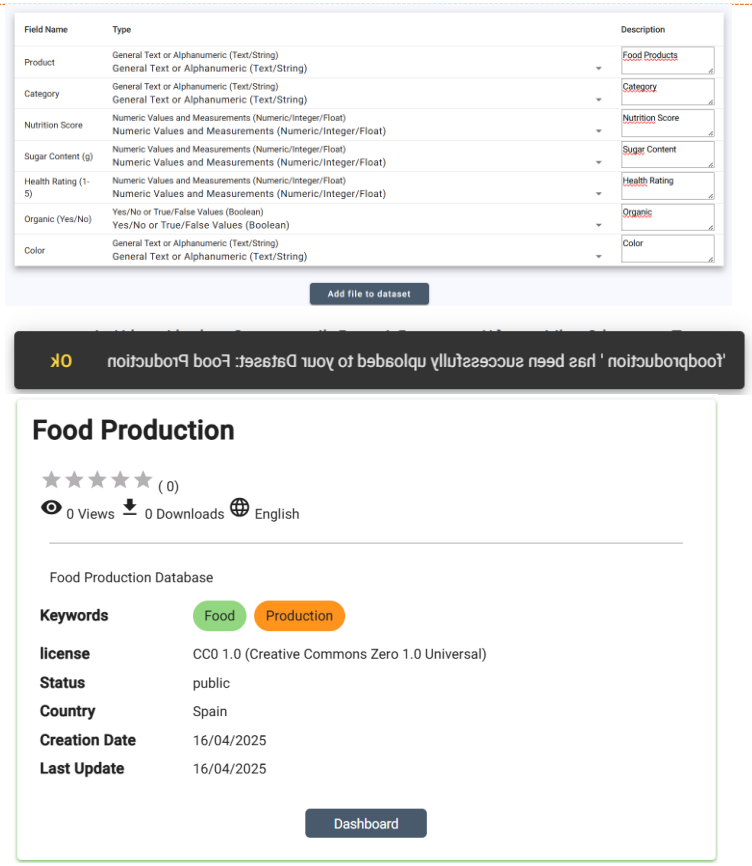
Output notes:	

Table 30: Test execution Report — ReqDL5 by Tester A

Test Metadata	
Scenario ID:	update_dataset
Requirement ID:	ReqDL5: The DLMS shall support the update of a dataset..
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH DATAlife
Execution Date:	16/04/2025
Tester Role:	Project Consultant
Results:	☐Pass ☒Fail
ACTUAL RESULTS	
Output notes:	When I clic on “Update Dataset” button, nothing happens

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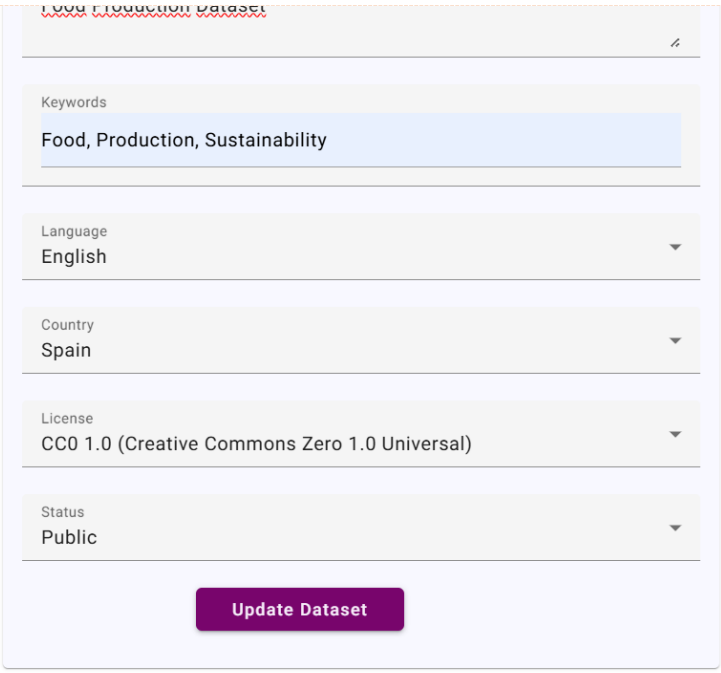
	

Table 31: Test execution Report — ReqDL6a by Tester A

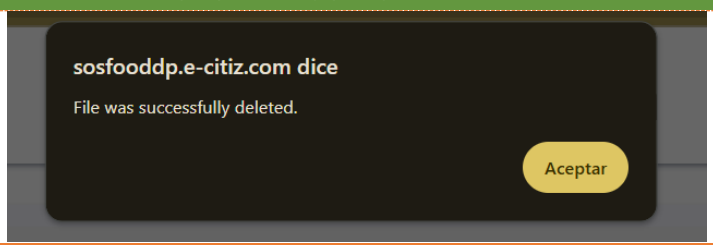
Test Metadata	
Scenario ID:	Delete_file
Requirement ID:	ReqDL6a: The DLMS shall support the deletion of a file in a dataset.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH DATAlife
Execution Date:	16/04/2025
Tester Role:	Project Consultant
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	

Table 32: Test execution Report — ReqDL8 by Tester A

Test Metadata

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Scenario ID:	file_download
Requirement ID:	ReqDL8: The DLMS should facilitate the efficient download of a dataset file.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH DATAlife
Execution Date:	16/04/2025
Tester Role:	Project Consultant
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	File downloaded correctly

Table 33: Test execution Report — ReqDL9 by Tester A

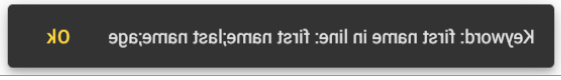
Test Metadata	
Scenario ID:	PDC_test
Requirement ID:	ReqDL9: The DLMS shall provide advanced functions for the PDC.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH DATAlife
Execution Date:	16/04/2025
Tester Role:	Project Consultant
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	

Table 34: Test execution Report — ReqDL10 by Tester A

Test Metadata	
Scenario ID:	Usability_test
Requirement ID:	ReqDL10: The DLMS should be visually appealing and easy to understand.
Test Type:	☐ functional ☒ non-functional

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UC/DIH:	DIH DATAlife
Execution Date:	16/04/2025
Tester Role:	Project Consultant
Results:	Did you complete the test successfully? ☒yes ☐No If no, what made it difficult to complete the test? ..... How visually appealing is the website to you? (1 to 5 scale): 5 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? ..... How easy is the interface to understand? (1 to 5 scale): 5 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? The menu is clear and easy to understand and use
ACTUAL RESULTS	
Output notes:	

(ii) Predictive Dashboard Validation

Table 35: Test execution Report — ReqPD2 by Tester A

Test Metadata	
Scenario ID:	Kibana_data_visualization_tool
Requirement ID:	ReqPD2. Predictive Dashboard should use Kibana
Test Type:	Functional
UC/DIH:	DIH DATAlife
Execution Date:	01/04/2025
Tester Role:	Project Consultant
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Kibana interface is visible

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Table 36: Test execution Report — ReqPD3.1 by Tester A

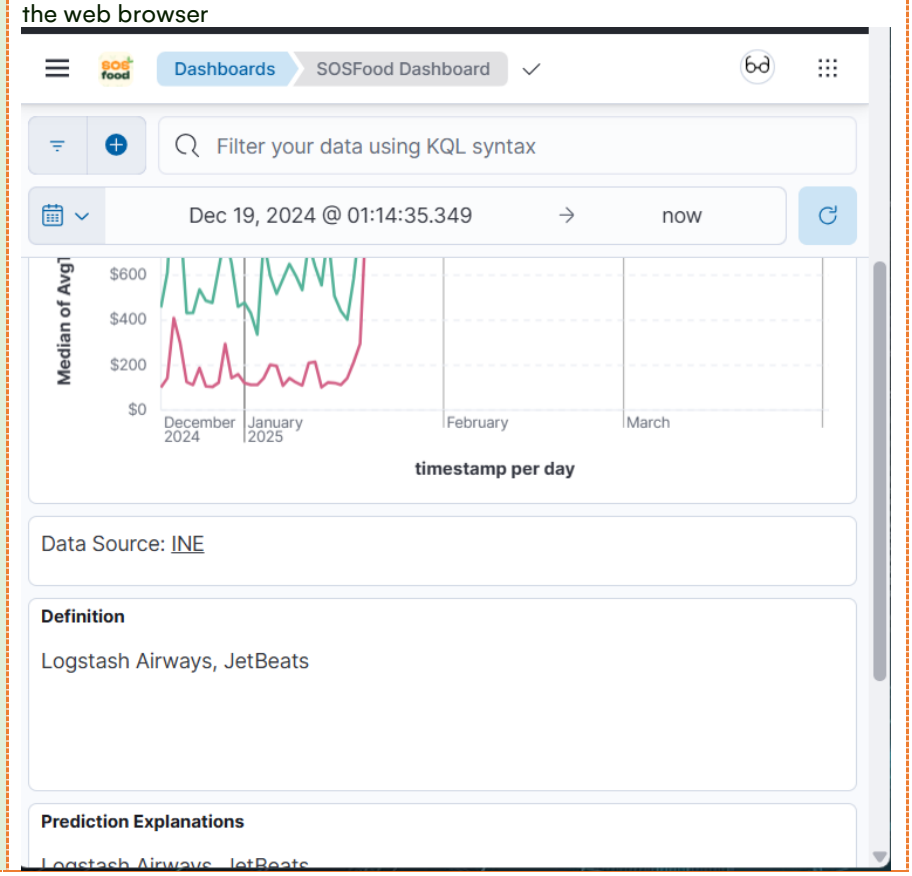
Test Metadata	
Scenario ID:	Multiplatform_Accessibility
Requirement ID:	ReqPD3.1 Predictive Dashboard should have multi-platform accessibility
Test Type:	functional
UC/DIH:	DIH DATAlife
Execution Date:	01/04/2025
Tester Role:	Project Consultant
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Tested on laptop, the dashboard responds responsively to the dimension of the web browser 

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Table 37: Test execution Report — ReqPD3.2 by Tester A

Test Metadata	
Scenario ID:	Multiple_User_Roles
Requirement ID:	ReqPD3.2 Predictive Dashboard should have user roles
Test Type:	functional
UC/DIH:	DIH DATAlife
Execution Date:	01/04/2025
Tester Role:	Project Consultant
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Tested as Guest, the dashboard appears in 'read only' mode

Table 38: Test execution Report — ReqPD3.3 by Tester A

Test Metadata	
Scenario ID:	Real-time_Visualizations
Requirement ID:	ReqPD3.3 Predictive Dashboard should have real-time visualizations
Test Type:	functional
UC/DIH:	DIH DATAlife
Execution Date:	01/04/2025
Tester Role:	Project Consultant
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	All the listed components appear correctly.

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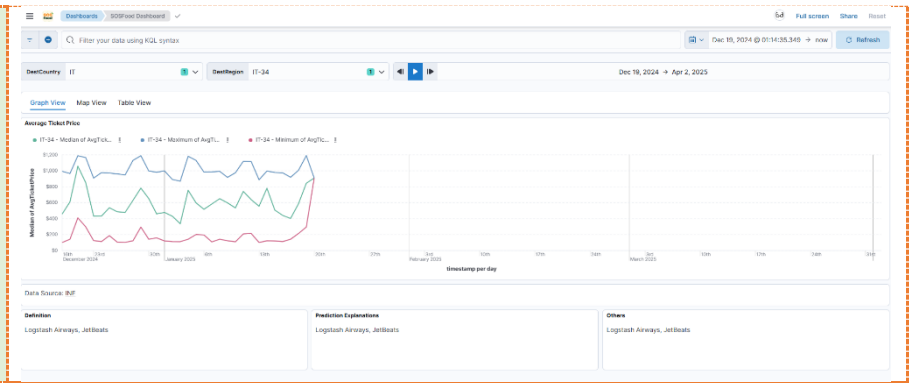
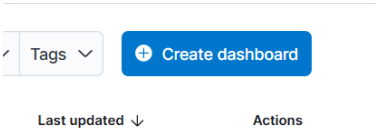
	

Table 39: Test execution Report — ReqPD3.4 by Tester A

Test Metadata	
Scenario ID:	Dashboard_Creation
Requirement ID:	ReqPD3.4 Predictive Dashboard should allow for dashboard creation
Test Type:	functional
UC/DIH:	DIH DATAlife
Execution Date:	01/04/2025
Tester Role:	Project Consultant
Results:	☐ Pass ☐
ACTUAL RESULTS	
Output notes:	The button is enabled 

(iii) Consumer Application Validation

Table 40: Test execution Report – ReqCA1 by Tester A

Test Metadata	
Scenario ID:	User_Interface_test
Requirement ID:	ReqCA1
Test Type:	☐ functional ☒ non-functional
UC/DIH:	DIH DATAlife

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Execution Date:	06/05/2025
Tester Role:	Project Consultant
Results:	How visually appealing is the website to you? (1 to 5 scale): 3 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? I would improve the scorecard How easy is the interface to understand? (1 to 5 scale): 4 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? I would improve the visual framework
ACTUAL RESULTS	
Output notes:	

1.2 Tester B

(i) Data Lake Validation

Table 41: Test execution Report — ReqDL1 by Tester B

Test Metadata	
Scenario ID:	dp_registration
Requirement ID:	ReqDL1: The DLMS shall provide a feature to register a new data provider.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH DATAlife
Execution Date:	21/04/2025
Tester Role:	Technological processes
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	OK, the registration procedure worked properly, but if the user tries to register twice because he hasn't validated yet, the DLMS invites him to

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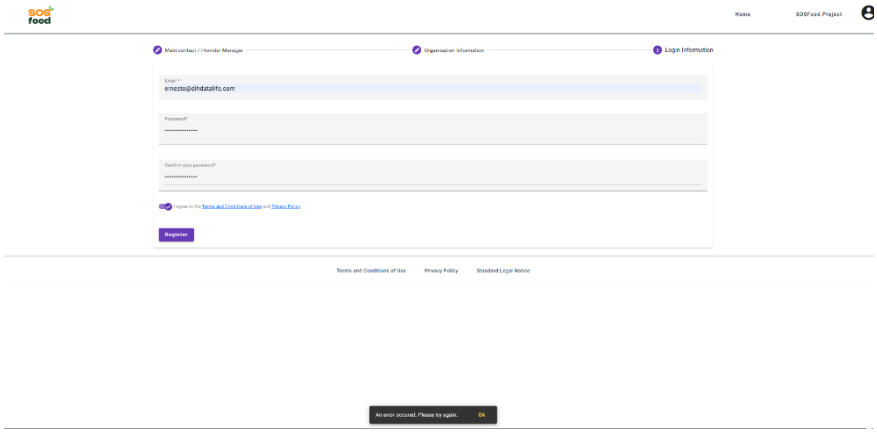
	register again instead of warnning to the registration process is on course. 

Table 42: Test execution Report — ReqDL2 by Tester B

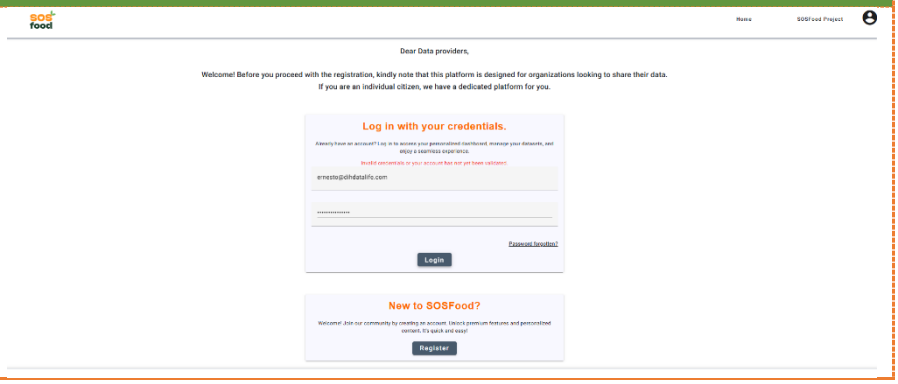
Test Metadata	
Scenario ID:	dp_authentication
Requirement ID:	ReqDL2: The DLMS shall provide authentication functionality for data providers.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH Datalife
Execution Date:	21/04/2025
Tester Role:	Technological processes
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	

Table 43: Test execution Report — ReqDL3 by Tester B

Test Metadata	
Scenario ID:	Update_profile

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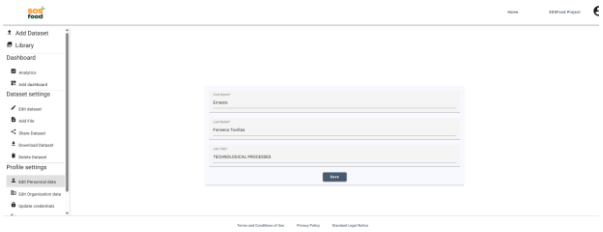
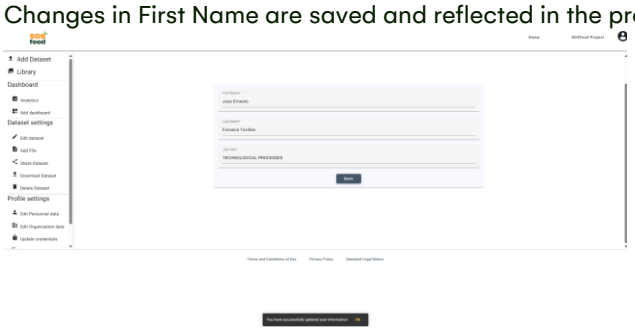
Requirement ID:	ReqDL3: The DLMS shall provide a feature to edit data provider information.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH Datalife
Execution Date:	24/04/2025
Tester Role:	Technological processes
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	Edit Perssonal data:  Changes in First Name are saved and reflected in the profile:  Profile settings work with Organization data and Update credentials too.

Table 44: Test execution Report — ReqDL4 by Tester B

Test Metadata	
Scenario ID:	create_dataset
Requirement ID:	ReqDL4: The DLMS shall provide a module for creating new datasets, accompanied by detailed metadata information.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH Datalife
Execution Date:	24/04/2025

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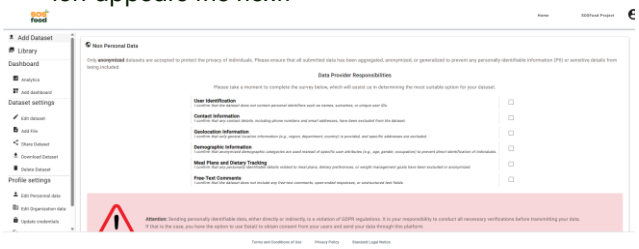
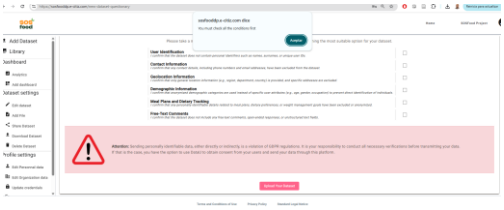
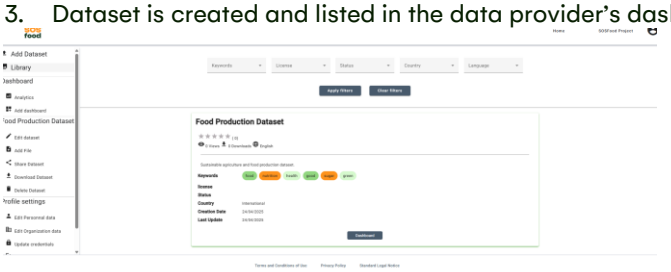
Tester Role:	Technological processes
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	1. When we Click on "Add Dataset" at the very top of the menu on the left appears the next:  2. We must check all the conditions to continue  3. Dataset is created and listed in the data provider's dashboard. 

