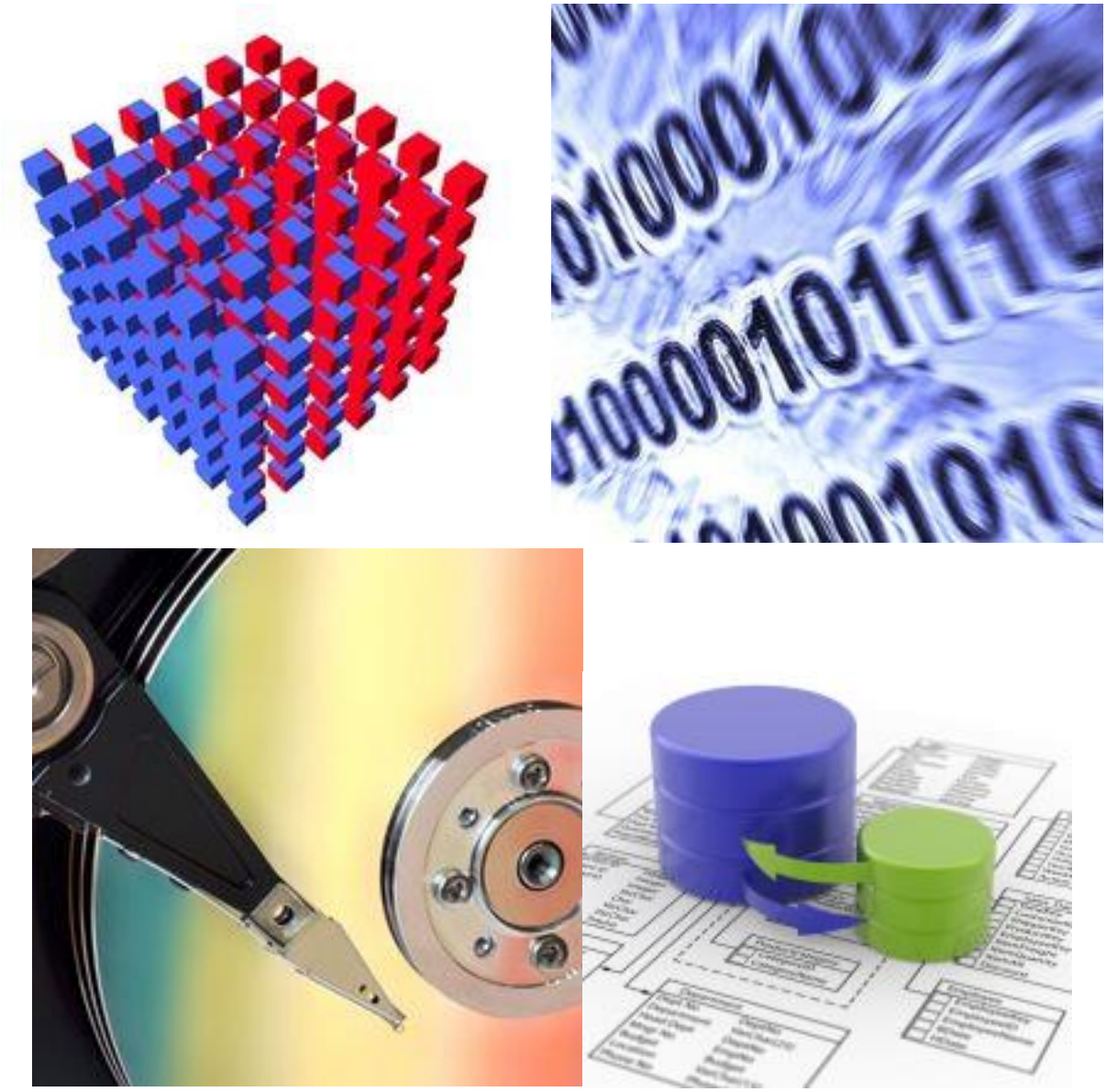
EDS DATABASE USER'S MANUAL



VERSION 3.2

5.2.2024

Contents

1 INTRODUCTION

EDS stands for Experiment Data Storage and is a database developed to store and retrieve in a controlled manner scientific documents and data. Due to its flexibility, however, it can be used as a more general-purpose database and store data coming from any type of plant or experiment facility. The use of the database is intended for research organizations, engineers, or safety authorities, who may want to access the data, retrieve documents, or analyze experiment results.

The easy-to-use access of the database has been one of the most important goals in the development of the software. The database is developed based on ideas from the STRESA Database by Alessandro Annunziato and Carmelo Addabbo from JRC. The EDS database application uses Microsoft SQL Server 2022 and has been developed using C# and ASP.NET Core 8. However, this database serves as files locator since the real pool of data has been maintained in their original file format for easier maintenance and delivery. The same database is used also for authentication of users.

2 DESCRIPTION OF DATABASE

To archive experiment results and related documents a new database has been developed at LUT University based on ideas from the STRESA Database developed in JRC. The database fulfills the following requirements.

- the database is accessible via Internet
- access to data is controlled
- data can be stored also in external location
- access authorization to specific documents is performed locally, by data responsible, not by an overall institution
- the content of the STRESA database can be converted with minor work to the new database

The EDS database is a general-purpose database to store documents and data coming from any type of plant or experiment facility as well as from code calculations. The user interface contains a series of user-friendly web pages which allow the retrieval of the information for authorized users. Different types of items can be stored in the database.

- Documents in different formats (pdf, doc/docx, txt, …)
- Data in ASCII format
- Drawings
- Videos

The only exception to the preservation of the original file format is for the data files. If the data are stored also in a WinGraf format developed at JRC it is possible to benefit from the online data preview shown in Figure 1. Otherwise, the user can still download the data but cannot preview the plots on the screen.