Table 45: Test execution Report — ReqDL7 by Tester B

Test Metadata	
Scenario ID:	upload_file
Requirement ID:	ReqDL7: The DLMS should facilitate the efficient upload of a dataset file.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH Datalife
Execution Date:	24/04/2025
Tester Role:	Technological processes
Results:	☒Pass ☐Fail
ACTUAL RESULTS	

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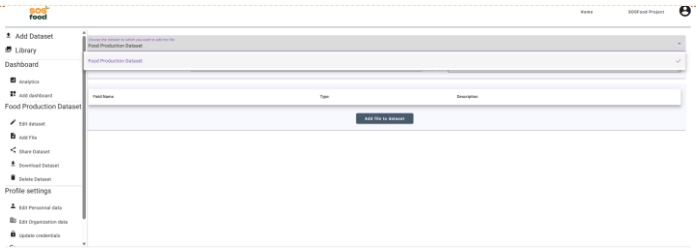
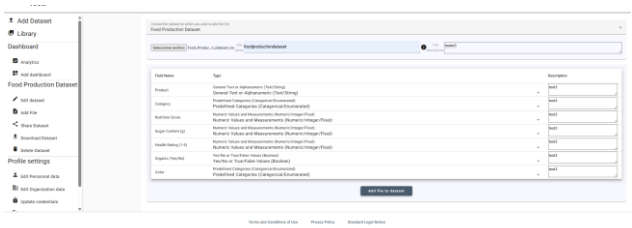
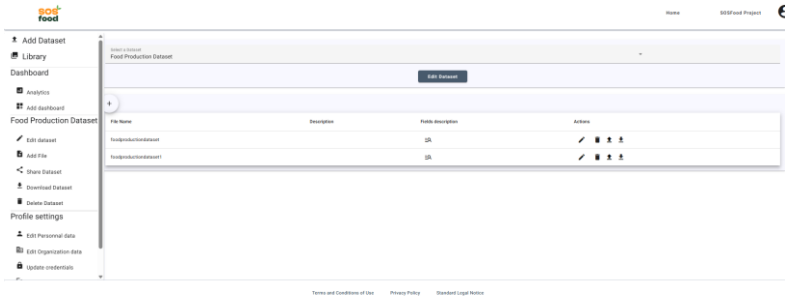
Output notes:	  "Food_Production_Dataset.csv" file was able to be uploaded (15/05/2025) 

Table 46: Test execution Report — ReqDL15 by Tester B

Test Metadata	
Scenario ID:	update_dataset
Requirement ID:	ReqDL5: The DLMS shall support the update of a dataset..
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH Datalife
Execution Date:	24/04/2025
Tester Role:	Technological processes
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	

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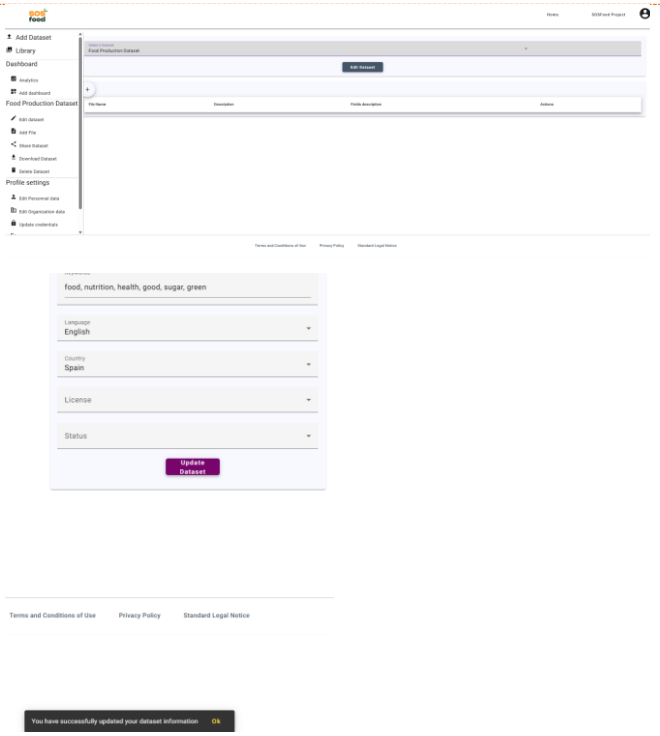

File can't be uploaded altought the Dataset is selected

(15/05/2025) It works correctly

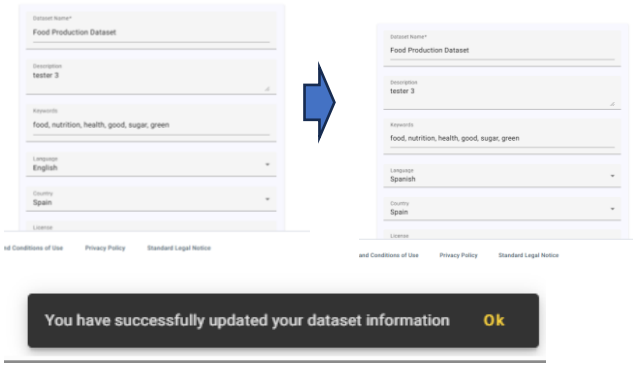

Table 47: Test execution Report — ReqDL6a by Tester B

Test Metadata	
Scenario ID:	Delete_file
Requirement ID:	ReqDL6a: The DLMS shall support the deletion of a file in a dataset.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	DIH Datalife
Execution Date:	24/04/2025

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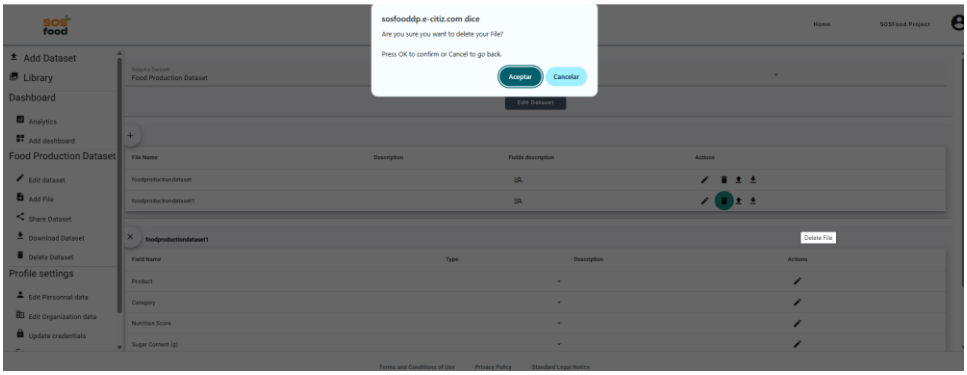
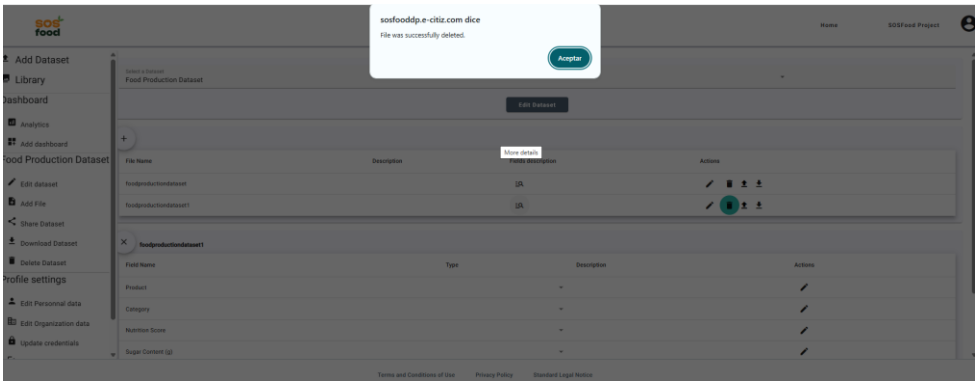
Tester Role:	Technological processes
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	Dataset could be deleted but file can't be deleted because the add file didn't work.
	(15/05/2025) Now it works correctly. The sequence:  

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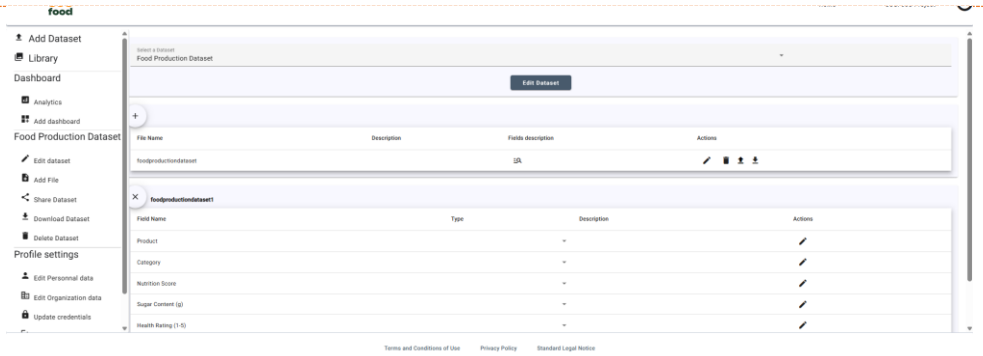
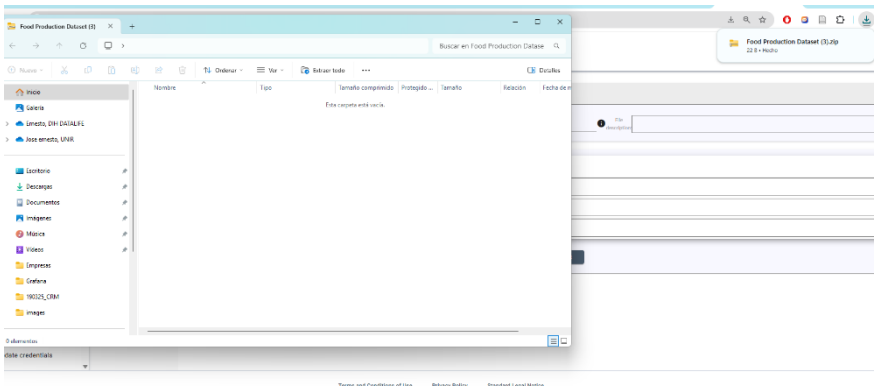
	

Table 48: Test execution Report — ReqDL8 by Tester B

Test Metadata		
Scenario ID:	file_download	
Requirement ID:	ReqDL8: The DLMS should facilitate the efficient download of a dataset file.	
Test Type:	☒ functional ☐ non-functional	
UC/DIH:	DIH Datalife	DIH Datalife
Execution Date:	24/04/2025	24/04/2025
Tester Role:	Technological processes	Technological processes
Results:	☐Pass ☒Fail	
ACTUAL RESULTS		
Output notes:	Dataset could be downloaded but each time "Edit Dataset" is clicked a downloaded is done.  Dataset could be deleted but file can't be deleted because the add file didn't work.	

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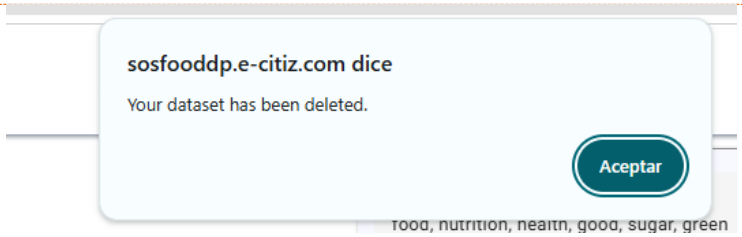

(15/05/2025)

It exists a problem, after downloading for first time the dataset, each time any item of edit menu on the left is clicked produces an uncontrolled download as the next image shows:

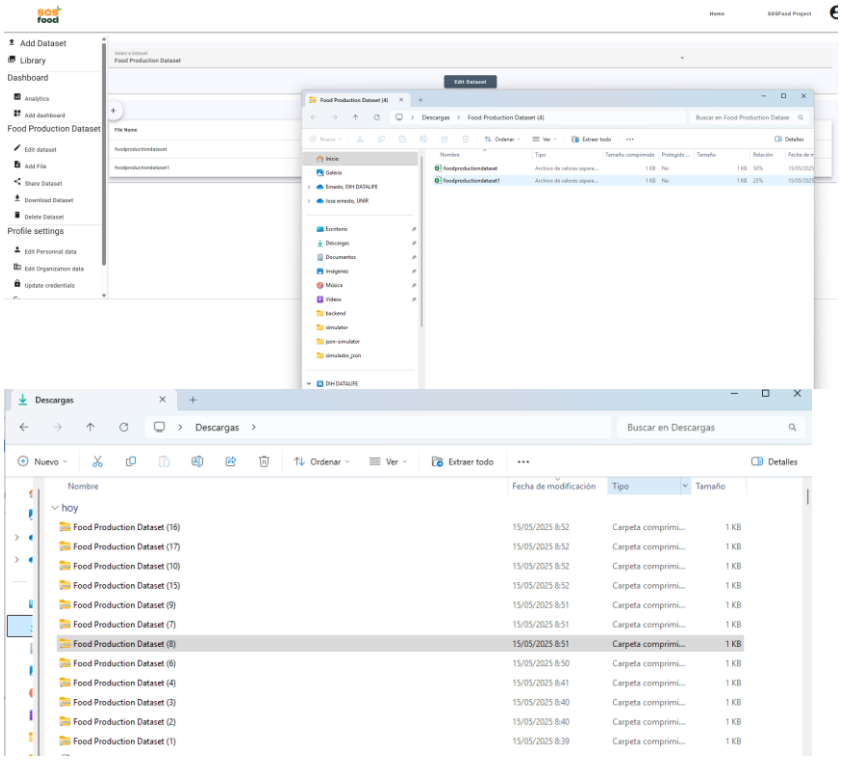

Table 49: Test execution Report — ReqDL9 by Tester B

Test Metadata		
Scenario ID:	PDC_test	
Requirement ID:	ReqDL9: The DLMS shall provide advanced functions for the PDC.	
Test Type:	☒ functional ☐ non-functional	
UC/DIH:	DIH Datalife	DIH Datalife
Execution Date:	24/04/2025	24/04/2025

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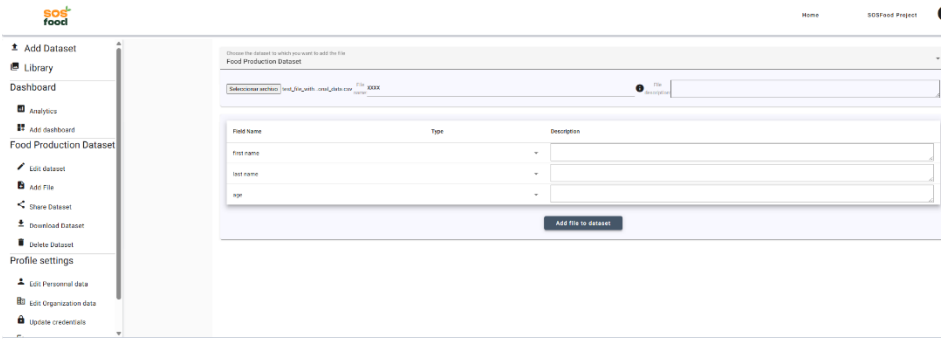
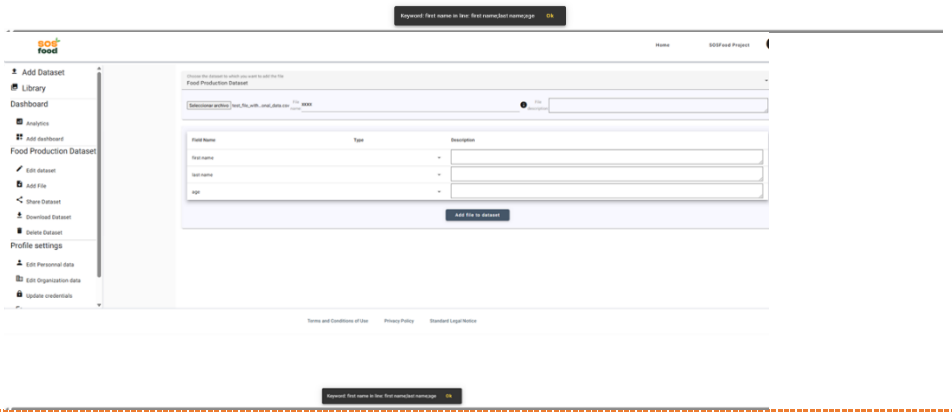
Tester Role:	Technological processes	Technological processes
Results:	☒Pass ☐Fail	
ACTUAL RESULTS		
Output notes:	 	

Table 50: Test execution Report — ReqDL10 by Tester B

Test Metadata	
Scenario ID:	Usability_test
Requirement ID:	ReqDL10: The DLMS should be visually appealing and easy to understand.
Test Type:	☐ functional ☒ non-functional
UC/DIH:	DIH Datalife
Execution Date:	15/05/2025
Tester Role:	Technological processes
Results:	Did you complete the test successfully? ☐yes ☒No If no, what made it difficult to complete the test? Multiple uncontrolled downloads appear after the first download when the dataset is chosen

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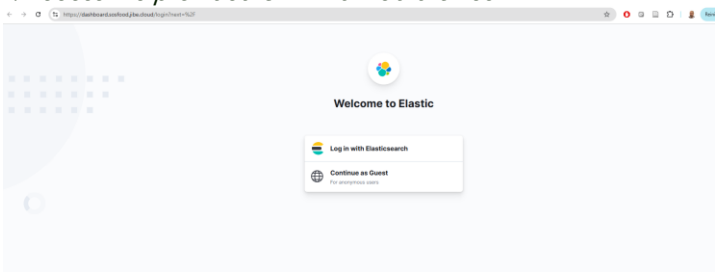
	How visually appealing is the website to you? (1 to 5 scale): 4 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? I think adding some images in the editing interface of the dataset activities would be more attractive for the application. How easy is the interface to understand? (1 to 5 scale): 3 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? The interface is easy to understand, but if it improves some aspects such as language filters or country selection, it will be easier to interact with it. For example, if this filter would take into account the first two letters, its functionality would be significantly improved.
ACTUAL RESULTS	
Output notes:	

(ii) Predictive Dashboard Validation

Table 51: Test execution Report — ReqPD2 by Tester B

Test Metadata	
Scenario ID:	Kibana_data_visualization_tool
Requirement ID:	ReqPD2. Predictive Dashboard should use Kibana
Test Type:	Functional
UC/DIH:	DIH DATAlife
Execution Date:	21/04/2025
Tester Role:	Technological processes
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	*1. Access the provided URL in a web browser* 

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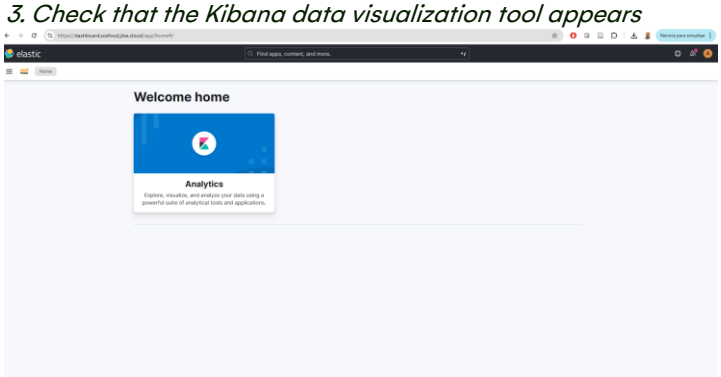
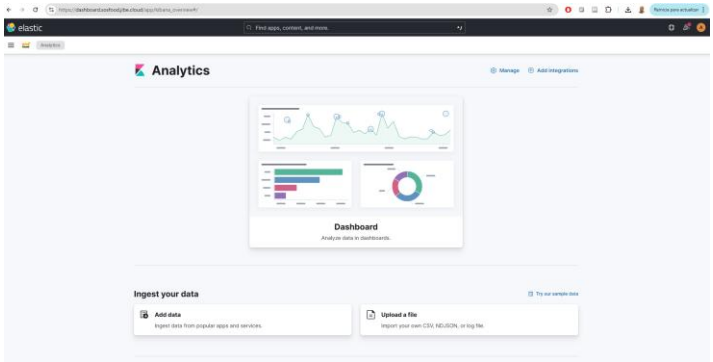
	2.Choose the 'Continue as guest' option *3. Check that the Kibana data visualization tool appears*  

Table 52: Test execution Report — ReqPD3.1 by Tester B

Test Metadata		
Scenario ID:	Multiplatform_Accessibility	
Requirement ID:	ReqPD3.1 Predictive Dashboard should have multi-platform accessibility	
Test Type:	functional	
UC/DIH:	DIH DATAlife	
Execution Date:	21/04/2025	21/04/2025
Tester Role:	Technological processes	Technological processes
Results:	☒Pass ☐Fail	
ACTUAL RESULTS		
Output notes:	*1. Dashboard renders correctly on web and mobile*	

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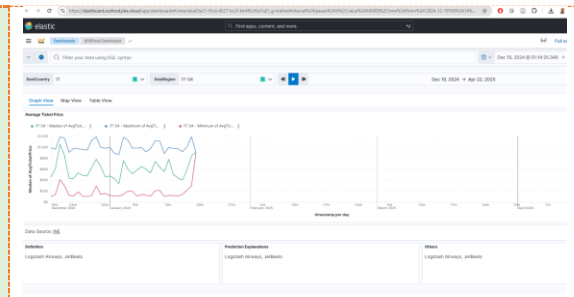

2. Dashboard renders correctly on mobile

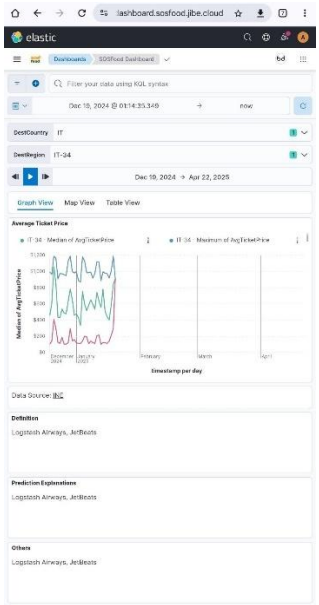

Table 53: Test execution Report — ReqPD3.2 by Tester B

Test Metadata		
Scenario ID:	Multiple_User_Roles	
Requirement ID:	ReqPD3.2 Predictive Dashboard should have user roles	
Test Type:	functional	
UC/DIH:	DIH DATAlife	
Execution Date:	21/04/2025	
Tester Role:	Technological processes	Technological processes
Results:	☒Pass ☐Fail	
ACTUAL RESULTS		
Output notes:	*For the Guest user:*	

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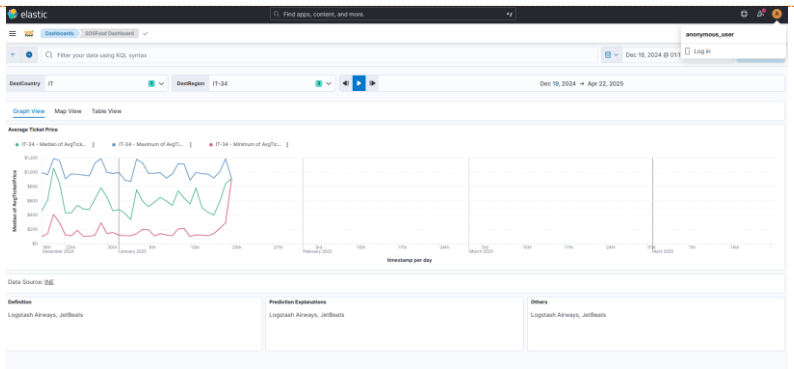

For the Dashboard Editor user:

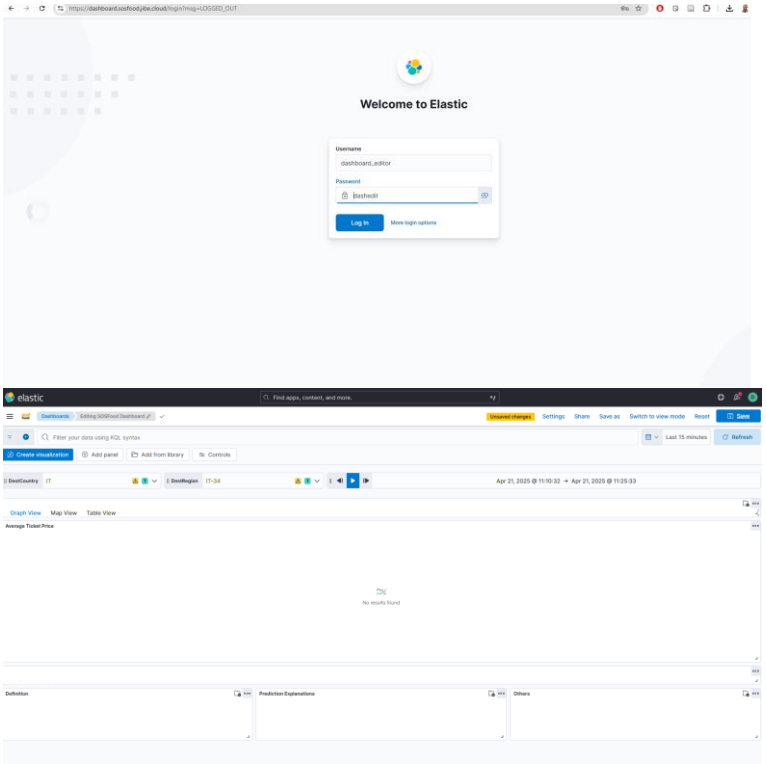

Table 54: Test execution Report — ReqPD3.3 by Tester B

Test Metadata	
Scenario ID:	Real-time_Visualizations
Requirement ID:	ReqPD3.3 Predictive Dashboard should have real-time visualizations
Test Type:	functional
UC/DIH:	DIH DATAlife
Execution Date:	21/04/2025

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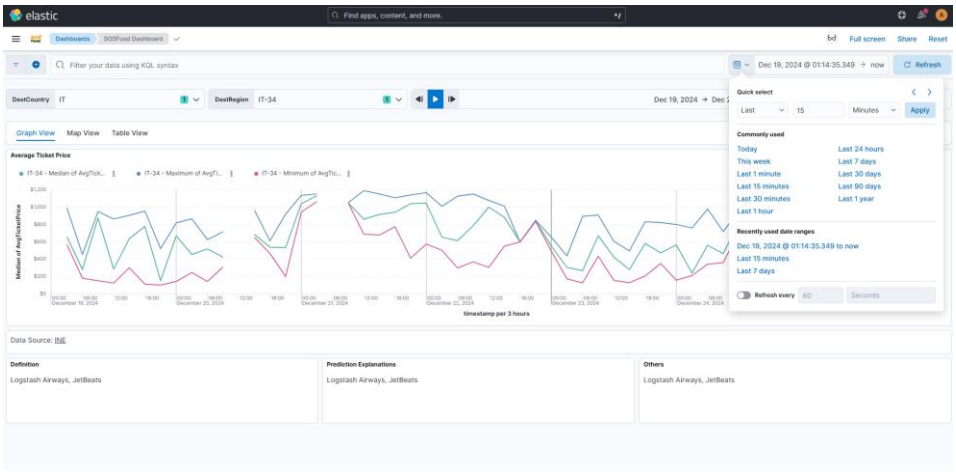
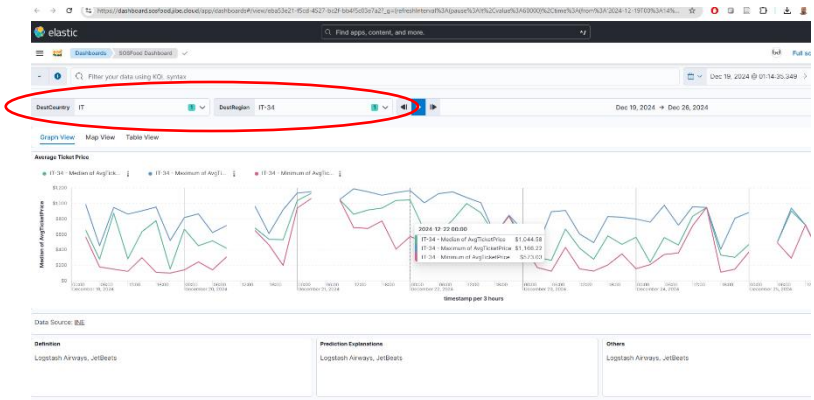
Tester Role:	Technological processes	Technological processes
Results:	☒Pass ☐Fail	
ACTUAL RESULTS		
Output notes:	1. Exists a time filter in the top right corner:  2. Exist two filters for some mocked data (one for 'DestCountry' and one 'DestRegion')  3. *Exist the panel with the 3 views*	

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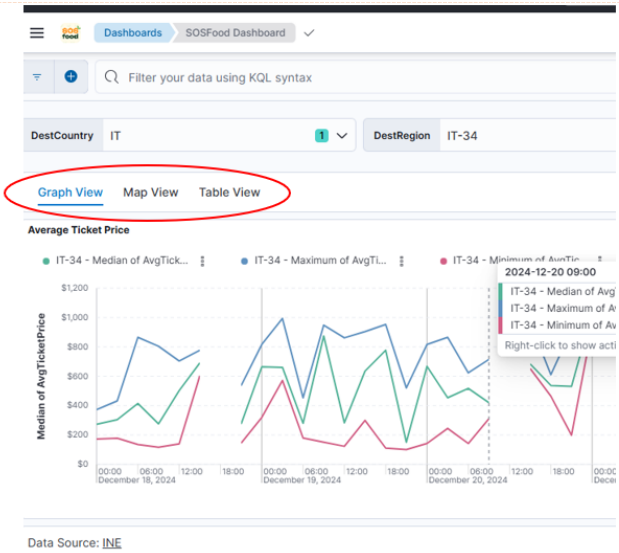
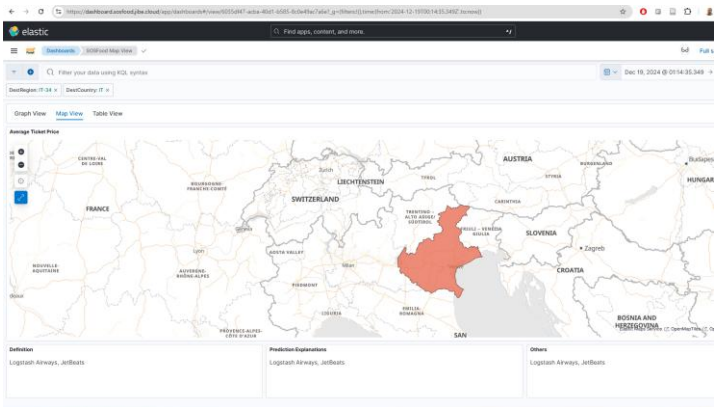


4. Exists in the Graph view (current view) a line graph with:
    a. The legend of the graph
    b. A data source panel with a link for a mocked site
    c. A panel for the graph 'definition', 'prediction explanations' and 'others'

5. The Map view shows a map of one of Italy's regions.



6. The Table view shows a table.

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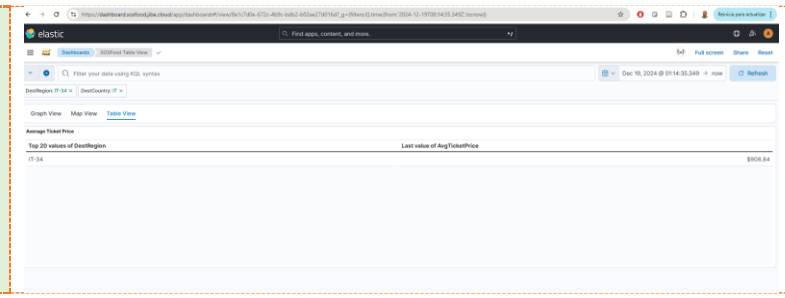
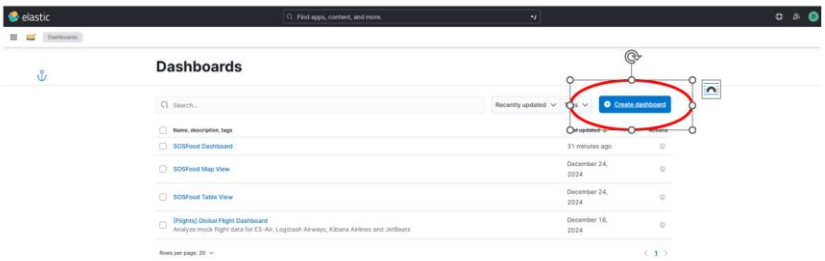
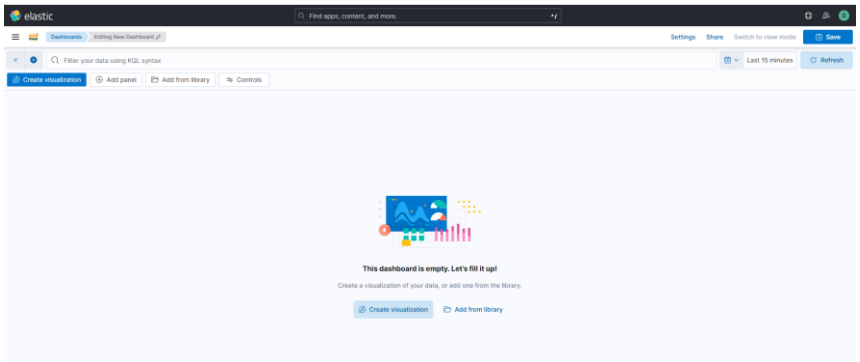
	

Table 55: Test execution Report — ReqPD3.4 by Tester B

Test Metadata		
Scenario ID:	Dashboard_Creation	
Requirement ID:	ReqPD3.4 Predictive Dashboard should allow for dashboard creation	
Test Type:	functional	
UC/DIH:	DIH DATAlife	
Execution Date:	21/04/2025	21/04/2025
Tester Role:	Technological processes	Technological processes
Results:	☒Pass ☐Fail	
ACTUAL RESULTS		
Output notes:	'Create Dashboard' button on the top right corner exists and it's enabled.  	

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(iii) Consumer Application Validation

Table 56: Test execution Report – ReqCA1 by Tester B

Test Metadata	
Scenario ID:	User_Interface_test
Requirement ID:	ReqCA1
Test Type:	☐ functional ☒ non-functional
UC/DIH:	DIH DATAlife
Execution Date:	12/05/2025
Tester Role:	Technological processes
Results:	How visually appealing is the website to you? (1 to 5 scale): 4 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? In general, I like the design but I add a fifth KPI on the chart such as kcal of the recipe. How easy is the interface to understand? (1 to 5 scale): 4 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? The Interface seems easy but like a suggestion it'd be interesting to include a brief tutorial the first time you start the app.
ACTUAL RESULTS	
Output notes:	

2. Validation by Greek Use Case

2.1 Tester C

(i) Data Lake Validation

Table 57: Test execution Report — ReqDL1 by Tester C

Test Metadata	
Scenario ID:	dp_registration
Requirement ID:	ReqDL1: The DLMS shall provide a feature to register a new data provider.

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Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data sourcing
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Successfully registered Dear Tester, Your registration for the SOSFood Data Lake has been successfully validated, and you now have access to the platform. Please log in and explore the system ahead. If you encounter any issues or have any questions, don't hesitate to reach out to me. Best regards,

Table 58: Test execution Report — ReqDL2 by Tester C

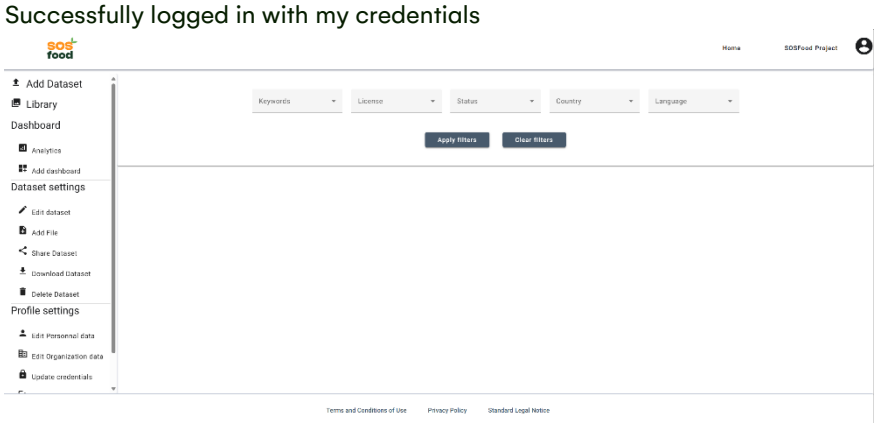
Test Metadata	
Scenario ID:	dp_authentication
Requirement ID:	ReqDL2: The DLMS shall provide authentication functionality for data providers.
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data analysis— Data sourcing
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Successfully logged in with my credentials 

Table 59: Test execution Report — ReqDL3 by Tester C

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Test Metadata	
Scenario ID:	Update_profile
Requirement ID:	ReqDL3: The DLMS shall provide a feature to edit data provider information.
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data Sourcing
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Succssfully updated my profile You have successfully updated your information Ok

Table 60: Test execution Report — ReqDL4 by Tester C

Test Metadata	
Scenario ID:	create_dataset
Requirement ID:	ReqDL4: The DLMS shall provide a module for creating new datasets, accompanied by detailed metadata information.
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data Sourcing
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Dataset created Field Name / Type / Description first name — General Text or Alphanumeric (Text/String) / General Text or Alphanumeric (Text/String) last name — General Text or Alphanumeric (Text/String) / General Text or Alphanumeric (Text/String) age — Numeric Values and Measurements (Numeric/Integer/Float) / Numeric Values and Measurements (Numeric/Integer/Float)

Table 61: Test execution Report — ReqDL7 by Tester C

Test Metadata	
Scenario ID:	upload_file

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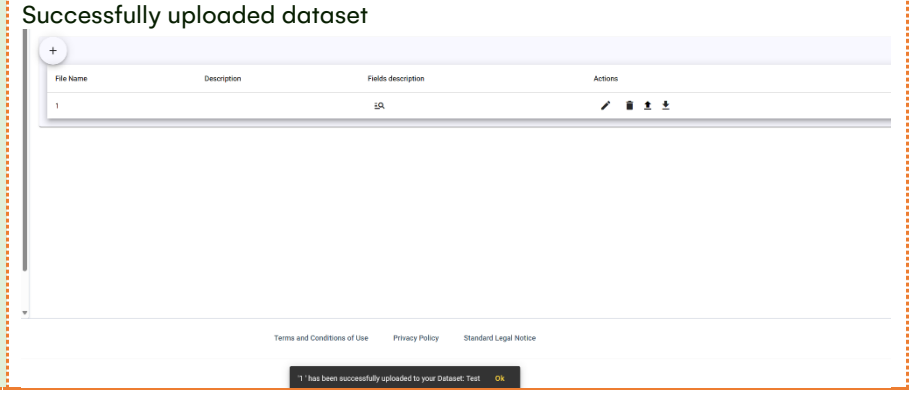
Requirement ID:	ReqDL7: The DLMS should facilitate the efficient upload of a dataset file.
Test Type:	☒ functional
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data sourcing
Results:	☐ Pass ☐
ACTUAL RESULTS	
Output notes:	Successfully uploaded dataset 

Table 62: Test execution Report — ReqDL15 by Tester C

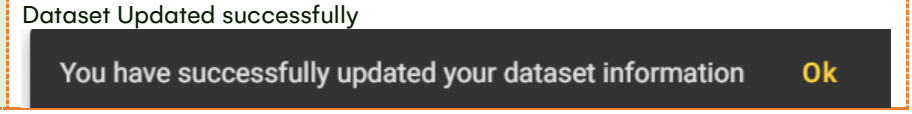
Test Metadata	
Scenario ID:	update_dataset
Requirement ID:	ReqDL5: The DLMS shall support the update of a dataset..
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data sourcing
Results:	☐ Pass ☐
ACTUAL RESULTS	
Output notes:	Dataset Updated successfully 

Table 63: Test execution Report — ReqDL6a by Tester C

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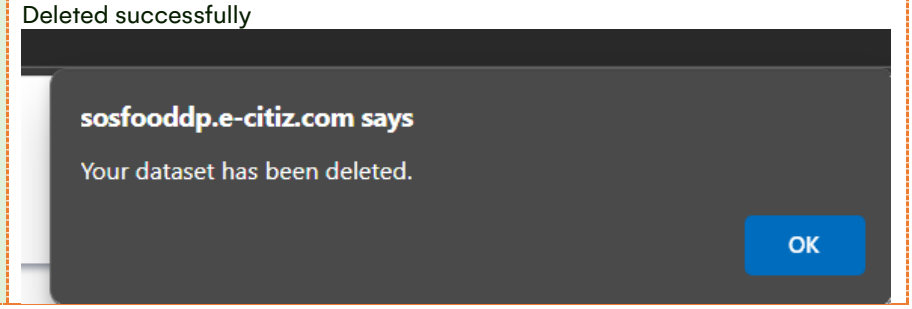
Test Metadata	
Scenario ID:	Delete_file
Requirement ID:	ReqDL6a: The DLMS shall support the deletion of a file in a dataset.
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data sourcing
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Deleted successfully 

Table 64: Test execution Report — ReqDL8 by Tester C

Test Metadata	
Scenario ID:	file_download
Requirement ID:	ReqDL8: The DLMS should facilitate the efficient download of a dataset file.
Test Type:	☒ functional
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data sourcing
Results:	☐Pass ☐Fail
ACTUAL RESULTS	
Output notes:	The dataset was successfully downloaded

Table 65: Test execution Report — ReqDL9 by Tester C

Test Metadata

Funded by the European Union

Scenario ID:	PDC_test
Requirement ID:	ReqDL9: The DLMS shall provide advanced functions for the PDC.
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data sourcing
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	The file could not be uploaded

Table 66: Test execution Report — ReqDL10 by Tester C

Test Metadata	
Scenario ID:	Usability_test
Requirement ID:	ReqDL10: The DLMS should be visually appealing and easy to understand.
Test Type:	☐ functional ☒
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data sourcing
Results:	Did you complete the test successfully? ☐yes ☐ If no, what made it difficult to complete the test? …… How visually appealing is the website to you? (1 to 5 scale): 3 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? Simplicity, easy to follow and navigate …… How easy is the interface to understand? (1 to 5 scale):5 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? Clear information, easy step by step processes
ACTUAL RESULTS	

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Output notes:	

(i) Predictive Dashboard Validation

Table 67: Test execution Report — ReqPD2 by Tester C

Test Metadata	
Scenario ID:	Kibana_data_visualization_tool
Requirement ID:	ReqPD2 Predictive Dashboard should use Kibana
Test Type:	Functional
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis— Data sourcing
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Interface is visible

Table 68: Test execution Report — ReqPD3.1 by Tester C

Test Metadata	
Scenario ID:	Multiplatform_Accessibility
Requirement ID:	ReqPD3.1 Predictive Dashboard should have multi-platform accessibility
Test Type:	functional
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data sourcing
Results:	☐Pass ☐
ACTUAL RESULTS	

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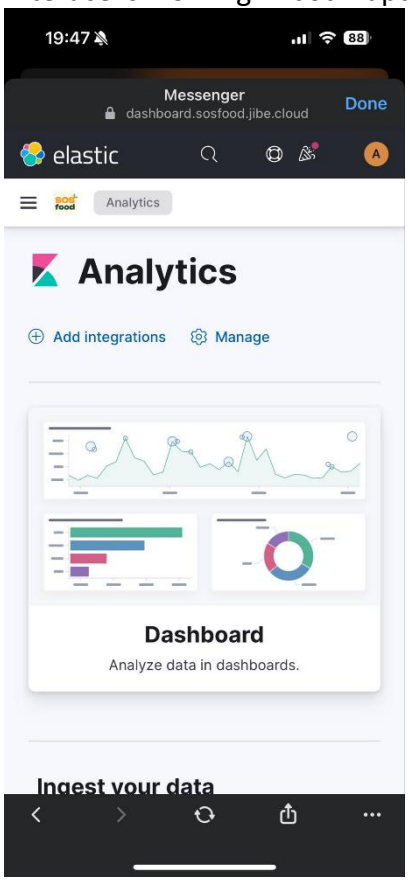
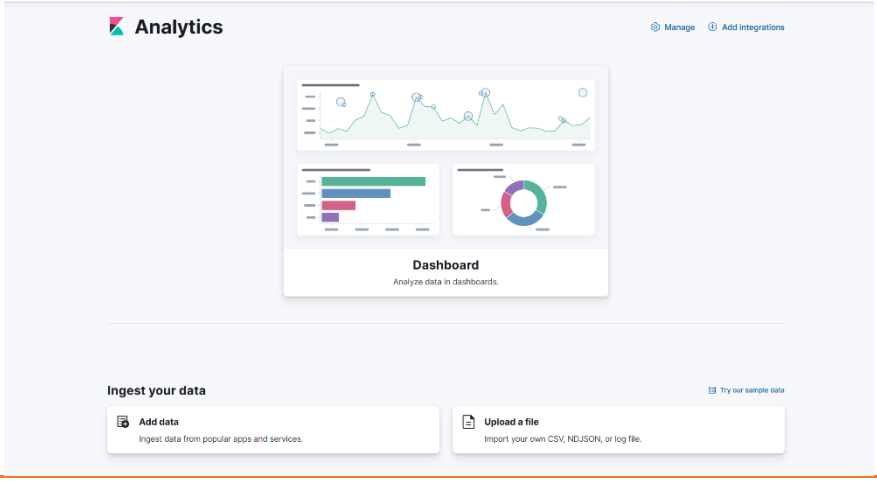
Output notes:	Interace is working in both laptop and mobile  

Table 69: Test execution Report — ReqPD3.2 by Tester C

Test Metadata	
Scenario ID:	Multiple_User_Roles
Requirement ID:	ReqPD3.2 Predictive Dashboard should have user roles
Test Type:	functional

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UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data sourcing
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Predictive dashboard enables both guest and Editor access. When logged in as a guest, user cannot save dashboards

Table 70: Test execution Report — ReqPD3.3 by Tester C

Test Metadata	
Scenario ID:	Real-time_Visualizations
Requirement ID:	ReqPD3.3 Predictive Dashboard should have real-time visualizations
Test Type:	functional
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data sourcing
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	After applying filters about average ticket pricing the data are visualised correctly

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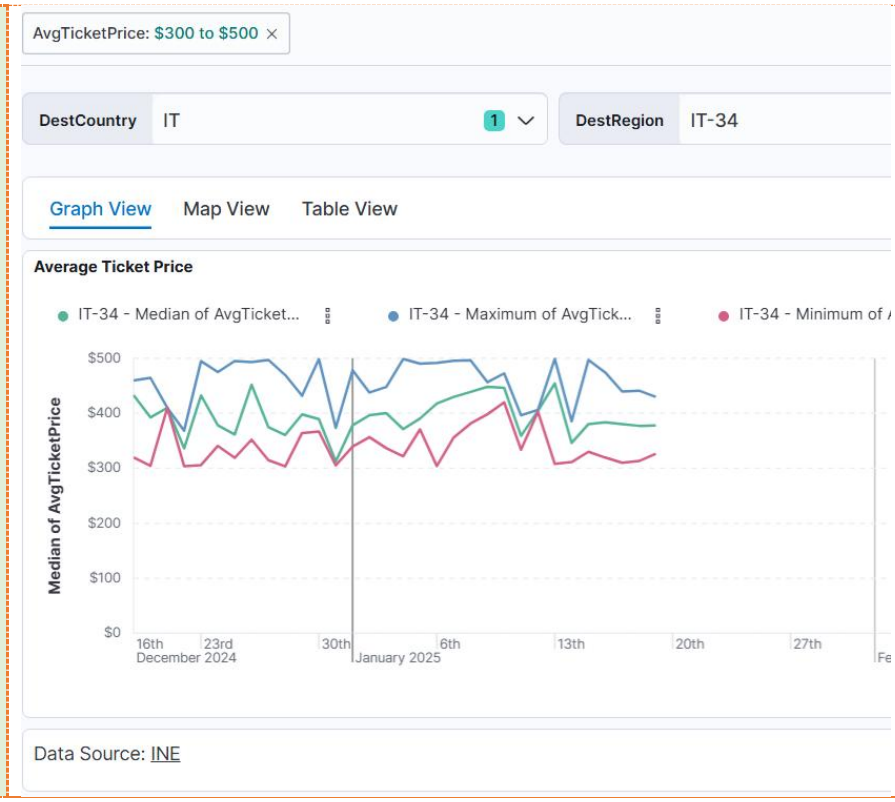

Table 71: Test execution Report — ReqPD3.4 by Tester C

Test Metadata	
Scenario ID:	Dashboard_Creation
Requirement ID:	ReqPD3.4 Predictive Dashboard should allow for dashboard creation
Test Type:	functional
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data sourcing
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	The Editor can create a new dashboard **Dashboards** Search... Recently u Name, description, tags SOSFood Dashboard

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(ii) Consumer Application Validation

Table 72: Test execution Report – ReqCA1 by Tester C

Test Metadata	
Scenario ID:	User_Interface_test
Requirement ID:	ReqCA1
Test Type:	☐ functional ☒ non-functional
UC/DIH:	
Execution Date:	17/05/2025
Tester Role:	Data Analysis — Data sourcing
Results:	How visually appealing is the website to you? (1 to 5 scale): 3 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? The diagram, the information it can offer. It also looks user friendly How easy is the interface to understand? (1 to 5 scale): 5 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? The app contains clearly defined categories and easy to navigate options. What is not clear is how i interact with the diagram and how i give my input/information to it
ACTUAL RESULTS	
Output notes:	

2.2 Tester D

(i) Data Lake Validation

Table 73: Test execution Report — ReqDL1 by Tester D

Test Metadata	
Scenario ID:	dp_registration
Requirement ID:	ReqDL1: The DLMS shall provide a feature to register a new data provider.
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	23/04/2025

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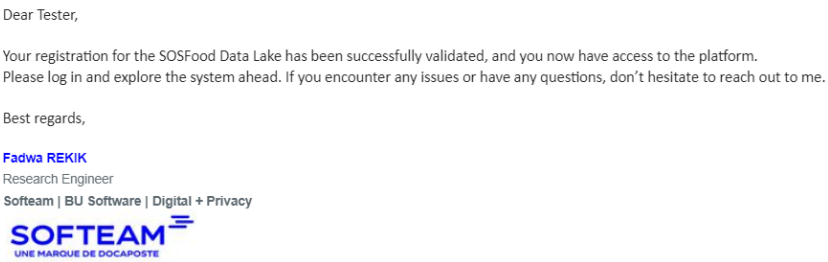
Tester Role:	Sourcing department
Results:	☐ Pass
ACTUAL RESULTS	
Output notes:	The registration was successful, and a confirmation email was received. New to SOSFood? Welcome! Join our community by creating an account. Unlock premium features and personalized content. It's quick and easy! Register  Dear Tester, Your registration for the SOSFood Data Lake has been successfully validated, and you now have access to the platform. Please log in and explore the system ahead. If you encounter any issues or have any questions, don't hesitate to reach out to me. Best regards, Fadwa REKIK Research Engineer Softeam | BU Software | Digital + Privacy SOFTEAM UNE MARQUE DE DOCAPOSTE

Table 74: Test execution Report — ReqDL2 by Tester D

Test Metadata	
Scenario ID:	dp_authentication
Requirement ID:	ReqDL2: The DLMS shall provide authentication functionality for data providers.
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	Sourcing department
Results:	☐ Pass
ACTUAL RESULTS	

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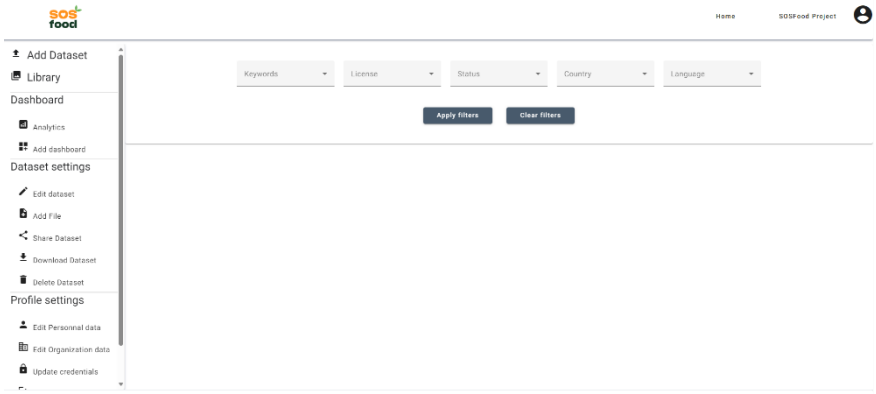
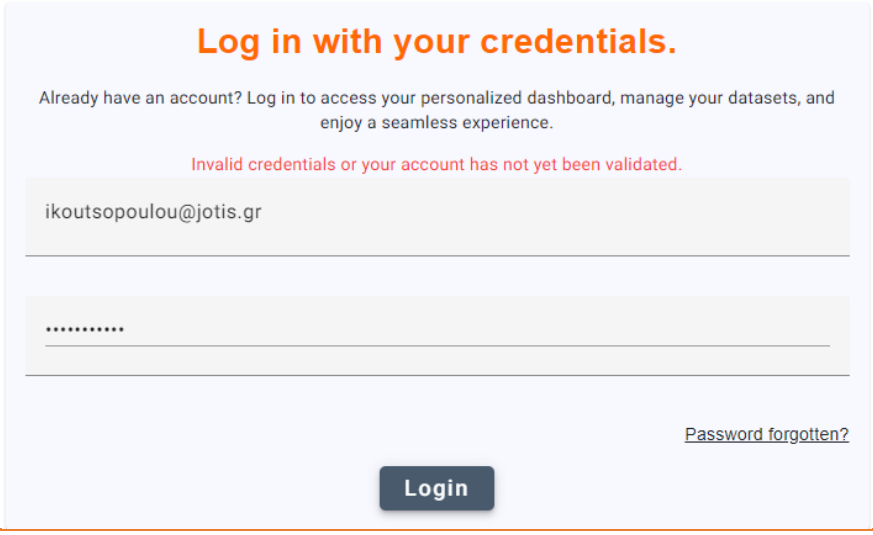
Output notes:	Using valid credentials, the user can access the platform.  With in valid credentials the following message is appeared. 

Table 75: Test execution Report — ReqDL3 by Tester D

Test Metadata	
Scenario ID:	Update_profile
Requirement ID:	ReqDL3: The DLMS shall provide a feature to edit data provider information.
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	Sourcing department
Results:	☐ Pass
ACTUAL RESULTS	

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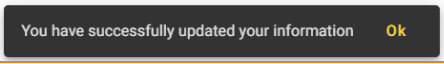
Output notes:	Data was updated successfully 

Table 76: Test execution Report — ReqDL4 by Tester D

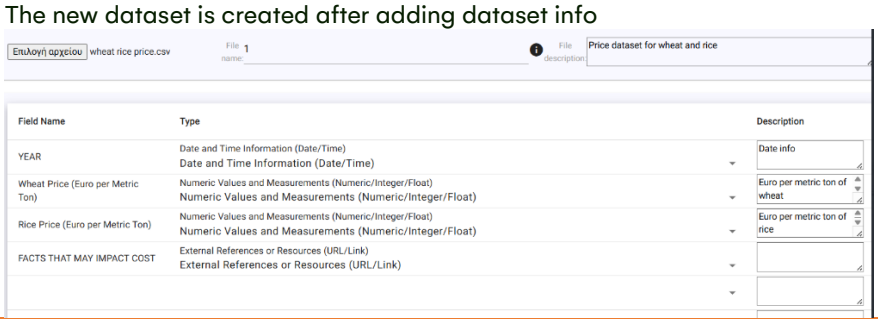
Test Metadata	
Scenario ID:	create_dataset
Requirement ID:	ReqDL4: The DLMS shall provide a module for creating new datasets, accompanied by detailed metadata information.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	Sourcing department
Results:	Pass
ACTUAL RESULTS	
Output notes:	The new dataset is created after adding dataset info 

Table 77: Test execution Report — ReqDL7 by Tester D

Test Metadata	
Scenario ID:	upload_file
Requirement ID:	ReqDL7: The DLMS should facilitate the efficient upload of a dataset file.
Test Type:	☒ functional
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	Sourcing department
Results:	Pass

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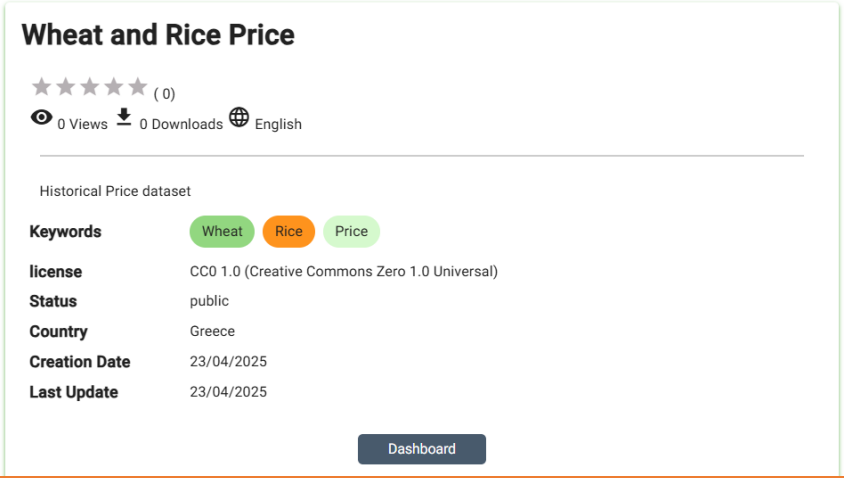
ACTUAL RESULTS	
Output notes:	The new dataset has been successfully created 

Table 78: Test execution Report — ReqDL15 by Tester D

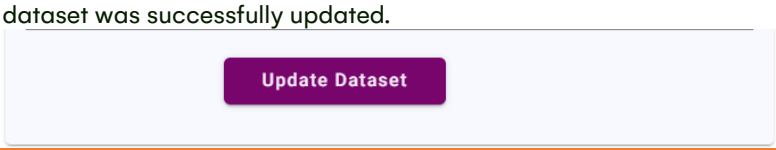
Test Metadata	
Scenario ID:	update_dataset
Requirement ID:	ReqDL5: The DLMS shall support the update of a dataset..
Test Type:	☒ functional ☐ non-functional
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	Sourcing department
Results:	Pass
ACTUAL RESULTS	
Output notes:	The dataset was successfully updated. 

Table 79: Test execution Report — ReqDL6a by Tester D

Test Metadata	
Scenario ID:	Delete_file
Requirement ID:	ReqDL6a: The DLMS shall support the deletion of a file in a dataset.
Test Type:	☒ functional ☐

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UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	Sourcing department
Results:	Pass
ACTUAL RESULTS	
Output notes:	The dataset was successfully deleted

Table 80: Test execution Report — ReqDL8 by Tester D

Test Metadata	
Scenario ID:	file_download
Requirement ID:	ReqDL8: The DLMS should facilitate the efficient download of a dataset file.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	Sourcing department
Results:	Pass
ACTUAL RESULTS	
Output notes:	The dataset was successfully downloaded

Table 81: Test execution Report — ReqDL9 by Tester D

Test Metadata	
Scenario ID:	PDC_test
Requirement ID:	ReqDL9: The DLMS shall provide advanced functions for the PDC.
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	Sourcing department
Results:	Pass

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ACTUAL RESULTS	
Output notes:	A warning message appeared. Keyword: first name in line: first name;last name;age Ok

Table 82: Test execution Report — ReqDL10 by Tester D

Test Metadata	
Scenario ID:	Usability_test
Requirement ID:	ReqDL10: The DLMS should be visually appealing and easy to understand.
Test Type:	☐ functional
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	Sourcing department
Results:	Did you complete the test successfully? ☐yes If no, what made it difficult to complete the test? How visually appealing is the website to you? (1 to 5 scale): **4** 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? How easy is the interface to understand? (1 to 5 scale): 4 1: Not easy at all – 5: Very easy
ACTUAL RESULTS	
Output notes:	The test was successfully completed. The website is visually appealing (4/5) and the interface is easy to understand (4/5).

(ii) Predictive Dashboard Validation

Table 83: Test execution Report — ReqPD2 by Tester D

Test Metadata	
Scenario ID:	Kibana_data_visualization_tool
Requirement ID:	ReqPD2. Predictive Dashboard should use Kibana
Test Type:	Functional

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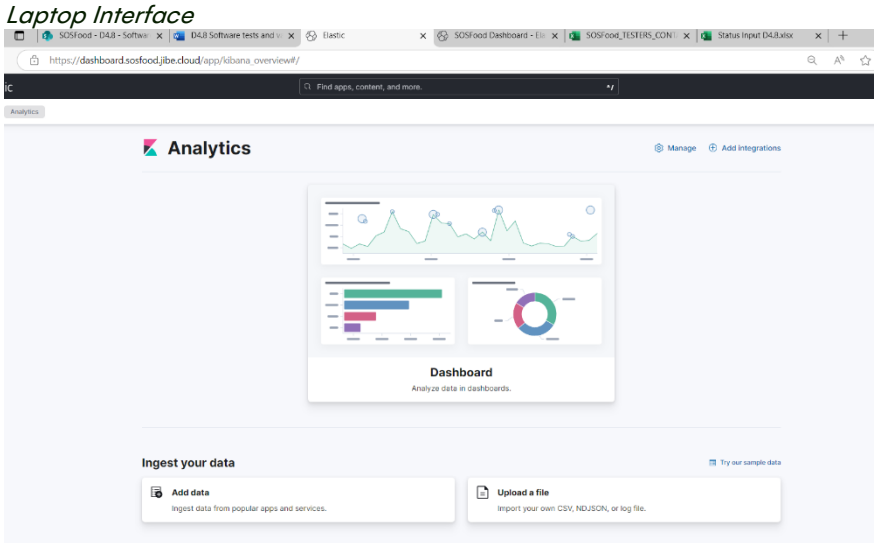
UC/DIH:	
Execution Date:	1/04/2025
Tester Role:	Sourcing department
Results:	☐Pass
ACTUAL RESULTS	
Output notes:	Kibana interface is visible

Table 84: Test execution Report — ReqPD3.1 by Tester D

Test Metadata	
Scenario ID:	Multiplatform_Accessibility
Requirement ID:	ReqPD3.1 Predictive Dashboard should have multi-platform accessibility
Test Type:	functional
UC/DIH:	
Execution Date:	01/04/2025
Tester Role:	Sourcing department
Results:	☐Pass
ACTUAL RESULTS	
Output notes:	The application works fine on both laptop and mobile interface. *Laptop Interface*  *Mobile interface*

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	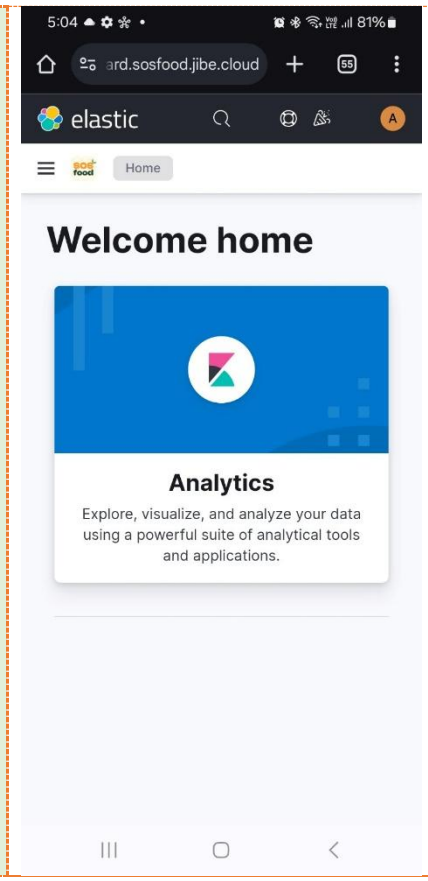

Table 85: Test execution Report — ReqPD3.2 by Tester D

Test Metadata	
Scenario ID:	Multiple_User_Roles
Requirement ID:	ReqPD3.2 Predictive Dashboard should have user roles
Test Type:	functional
UC/DIH:	
Execution Date:	01/04/2025
Tester Role:	Sourcing department
Results:	☐Pass
ACTUAL RESULTS	
Output notes:	Predictive dashboard enables both guest and Editor access. When logged in as a guest, user cannot save dashboards

Table 86: Test execution Report — ReqPD3.3 by Tester D

Test Metadata

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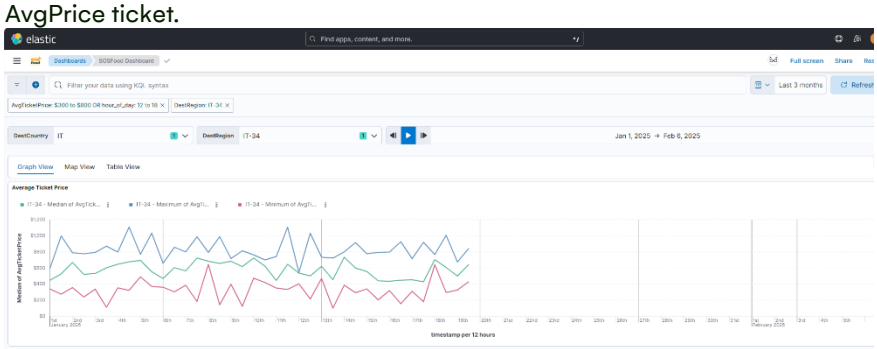
Scenario ID:	Real-time_Visualizations
Requirement ID:	ReqPD3.3 Predictive Dashboard should have real-time visualizations
Test Type:	functional
UC/DIH:	
Execution Date:	01/04/2025
Tester Role:	Sourcing department
Results:	☐Pass
ACTUAL RESULTS	
Output notes:	Two filters were applied. AvgPrice between 300 and 800 dollars and hours pf the day 12 to 18. The results are shown as minimum, maximum and median of AvgPrice ticket. 

Table 87: Test execution Report — ReqPD3.4 by Tester D

Test Metadata	
Scenario ID:	Dashboard_Creation
Requirement ID:	ReqPD3.4 Predictive Dashboard should allow for dashboard creation
Test Type:	functional
UC/DIH:	
Execution Date:	01/04/2025
Tester Role:	Sourcing department
Results:	☐Pass
ACTUAL RESULTS	

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Output notes:	The Editor can create a new dashboard **Dashboards**

(iii) Consumer Application Validation

Table 88: Test execution Report – ReqCA1 by Tester D

Test Metadata	
Scenario ID:	User_Interface_test
Requirement ID:	ReqCA1
Test Type:	☐ functional ☒ non-functional
UC/DIH:	
Execution Date:	14/05/2025
Tester Role:	Sourcing department
Results:	How visually appealing is the website to you? (1 to 5 scale): 4 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? The app is well-designed and easy to navigate. I appreciated the simplicity and clean layout, which made the interface intuitive. How easy is the interface to understand? (1 to 5 scale): 5 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? I liked the simplicity of the design. One suggestion for improvement would be in the Eco-Healthy Fingerprint section: it could benefit from an additional comparison parameter—"Local"—alongside the existing "You" and "Avg" metrics. Adding a "Local" benchmark would give users a more relevant point of reference by allowing them to compare their impact with others in their immediate geographic area. This could enhance user engagement and encourage more meaningful behavior change.
ACTUAL RESULTS	
Output notes:	

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2.3 Tester E

(i) Data Lake Validation

Table 89: Test execution Report — ReqDL1 by Tester E

Test Metadata	
Scenario ID:	dp_registration
Requirement ID:	ReqDL1: The DLMS shall provide a feature to register a new data provider.
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	IT department — Software development
Results:	Pass
ACTUAL RESULTS	
Output notes:	The system provides a feature to register as a new data provider and the registration was successful. Dear Data providers, Welcome! Before you proceed with the registration, kindly note that this platform is designed for organizations looking to share their data. If you are an individual citizen, we have a dedicated platform for you. Log in with your credentials. Already have an account? Log in to access your personalized dashboard, manage your datasets, and enjoy a seamless experience. Login Password Password forgotten? Login New to SOSFood? Welcome! Join our community by creating an account. Unlock premium features and personalized content. It's quick and easy! Register

Table 90: Test execution Report — ReqDL2 by Tester E

Test Metadata	
Scenario ID:	dp_authentication
Requirement ID:	ReqDL2: The DLMS shall provide authentication functionality for data providers.

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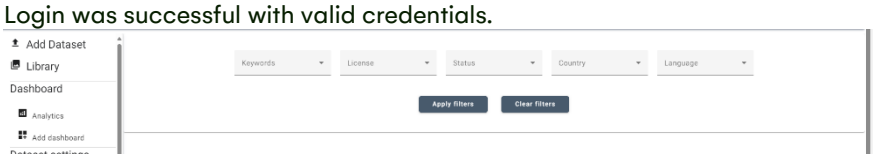
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	IT department — Software development
Results:	Pass
ACTUAL RESULTS	
Output notes:	Login was successful with valid credentials.  Invalid credentials show an error message

Table 91: Test execution Report — ReqDL3 by Tester E

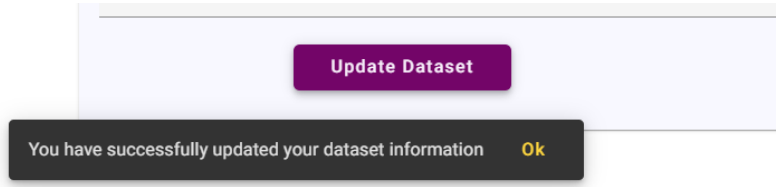
Test Metadata	
Scenario ID:	Update_profile
Requirement ID:	ReqDL3: The DLMS shall provide a feature to edit data provider information.
Test Type:	☒ functional
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	IT department — Software development
Results:	Pass
ACTUAL RESULTS	
Output notes:	The profile was successfully updated. 

Table 92: Test execution Report — ReqDL4 by Tester E

Test Metadata	
Scenario ID:	create_dataset

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Requirement ID:	ReqDL4: The DLMS shall provide a module for creating new datasets, accompanied by detailed metadata information.
Test Type:	☒ functional
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	IT department — Software development
Results:	Pass
ACTUAL RESULTS	
Output notes:	

Table 93: Test execution Report — ReqDL7 by Tester E

Test Metadata	
Scenario ID:	upload_file
Requirement ID:	ReqDL7: The DLMS should facilitate the efficient upload of a dataset file.
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	IT department — Software development
Results:	Pass
ACTUAL RESULTS	
Output notes:	The dataset file was successfully uploaded

Table 94: Test execution Report — ReqDL15 by Tester E

Test Metadata	
Scenario ID:	update_dataset
Requirement ID:	ReqDL5: The DLMS shall support the update of a dataset..
Test Type:	☒ functional
UC/DIH:	
Execution Date:	23/04/2025

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Tester Role:	IT department — Software development
Results:	Pass
ACTUAL RESULTS	
Output notes:	The dataset file was successfully updated.

Table 95: Test execution Report — ReqDL6a by Tester E

Test Metadata	
Scenario ID:	Delete_file
Requirement ID:	ReqDL6a: The DLMS shall support the deletion of a file in a dataset.
Test Type:	☒ functional ☐
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	IT department — Software development
Results:	Pass
ACTUAL RESULTS	
Output notes:	The dataset file was successfully deleted. You have successfully deleted your dataset:Food Production Dataset Ok

Table 96: Test execution Report — ReqDL8 by Tester E

Test Metadata	
Scenario ID:	file_download
Requirement ID:	ReqDL8: The DLMS should facilitate the efficient download of a dataset file.
Test Type:	☒ functional
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	IT department — Software development
Results:	Pass
ACTUAL RESULTS	
Output notes:	The dataset file was successfully downloaded.

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Table 97: Test execution Report — ReqDL9 by Tester E

Test Metadata	
Scenario ID:	PDC_test
Requirement ID:	ReqDL9: The DLMS shall provide advanced functions for the PDC.
Test Type:	☒ functional
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	IT department — Software development
Results:	Pass
ACTUAL RESULTS	
Output notes:	When uploading a file with personal data an error message appeared.

Table 98: Test execution Report — ReqDL10 by Tester E

Test Metadata	
Scenario ID:	Usability_test
Requirement ID:	ReqDL10: The DLMS should be visually appealing and easy to understand.
Test Type:	functional ☒
UC/DIH:	
Execution Date:	23/04/2025
Tester Role:	IT department — Software development
Results:	Did you complete the test successfully? ☐yes ☐No If no, what made it difficult to complete the test? …… How visually appealing is the website to you? (1 to 5 scale):…….. 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? …… How easy is the interface to understand? (1 to 5 scale):…….. 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? ……

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ACTUAL RESULTS	
Output notes:	The test was successfully completed. The website is visually appealing (5/5) and the interface is easy to understand (5/5). It is intuitive, well-designed, and user-friendly.

(ii) Predictive Dashboard Validation

Table 99: Test execution Report — ReqPD2 by Tester E

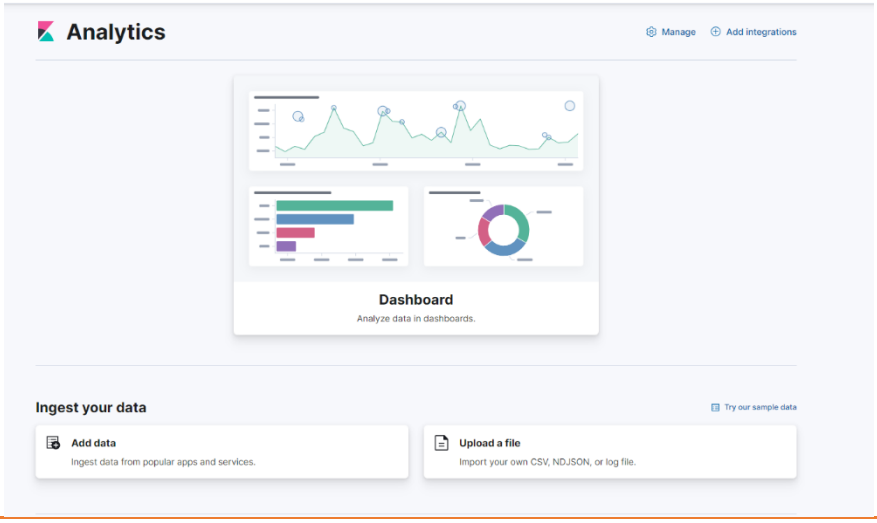
Test Metadata	
Scenario ID:	Kibana_data_visualization_tool
Requirement ID:	ReqPD2. Predictive Dashboard should use Kibana
Test Type:	Functional
UC/DIH:	
Execution Date:	01/04/2025
Tester Role:	IT department — Software development
Results:	☐Pass
ACTUAL RESULTS	
Output notes:	Kibana interface can be seen 

Table 100: Test execution Report — ReqPD3.1 by Tester E

Test Metadata	
Scenario ID:	Multiplatform_Accessibility
Requirement ID:	ReqPD3.1 Predictive Dashboard should have multi-platform accessibility

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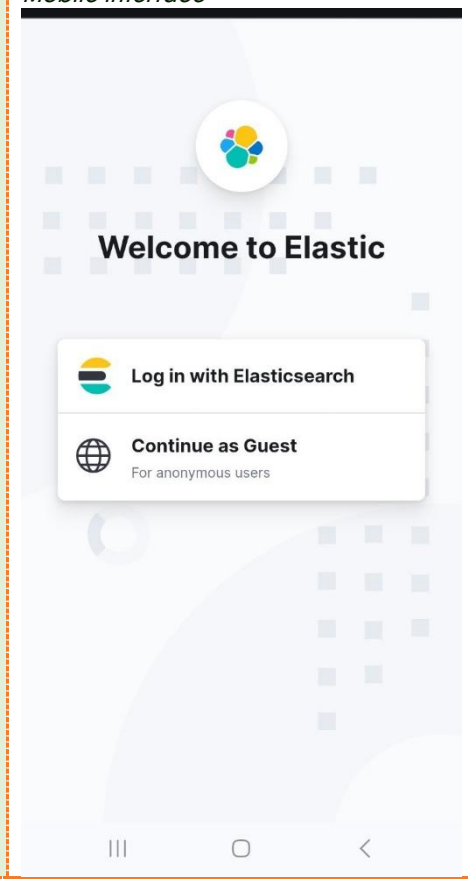
Test Type:	functional
UC/DIH:	
Execution Date:	01/04/2025
Tester Role:	IT department — Software development
Results:	☐Pass
ACTUAL RESULTS	
Output notes:	The application is both web and mobile responsive. *Mobile interface* 

Table 101: Test execution Report — ReqPD3.2 by Tester E

Test Metadata	
Scenario ID:	Multiple_User_Roles
Requirement ID:	ReqPD3.2 Predictive Dashboard should have user roles
Test Type:	functional
UC/DIH:	

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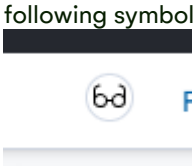
Execution Date:	01/04/2025
Tester Role:	IT department — Software development
Results:	☐Pass
ACTUAL RESULTS	
Output notes:	Dashboard enables Editor and Guest access. When logged in as a guest the following symbol appeared. 

Table 102: Test execution Report — ReqPD3.3 by Tester E

Test Metadata	
Scenario ID:	Real-time_Visualizations
Requirement ID:	ReqPD3.3 Predictive Dashboard should have real-time visualizations
Test Type:	functional
UC/DIH:	
Execution Date:	01/04/2025
Tester Role:	IT department — Software development
Results:	☐Pass
ACTUAL RESULTS	
Output notes:	Two filters were applied. AvgPrice Ticket equal or greater than 800 dollars, and a timeframe between 17/12/2024-27/12/2024.

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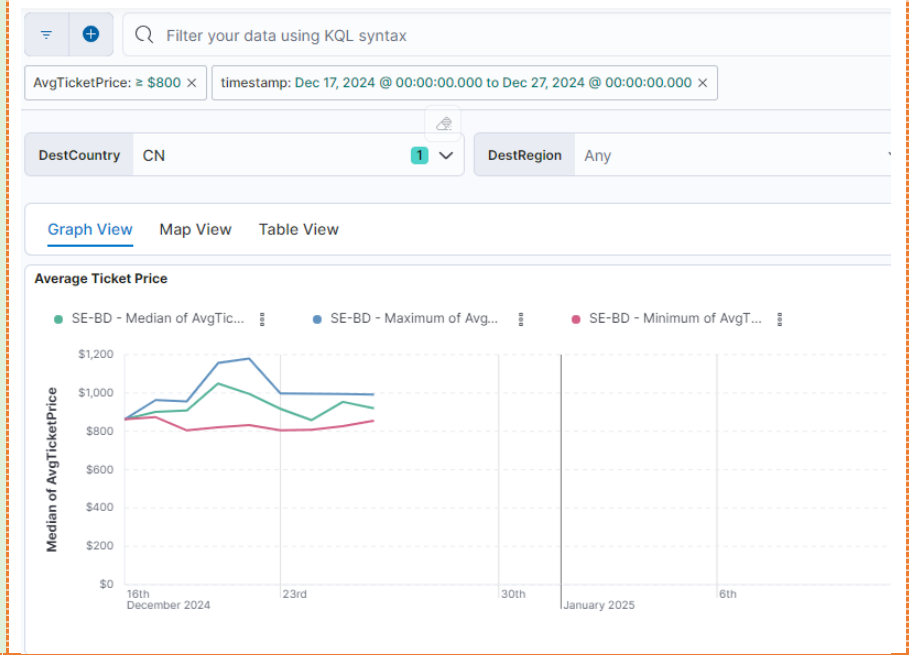
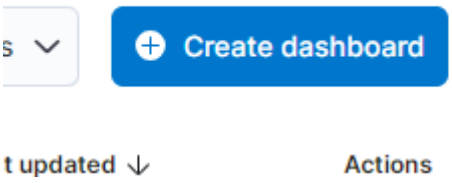
	

Table 103: Test execution Report — ReqPD3.4 by Tester E

Test Metadata	
Scenario ID:	Dashboard_Creation
Requirement ID:	ReqPD3.4 Predictive Dashboard should allow for dashboard creation
Test Type:	functional
UC/DIH:	
Execution Date:	01/04/2025
Tester Role:	IT department — Software development
Results:	☐Pass ☐Fail
ACTUAL RESULTS	
Output notes:	Dashboard editor is able to create a new dashboard.  After clicking on the “create dashboard” tab the following interface is appeared, where user can also save the changes.

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	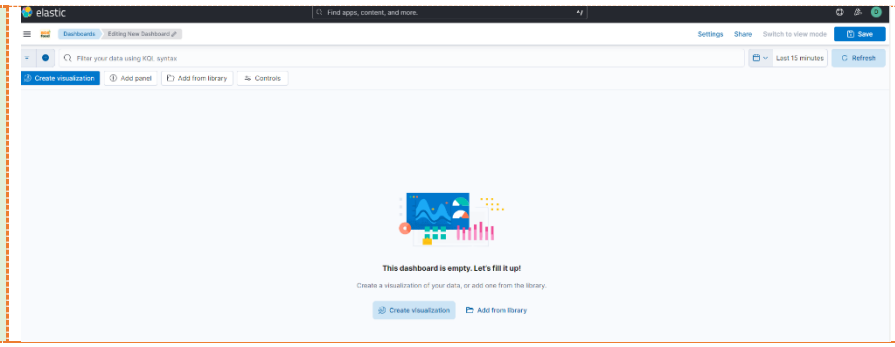

(iii) Consumer Application Validation

Table 104: Test execution Report – ReqCA1 by Tester E

Test Metadata	
Scenario ID:	User_Interface_test
Requirement ID:	ReqCA1
Test Type:	☐ functional ☒ non-functional
UC/DIH:	
Execution Date:	14/05/2025
Tester Role:	IT department — Software development
Results:	How visually appealing is the website to you? (1 to 5 scale): 5 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? The overall visual design is clean, modern, and visually balanced. The color scheme and layout are pleasing and make the website feel professional. How easy is the interface to understand? (1 to 5 scale): 4 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? The interface is mostly intuitive and user-friendly. Navigation is straightforward, and key features are accessible. However, it wasn't immediately clear how the user's actions translate into environmental impact. Information like energy savings or CO2 reductions should be more prominent or explained more clearly
ACTUAL RESULTS	
Output notes:	

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3. Validation by Lithuanian Use Case

The detailed validation results collected from individual testers are provided in this Annex. Detailed validation results are provided in **Annex I**, where tables directly completed by the testers present their feedback for each use case (Galician, Greek, and Lithuanian). For each tester, the evaluation is further organized by the validated tool (Data Lake, Predictive Dashboard, and Consumer Application).

3.1 Tester F

(i) Data Lake Validation

Table 105: Test execution Report — ReqDL1 by Tester F

Test Metadata	
Scenario ID:	dp_registration
Requirement ID:	ReqDL1: The DLMS shall provide a feature to register a new data provider.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	
Execution Date:	2025-04-17
Tester Role:	Financial analyst
Results:	☐Pass
ACTUAL RESULTS	
Output notes:	I was able to register.

Table 106: Test execution Report — ReqDL2 by Tester F

Test Metadata	
Scenario ID:	dp_authentication
Requirement ID:	ReqDL2: The DLMS shall provide authentication functionality for data providers.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	
Execution Date:	2025-04-17
Tester Role:	Financial analyst

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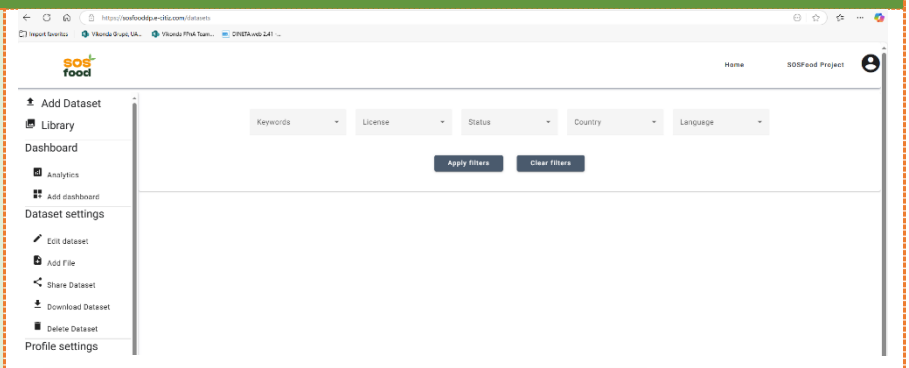
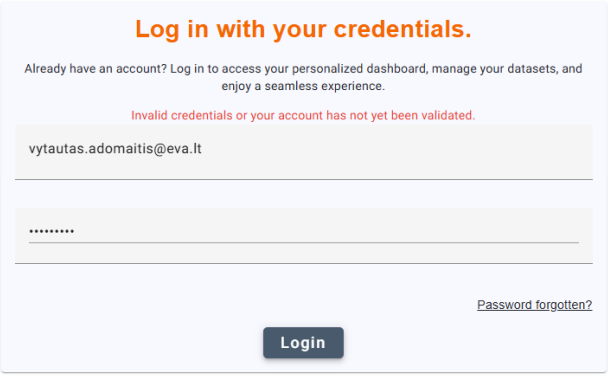
Results:	☐ Pass
ACTUAL RESULTS	
Output notes:	 

Table 107: Test execution Report — ReqDL3 by Tester F

Test Metadata	
Scenario ID:	Update_profile
Requirement ID:	ReqDL3: The DLMS shall provide a feature to edit data provider information.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	
Execution Date:	2025-04-17
Tester Role:	Financial analyst
Results:	☐ Pass
ACTUAL RESULTS	
Output notes:	I am able to update profile information.

Table 108: Test execution Report — ReqDL4 by Tester F

Test Metadata

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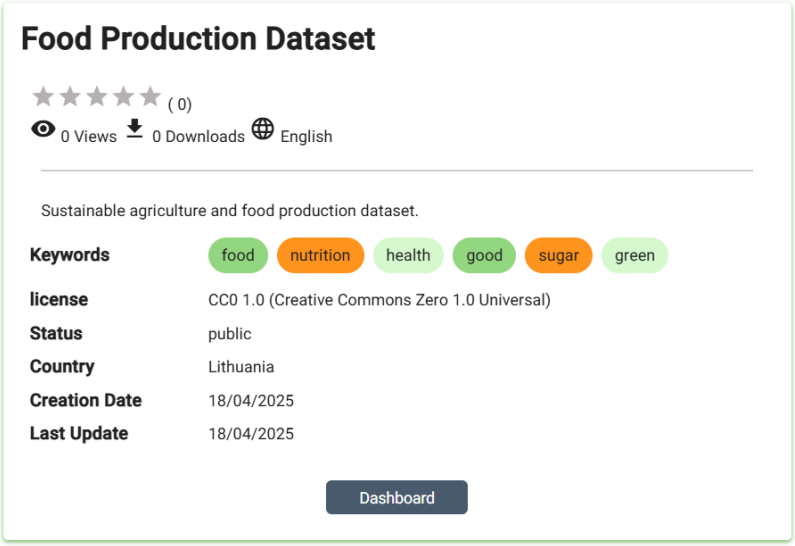
Scenario ID:	create_dataset
Requirement ID:	ReqDL4: The DLMS shall provide a module for creating new datasets, accompanied by detailed metadata information.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	
Execution Date:	2025-04-18
Tester Role:	Financial analyst
Results:	☐ Pass
ACTUAL RESULTS	
Output notes:	I am able to create new dataset: 

Table 109: Test execution Report — ReqDL7 by Tester F

Test Metadata	
Scenario ID:	upload_file
Requirement ID:	ReqDL7: The DLMS should facilitate the efficient upload of a dataset file.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	
Execution Date:	2025-05-16
Tester Role:	Financial analyst
Results:	☐ Pass

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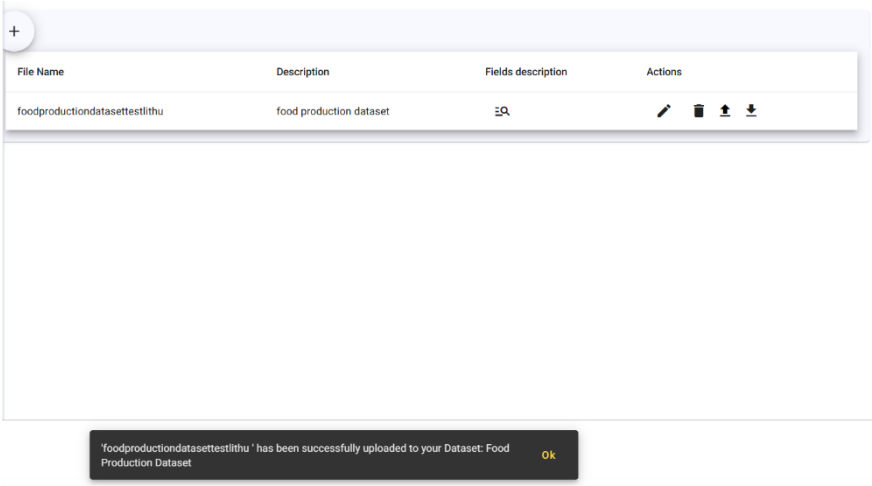
ACTUAL RESULTS	
Output notes:	The file loads: 

Table 110: Test execution Report — ReqDL15 by Tester F

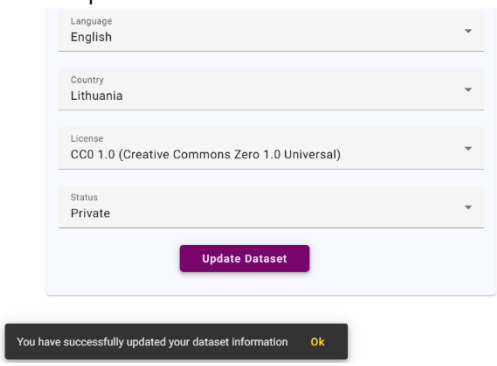
Test Metadata	
Scenario ID:	update_dataset
Requirement ID:	ReqDL5: The DLMS shall support the update of a dataset..
Test Type:	☒ functional ☐ non-functional
UC/DIH:	
Execution Date:	2025-05-16
Tester Role:	Financial analyst
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Dataset information updated:  Metadata updates were saved.

Table 111: Test execution Report — ReqDL6a by Tester F

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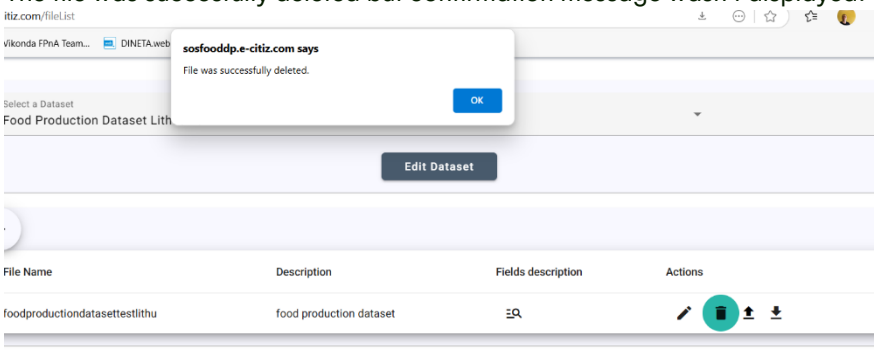
Test Metadata	
Scenario ID:	Delete_file
Requirement ID:	ReqDL6a: The DLMS shall support the deletion of a file in a dataset.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	
Execution Date:	
Tester Role:	
Results:	☒Pass ☐Fail
ACTUAL RESULTS	
Output notes:	The file was succesfully deleted but confirmation message wasn't displayed: 

Table 112: Test execution Report — ReqDL8 by Tester F

Test Metadata	
Scenario ID:	file_download
Requirement ID:	ReqDL8: The DLMS should facilitate the efficient download of a dataset file.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	
Execution Date:	2025-05-16
Tester Role:	Financial analyst
Results:	☐Pass ☐

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ACTUAL RESULTS	
Output notes:	The file downloads

Table 113: Test execution Report — ReqDL9 by Tester F

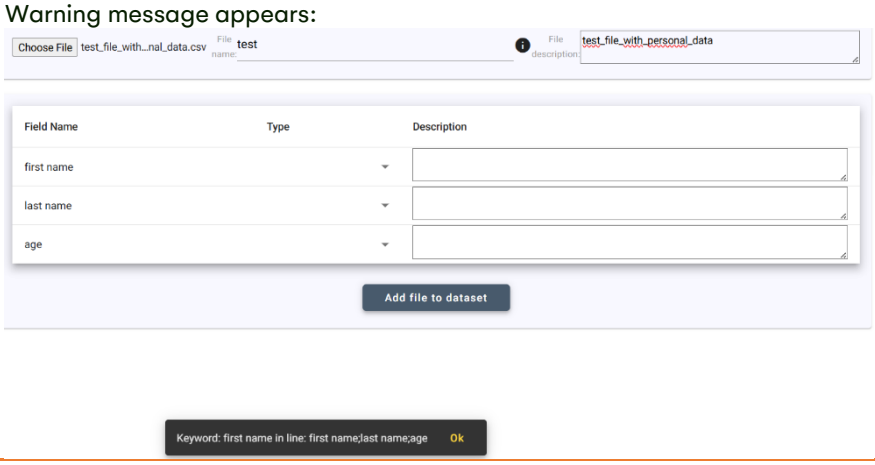
Test Metadata	
Scenario ID:	PDC_test
Requirement ID:	ReqDL9: The DLMS shall provide advanced functions for the PDC.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	
Execution Date:	2025-04-18
Tester Role:	Financial analyst
Results:	☐ Pass ☐
ACTUAL RESULTS	
Output notes:	Warning message appears: 

Table 114: Test execution Report — ReqDL10 by Tester F

Test Metadata	
Scenario ID:	Usability_test
Requirement ID:	ReqDL10: The DLMS should be visually appealing and easy to understand.
Test Type:	☐ functional ☒ non-functional
UC/DIH:	
Execution Date:	2025-05-16

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Tester Role:	Financial analyst
Results:	Did you complete the test successfully? ☐yes ☐No If no, what made it difficult to complete the test? …… How visually appealing is the website to you? (1 to 5 scale):…….. 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? …… How easy is the interface to understand? (1 to 5 scale):…….. 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? ……
ACTUAL RESULTS	
Output notes:	The test was completed succescfully. The website: it's visually appealing (5/5). The interface: it's well designed and easy to understand (5/5).

(ii) Predictive Dashboard Validation

Table 115: Test execution Report — ReqPD2 by Tester F

Test Metadata	
Scenario ID:	Kibana_data_visualization_tool
Requirement ID:	ReqPD2. Predictive Dashboard should use Kibana
Test Type:	Functional
UC/DIH:	
Execution Date:	07/04/2025
Tester Role:	Financial department – Analyst
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Visualisation tool appears:

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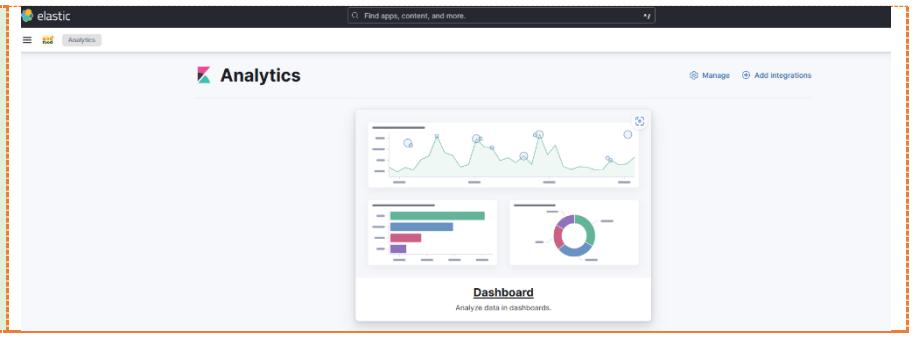
	

Table 116: Test execution Report — ReqPD3.1 by Tester F

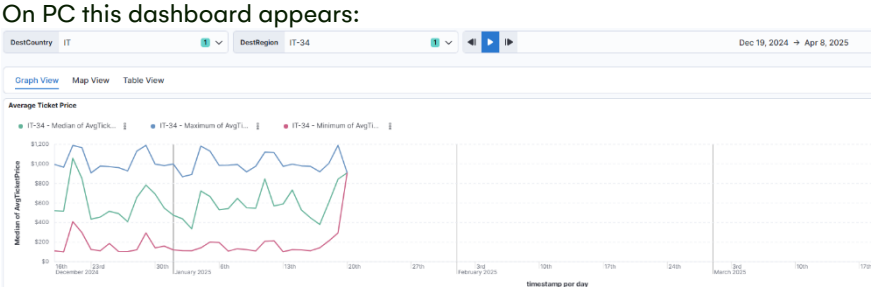
Test Metadata	
Scenario ID:	Multiplatform_Accessibility
Requirement ID:	ReqPD3.1 Predictive Dashboard should have multi-platform accessibility
Test Type:	functional
UC/DIH:	
Execution Date:	07/04/2025
Tester Role:	Financial department – Analyst
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	On PC this dashboard appears:  On mobile device also the same dashboard appears.

Table 117: Test execution Report — ReqPD3.2 by Tester F

Test Metadata	
Scenario ID:	Multiple_User_Roles
Requirement ID:	ReqPD3.2 Predictive Dashboard should have user roles
Test Type:	functional
UC/DIH:	

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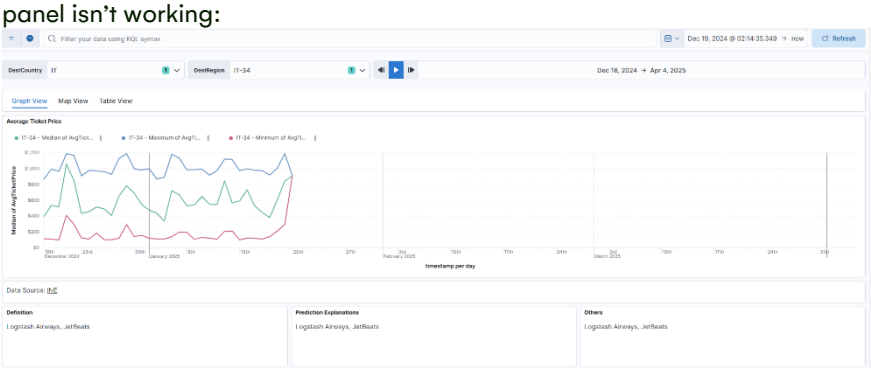
Execution Date:	07/04/2025
Tester Role:	Financial department – Analyst
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Both 'Guest' and 'Editor' users exist.

Table 118: Test execution Report — ReqPD3.3 by Tester F

Test Metadata	
Scenario ID:	Real-time_Visualizations
Requirement ID:	ReqPD3.3 Predictive Dashboard should have real-time visualizations
Test Type:	functional
UC/DIH:	
Execution Date:	07/04/2025
Tester Role:	Financial department – Analyst
Results:	☐Pass (only link in Data Source panel isn't working)☐
ACTUAL RESULTS	
Output notes:	All the filters, graph legend and panels are in place, but link in Data Source panel isn't working:  Map view singles out selected Italian region:

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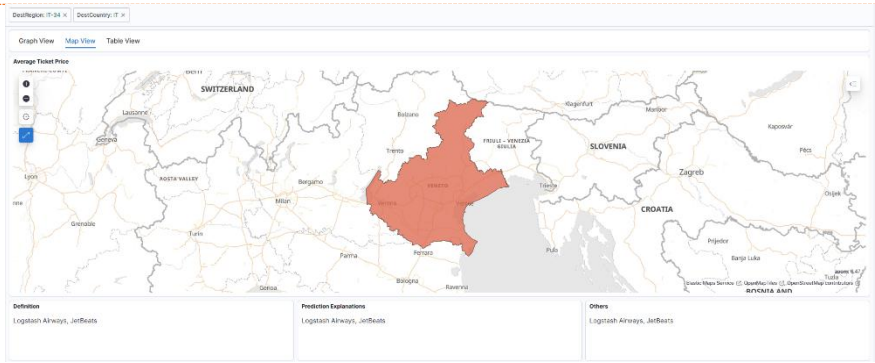
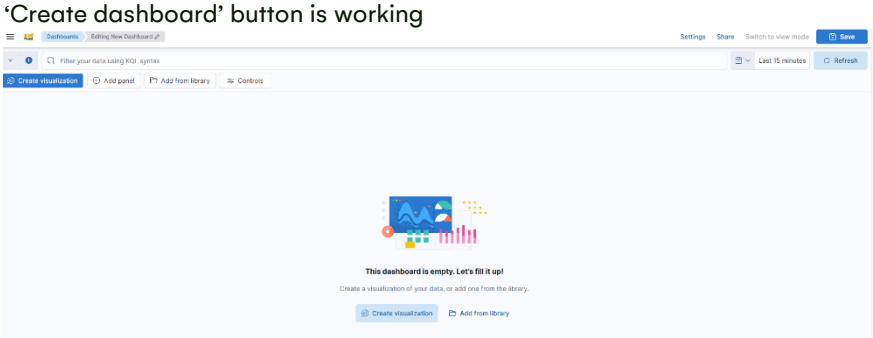
	 In table view Table with AvgTicketPrice appears:

Table 119: Test execution Report — ReqPD3.4 by Tester F

Test Metadata	
Scenario ID:	Dashboard_Creation
Requirement ID:	ReqPD3.4 Predictive Dashboard should allow for dashboard creation
Test Type:	functional
UC/DIH:	
Execution Date:	07/04/2025
Tester Role:	Financial department – Analyst
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	'Create dashboard' button is working 

(iii) Consumer Application Validation

Table 120: Test execution Report – ReqCA1 by Tester F

Test Metadata

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Scenario ID:	User_Interface_test
Requirement ID:	ReqCA1
Test Type:	☐ functional ☒ non-functional
UC/DIH:	
Execution Date:	2025-05-19
Tester Role:	Financial analysts
Results:	How visually appealing is the website to you? (1 to 5 scale):..... 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? ..... How easy is the interface to understand? (1 to 5 scale):..... 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? .....
ACTUAL RESULTS	
Output notes:	How visually appealing is the website to you? 5 Website looks modern, graph clearly shows were you stand compared against average numbers. How easy is the interface to understand? 3 Its'nt clear what fingerprint is (top of the chart).

3.2 Tester G

(i) Data Lake Validation

Table 121: Test execution Report — ReqDL1 by Tester G

Test Metadata	
Scenario ID:	dp_registration
Requirement ID:	ReqDL1: The DLMS shall provide a feature to register a new data provider.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/16

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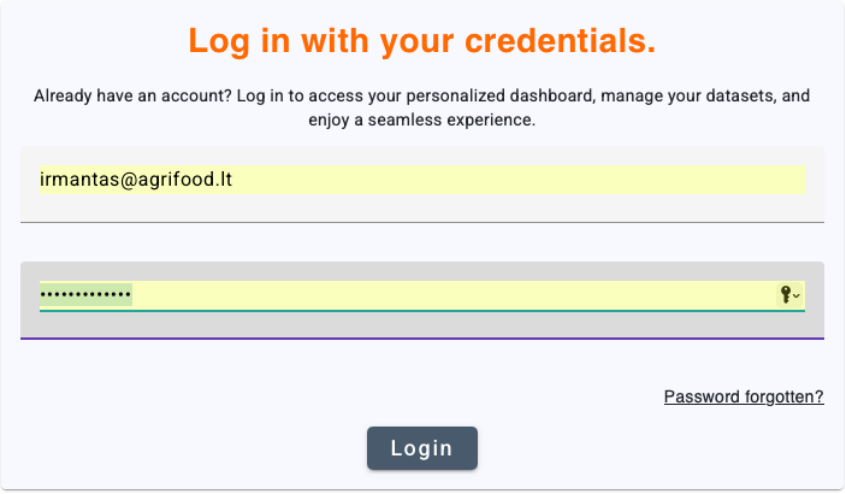
Tester Role:	Project Manager
Results:	Pass
ACTUAL RESULTS	
Output notes:	After registration and validation, succesfuly conected to the platform 

Table 122: Test execution Report — ReqDL2 by Tester G

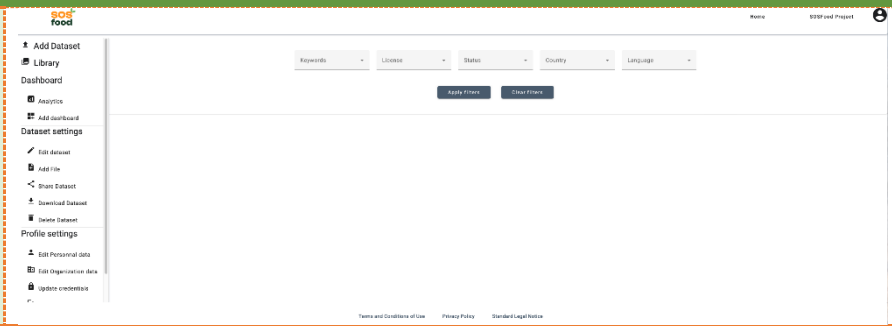
Test Metadata	
Scenario ID:	dp_authentication
Requirement ID:	ReqDL2: The DLMS shall provide authentication functionality for data providers.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project Manager
Results:	Pass
ACTUAL RESULTS	
Output notes:	

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Table 123: Test execution Report — ReqDL3 by Tester G

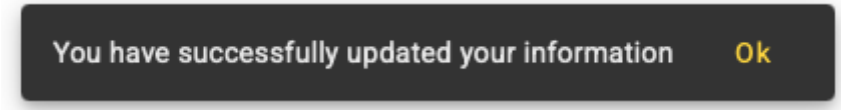
Test Metadata	
Scenario ID:	Update_profile
Requirement ID:	ReqDL3: The DLMS shall provide a feature to edit data provider information.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project Manager
Results:	Pass
ACTUAL RESULTS	
Output notes:	 I was able to update the profile information.

Table 124: Test execution Report — ReqDL4 by Tester G

Test Metadata	
Scenario ID:	create_dataset
Requirement ID:	ReqDL4: The DLMS shall provide a module for creating new datasets, accompanied by detailed metadata information.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project manager
Results:	Pass
ACTUAL RESULTS	

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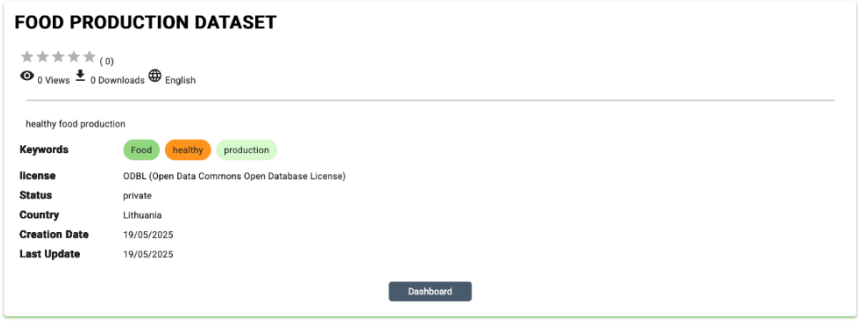
Output notes:	 FPD succesfully created

Table 125: Test execution Report — ReqDL7 by Tester G

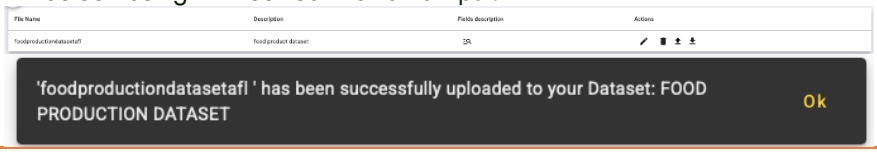
Test Metadata	
Scenario ID:	upload_file
Requirement ID:	ReqDL7: The DLMS should facilitate the efficient upload of a dataset file.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project manager
Results:	Pass
ACTUAL RESULTS	
Output notes:	It was confusing with correct file name input. 

Table 126: Test execution Report — ReqDL15 by Tester G

Test Metadata	
Scenario ID:	update_dataset
Requirement ID:	ReqDL5: The DLMS shall support the update of a dataset..
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project manager

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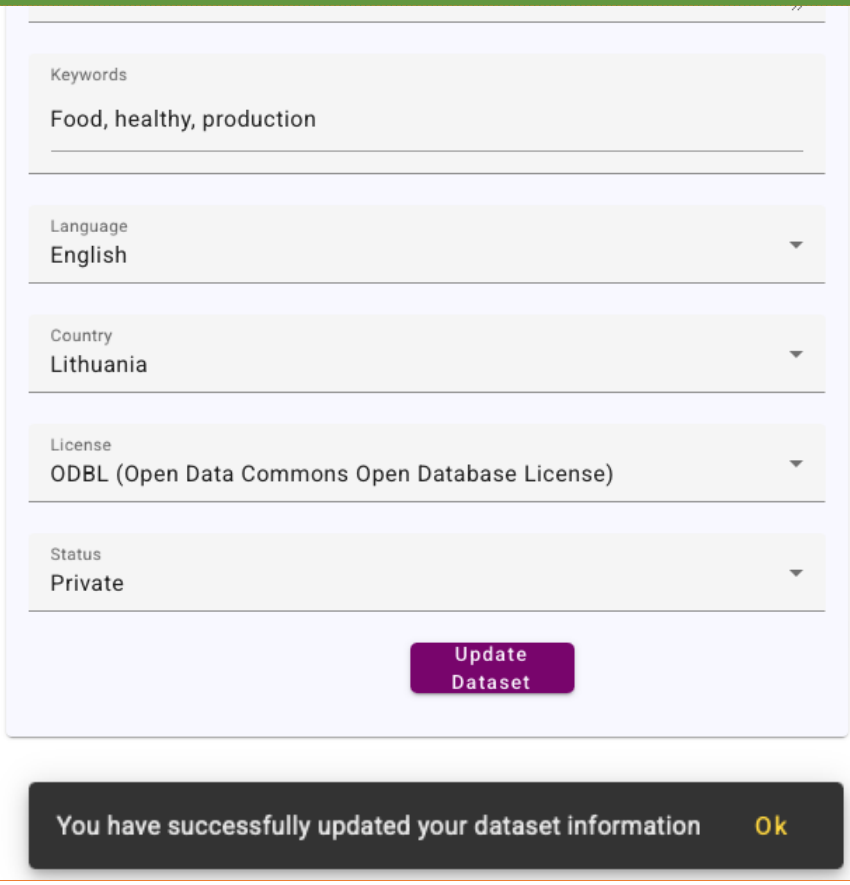
Results:	Pass
ACTUAL RESULTS	
Output notes:	

Table 127: Test execution Report — ReqDL6a by Tester G

Test Metadata	
Scenario ID:	Delete_file
Requirement ID:	ReqDL6a: The DLMS shall support the deletion of a file in a dataset.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project manager
Results:	Pass
ACTUAL RESULTS	

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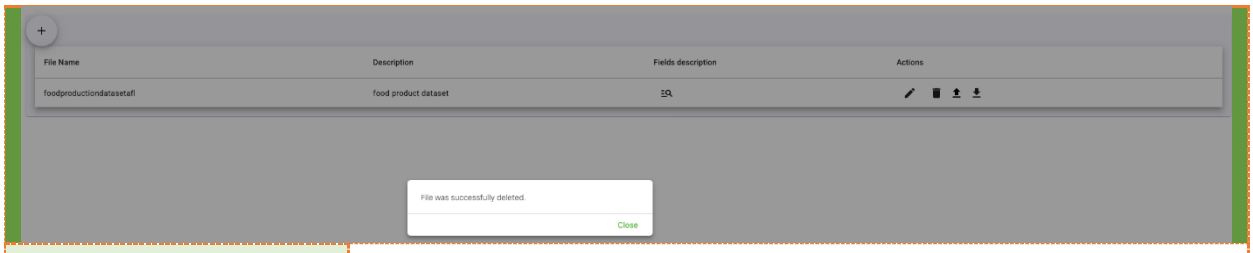
	
Output notes:	The file was entirely deleted after checking if you u realy want to delete it.

Table 128: Test execution Report — ReqDL8 by Tester G

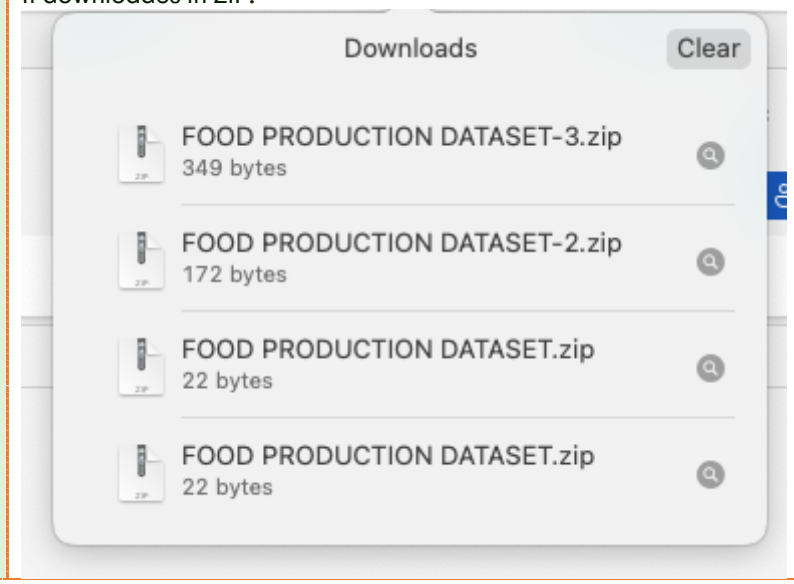
Test Metadata	
Scenario ID:	file_download
Requirement ID:	ReqDL8: The DLMS should facilitate the efficient download of a dataset file.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project manager
Results:	Pass
ACTUAL RESULTS	
Output notes:	It downloades in ZIP. 

Table 129: Test execution Report — ReqDL9 by Tester G

Test Metadata

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Scenario ID:	PDC_test
Requirement ID:	ReqDL9: The DLMS shall provide advanced functions for the PDC.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project manager
Results:	N/A ☐
ACTUAL RESULTS	
Output notes:	N/A

Table 130: Test execution Report — ReqDL10 by Tester G

Test Metadata	
Scenario ID:	Usability_test
Requirement ID:	ReqDL10: The DLMS should be visually appealing and easy to understand.
Test Type:	☐ functional ☒ non-functional
UC/DIH:	
Execution Date:	2025/05/16
Tester Role:	Project manager
Results:	Did you complete the test successfully? ☐yes ☐No If no, what made it difficult to complete the test? … How visually appealing is the website to you? (1 to 5 scale):…….. 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? …….. How easy is the interface to understand? (1 to 5 scale):…….. 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? ……
ACTUAL RESULTS	
Output notes:	YES 5 5

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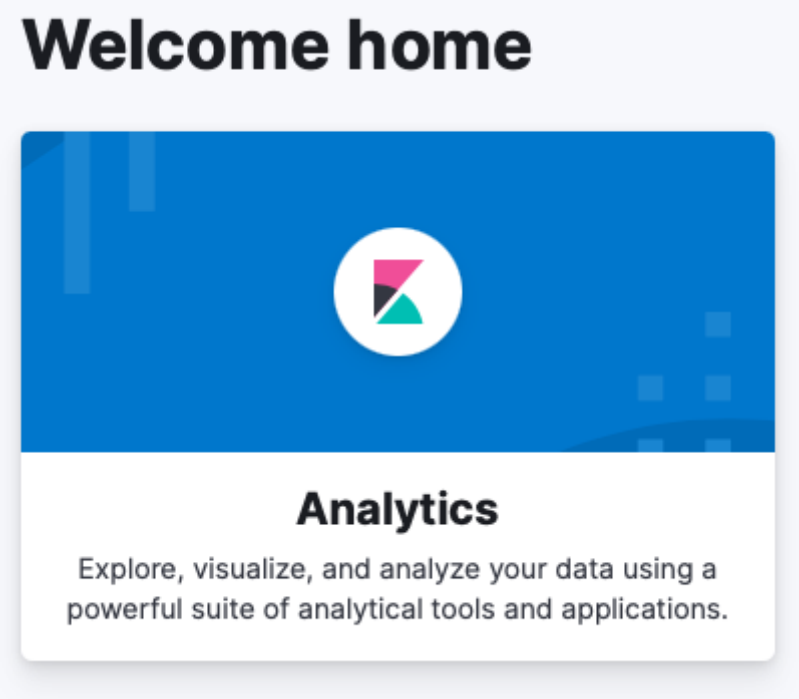
(ii) Predictive Dashboard Validation

Table 131: Test execution Report — ReqPD2 by Tester G

Test Metadata	
Scenario ID:	Kibana_data_visualization_tool
Requirement ID:	ReqPD2. Predictive Dashboard should use Kibana
Test Type:	Functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project manager
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	First windows apears 

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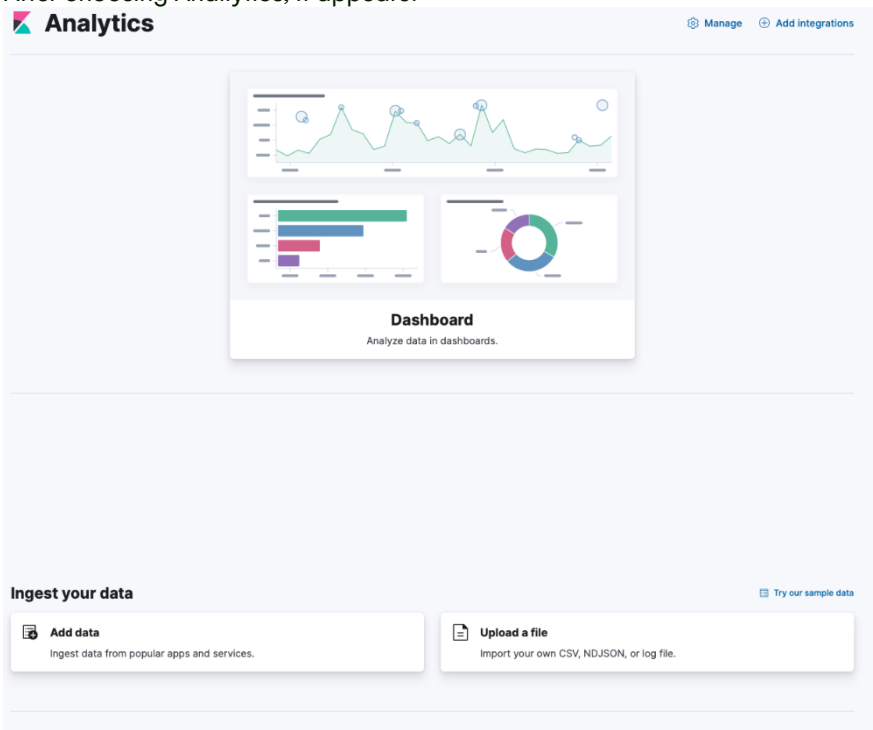
	After choosing Anallytics, it appears: 

Table 132: Test execution Report — ReqPD3.1 by Tester G

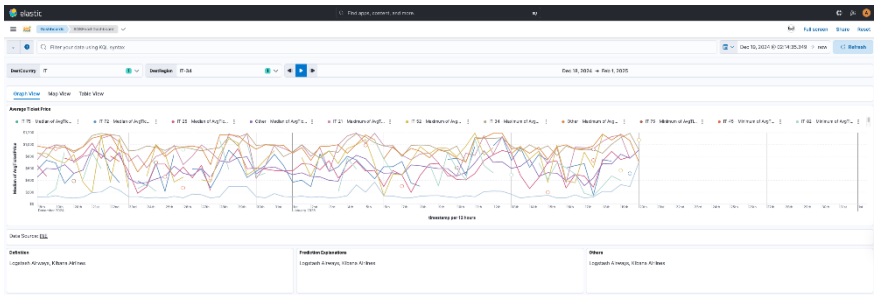
Test Metadata	
Scenario ID:	Multiplatform_Accessibility
Requirement ID:	ReqPD3.1 Predictive Dashboard should have multi-platform accessibility
Test Type:	functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project manager
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Result found both: PC and Mobile 

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Table 133: Test execution Report — ReqPD3.2 by Tester G

Test Metadata	
Scenario ID:	Multiple_User_Roles
Requirement ID:	ReqPD3.2 Predictive Dashboard should have user roles
Test Type:	functional
UC/DIH:	
Execution Date:	2025/05/16
Tester Role:	Project manager
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	User GUEST and EDITOR is functional

Table 134: Test execution Report — ReqPD3.3 by Tester G

Test Metadata	
Scenario ID:	Real-time_Visualizations
Requirement ID:	ReqPD3.3 Predictive Dashboard should have real-time visualizations
Test Type:	functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project manager
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Functional, but only after several resets

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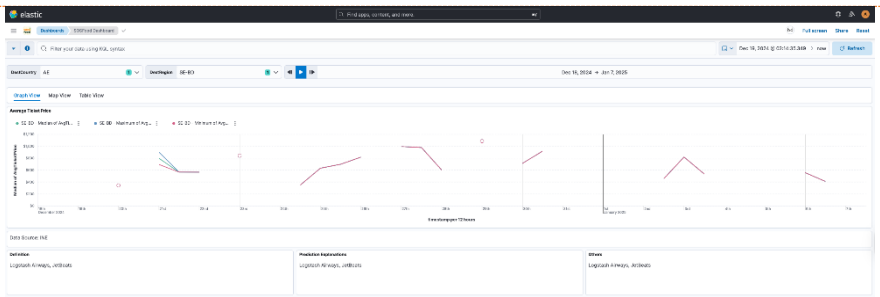
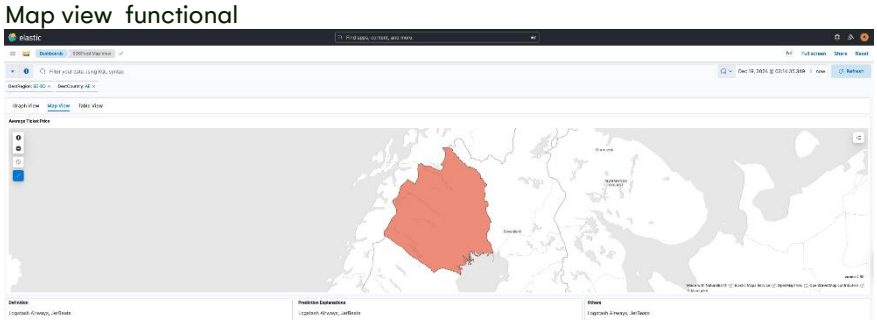
	 Map view functional  Table view were exploring

Table 135: Test execution Report — ReqPD3.4 by Tester G

Test Metadata	
Scenario ID:	Dashboard_Creation
Requirement ID:	ReqPD3.4 Predictive Dashboard should allow for dashboard creation
Test Type:	functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project manager
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Succesfully conected as editor, and can perform edits

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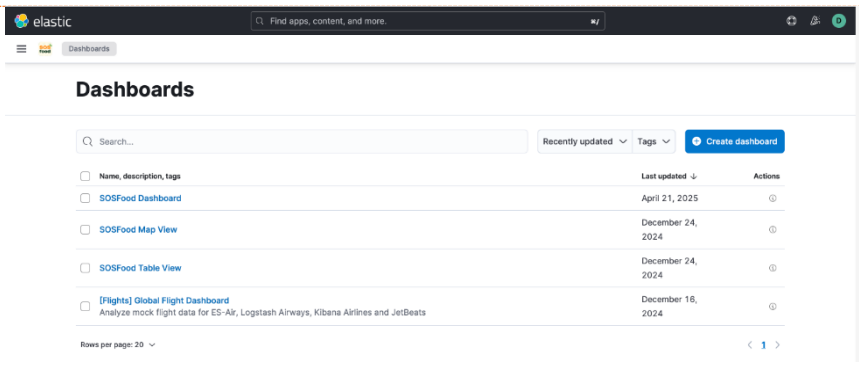

(iii) Consumer Application Validation

Table 136: Test execution Report – ReqCA1 by Tester G

Test Metadata	
Scenario ID:	User_Interface_test
Requirement ID:	ReqCA1
Test Type:	☐ functional ☒ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	Project manager
Results:	How visually appealing is the website to you? (1 to 5 scale):..... 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? ..... How easy is the interface to understand? (1 to 5 scale):..... 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? .....
ACTUAL RESULTS	
Output notes:	5 4 – There is not much unnecessary information it is clear, simple, and well understandable.

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3.3 Tester H

(i) Data Lake Validation

Table 137: Test execution Report — ReqDL1 by Tester H

Test Metadata	
Scenario ID:	dp_registration
Requirement ID:	ReqDL1: The DLMS shall provide a feature to register a new data provider.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/20
Tester Role:	CFO
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	I registered and received validation

Table 138: Test execution Report — ReqDL2 by Tester H

Test Metadata	
Scenario ID:	dp_authentication
Requirement ID:	ReqDL2: The DLMS shall provide authentication functionality for data providers.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/20
Tester Role:	CFO
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Authentication successful

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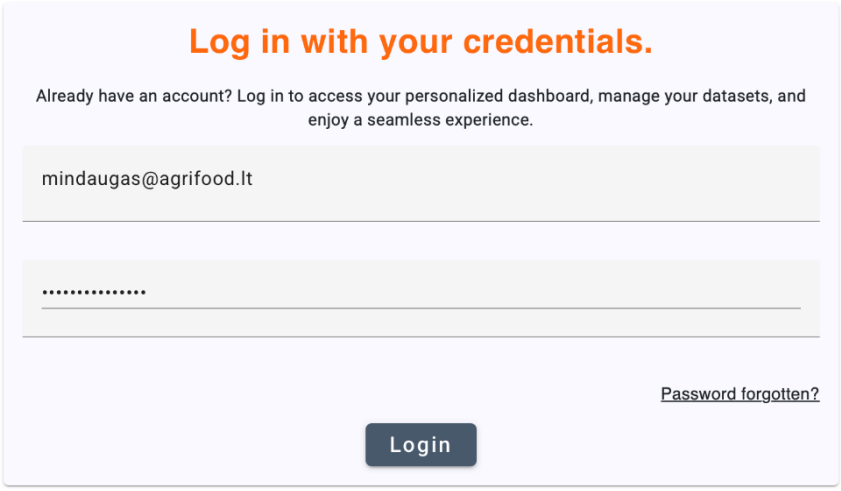
	

Table 139: Test execution Report — ReqDL3 by Tester H

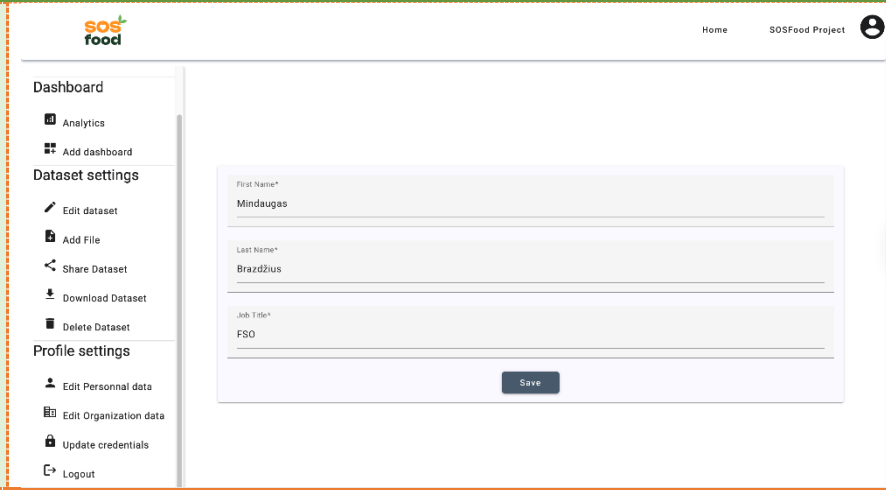
Test Metadata	
Scenario ID:	Update_profile
Requirement ID:	ReqDL3: The DLMS shall provide a feature to edit data provider information.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/20
Tester Role:	CFO
Results:	☐ Pass ☐
ACTUAL RESULTS	
Output notes:	

Table 140: Test execution Report — ReqDL4 by Tester H

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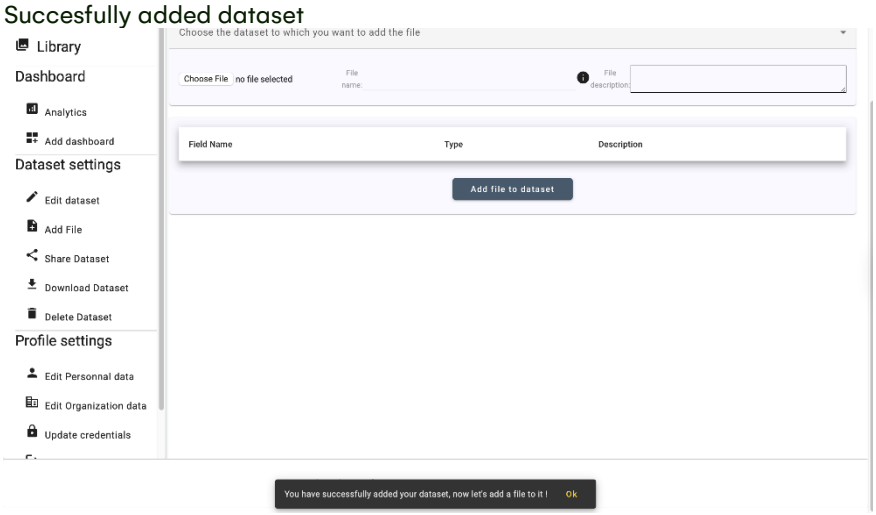
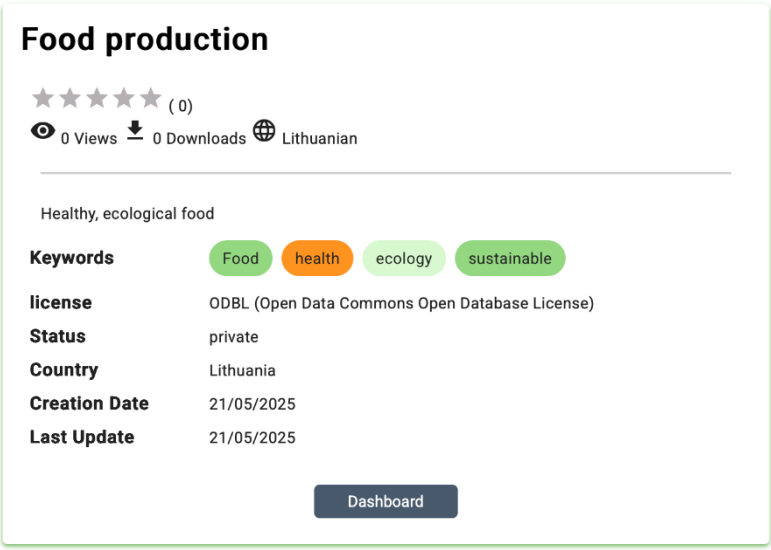
Test Metadata	
Scenario ID:	create_dataset
Requirement ID:	ReqDL4: The DLMS shall provide a module for creating new datasets, accompanied by detailed metadata information.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/20
Tester Role:	CFO
Results:	☐ Pass ☐
ACTUAL RESULTS	
Output notes:	Succesfully added dataset  

Table 141: Test execution Report — ReqDL7 by Tester H

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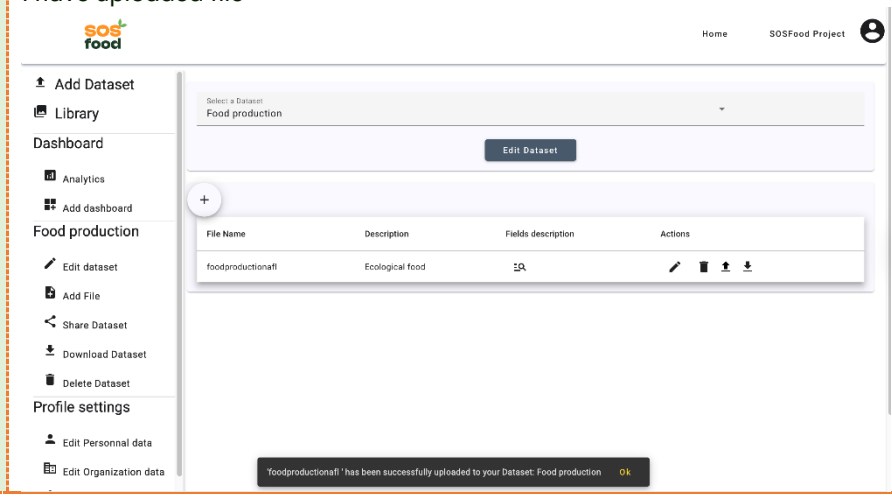
Test Metadata	
Scenario ID:	upload_file
Requirement ID:	ReqDL7: The DLMS should facilitate the efficient upload of a dataset file.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/20
Tester Role:	CFO
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	I have uploaded file 

Table 142: Test execution Report — ReqDL15 by Tester H

Test Metadata	
Scenario ID:	update_dataset
Requirement ID:	ReqDL5: The DLMS shall support the update of a dataset..
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/20
Tester Role:	CFO
Results:	☒Pass
ACTUAL RESULTS	

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Output notes:	You have successfully updated your dataset information Ok

Table 143: Test execution Report — ReqDL6a by Tester H

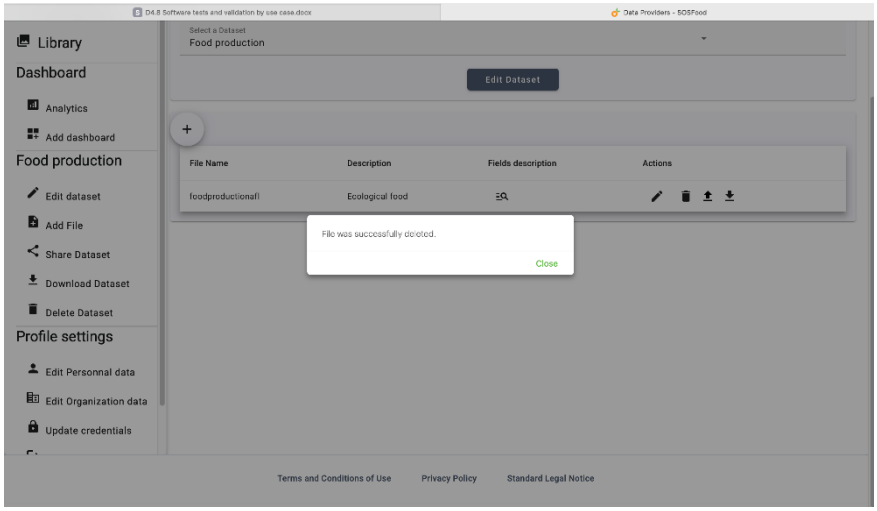
Test Metadata	
Scenario ID:	Delete_file
Requirement ID:	ReqDL6a: The DLMS shall support the deletion of a file in a dataset.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/20
Tester Role:	CFO
Results:	☒Pass
ACTUAL RESULTS	
Output notes:	I was able to delete file 

Table 144: Test execution Report — ReqDL8 by Tester H

Test Metadata	
Scenario ID:	file_download
Requirement ID:	ReqDL8: The DLMS should facilitate the efficient download of a dataset file.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL

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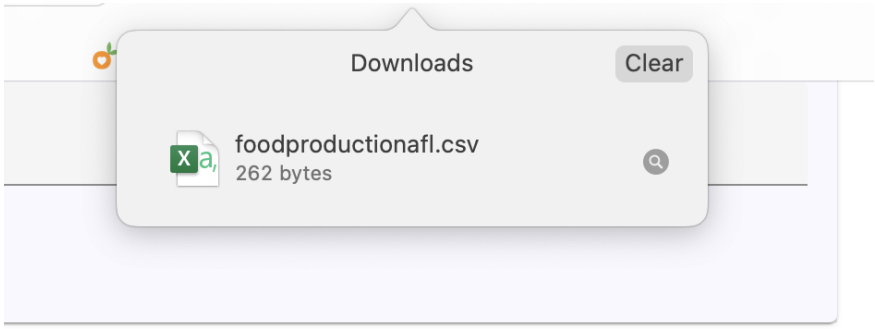
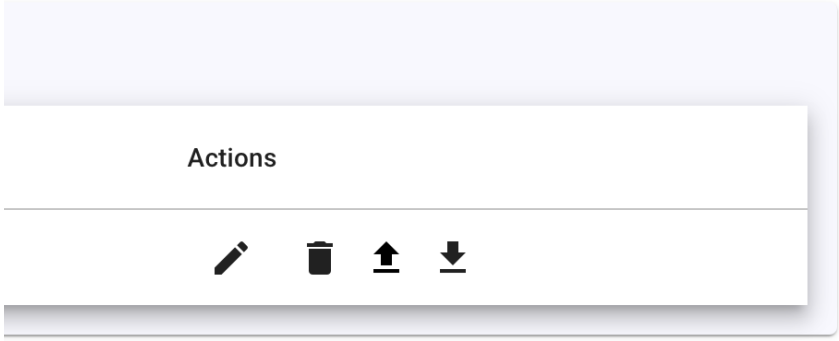
Execution Date:	2025/05/20
Tester Role:	CFO
Results:	☒Pass
ACTUAL RESULTS	
Output notes:	I was able to download file  

Table 145: Test execution Report — ReqDL9 by Tester H

Test Metadata	
Scenario ID:	PDC_test
Requirement ID:	ReqDL9: The DLMS shall provide advanced functions for the PDC.
Test Type:	☒ functional ☐ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/20
Tester Role:	CFO
Results:	Pass

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ACTUAL RESULTS	
Output notes:	Do not have any

Table 146: Test execution Report — ReqDL10 by Tester H

Test Metadata	
Scenario ID:	Usability_test
Requirement ID:	ReqDL10: The DLMS should be visually appealing and easy to understand.
Test Type:	☐ functional ☒ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/16
Tester Role:	CFO
Results:	Did you complete the test successfully? ☒yes ☐No If no, what made it difficult to complete the test? …… How visually appealing is the website to you? (1 to 5 scale):…….. 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? …… How easy is the interface to understand? (1 to 5 scale):…….. 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? ……
ACTUAL RESULTS	
Output notes:	1: 4 — to be more user friendly for new users on first login 2: 4 — extending more additional information on interface functions for better understanding

(ii) Predictive Dashboard Validation

Table 147: Test execution Report — ReqPD2 by Tester H

Test Metadata	
Scenario ID:	Kibana_data_visualization_tool
Requirement ID:	ReqPD2. Predictive Dashboard should use Kibana
Test Type:	Functional

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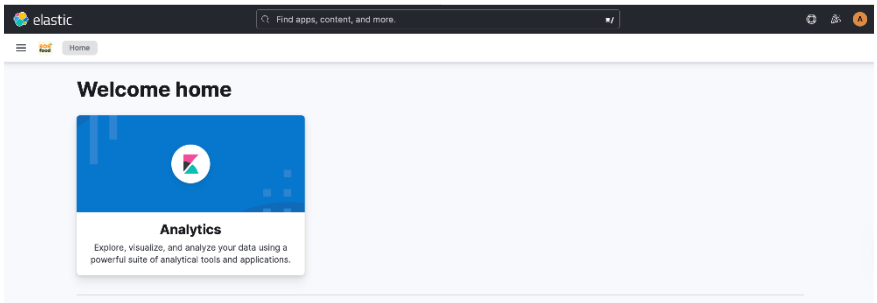
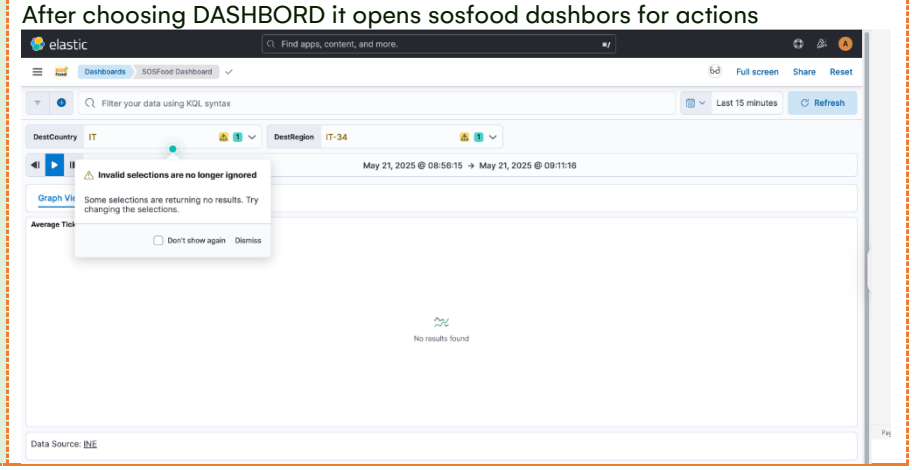
UC/DIH:	AFL
Execution Date:	2025/05/19
Tester Role:	CFO
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Opening as guest, welcoming home table, the same on PC and Mobile  After choosing DASHBORD it opens sosfood dashbors for actions 

Table 148: Test execution Report — ReqPD3.1 byTester H

Test Metadata	
Scenario ID:	Multiplatform_Accessibility
Requirement ID:	ReqPD3.1 Predictive Dashboard should have multi-platform accessibility
Test Type:	functional
UC/DIH:	AFL
Execution Date:	2025/05/19
Tester Role:	CFO
Results:	☐Pass ☐

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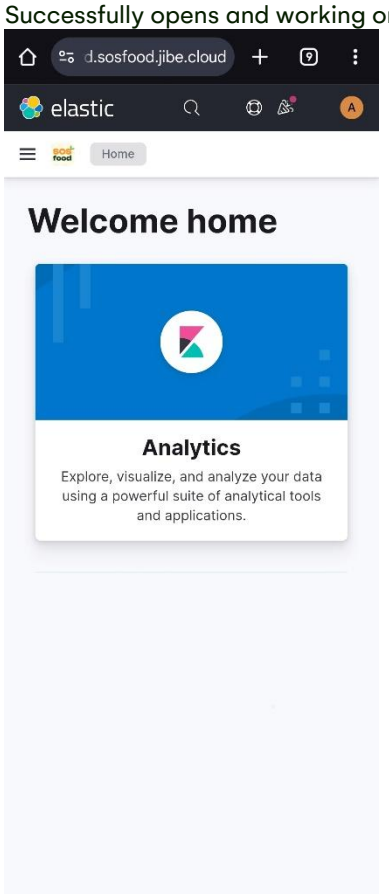
ACTUAL RESULTS	
Output notes:	Successfully opens and working on PC and Mobile 

Table 149: Test execution Report — ReqPD3.2 by Tester H

Test Metadata	
Scenario ID:	Multiple_User_Roles
Requirement ID:	ReqPD3.2 Predictive Dashboard should have user roles
Test Type:	functional
UC/DIH:	AFL
Execution Date:	2025/05/19
Tester Role:	CFO
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	I can connect as a user and as an editor

Table 150: Test execution Report — ReqPD3.3 by Tester H

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Test Metadata	
Scenario ID:	Real-time_Visualizations
Requirement ID:	ReqPD3.3 Predictive Dashboard should have real-time visualizations
Test Type:	functional
UC/DIH:	AFL
Execution Date:	2025/05/20
Tester Role:	CFO
Results:	☐Pass ☐
ACTUAL RESULTS	
Output notes:	Real time visualisation works fine

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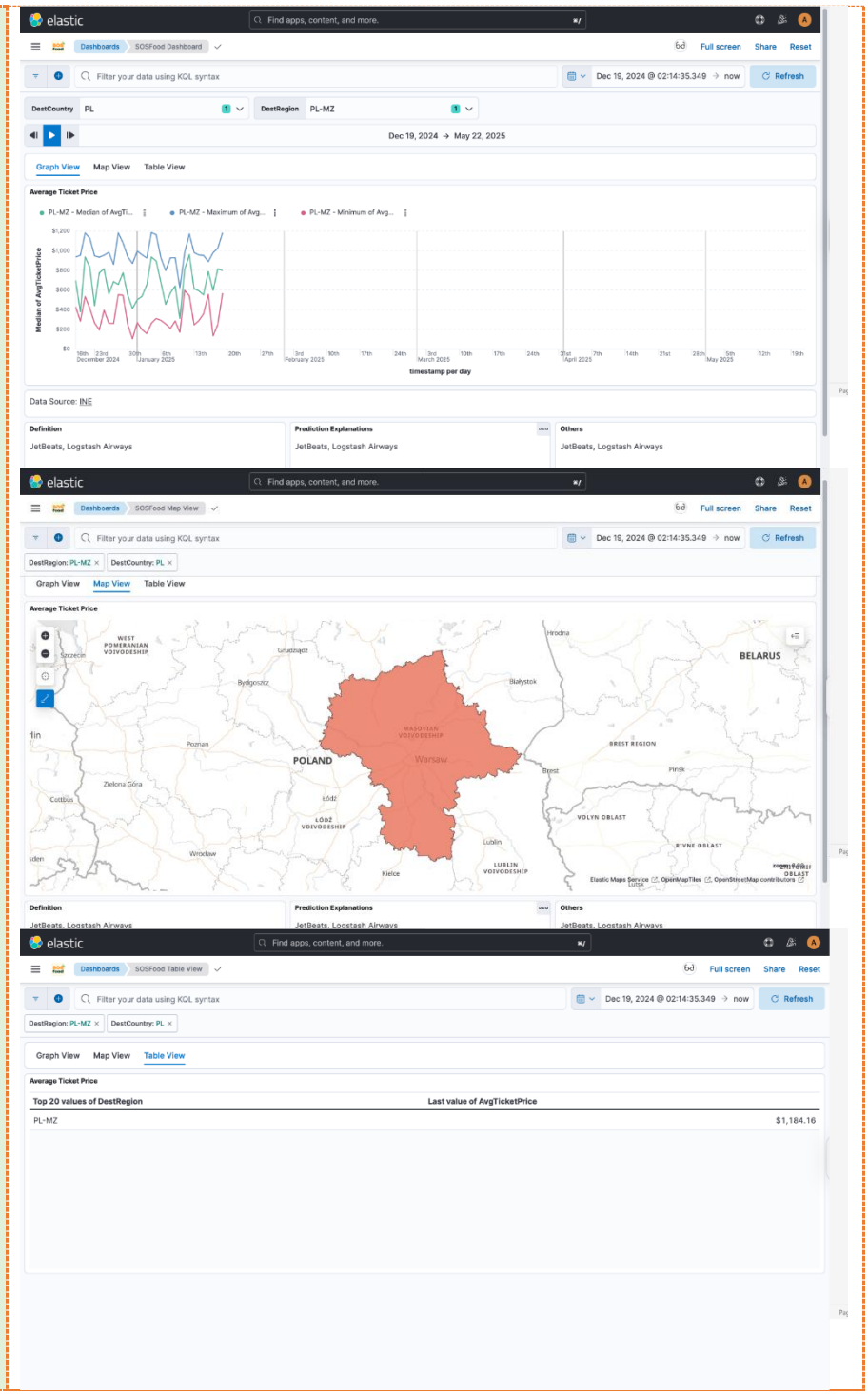

Table 151: Test execution Report — ReqPD3.4 by Tester H

Test Metadata	
Scenario ID:	Dashboard_Creation
Requirement ID:	ReqPD3.4 Predictive Dashboard should allow for dashboard creation

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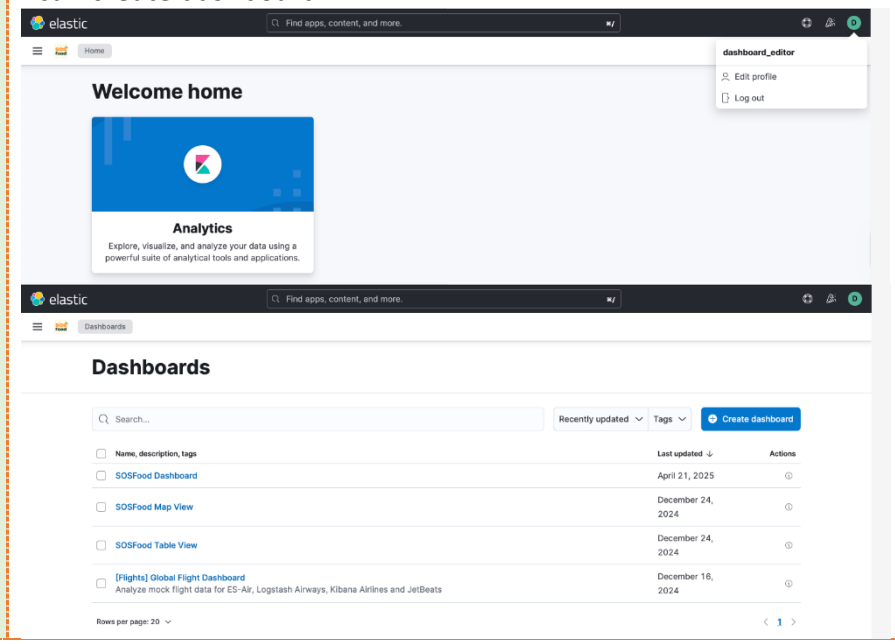
Test Type:	functional
UC/DIH:	AFL
Execution Date:	2025/05/20
Tester Role:	CFO
Results:	☐ Pass ☐
ACTUAL RESULTS	
Output notes:	I can create dashboard 

(iii) Consumer Application Validation

Table 152: Test execution Report – ReqCA1 by Tester H

Test Metadata	
Scenario ID:	User_Interface_test
Requirement ID:	ReqCA1
Test Type:	☐ functional ☒ non-functional
UC/DIH:	AFL
Execution Date:	2025/05/20
Tester Role:	CFO

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Results:	How visually appealing is the website to you? (1 to 5 scale):..... 1: Not at all appealing – 5: Very appealing What aspects of the design did you like or dislike? ..... How easy is the interface to understand? (1 to 5 scale):..... 1: Not easy at all – 5: Very easy Please explain your rating: What made the interface easy or difficult to understand? .....
ACTUAL RESULTS	
Output notes:	1: 4 — looks appealing appeling, but of course it will depend on functional APP algorithm. 2: 5 — if APP will work exelent, so interface is easy to understand.

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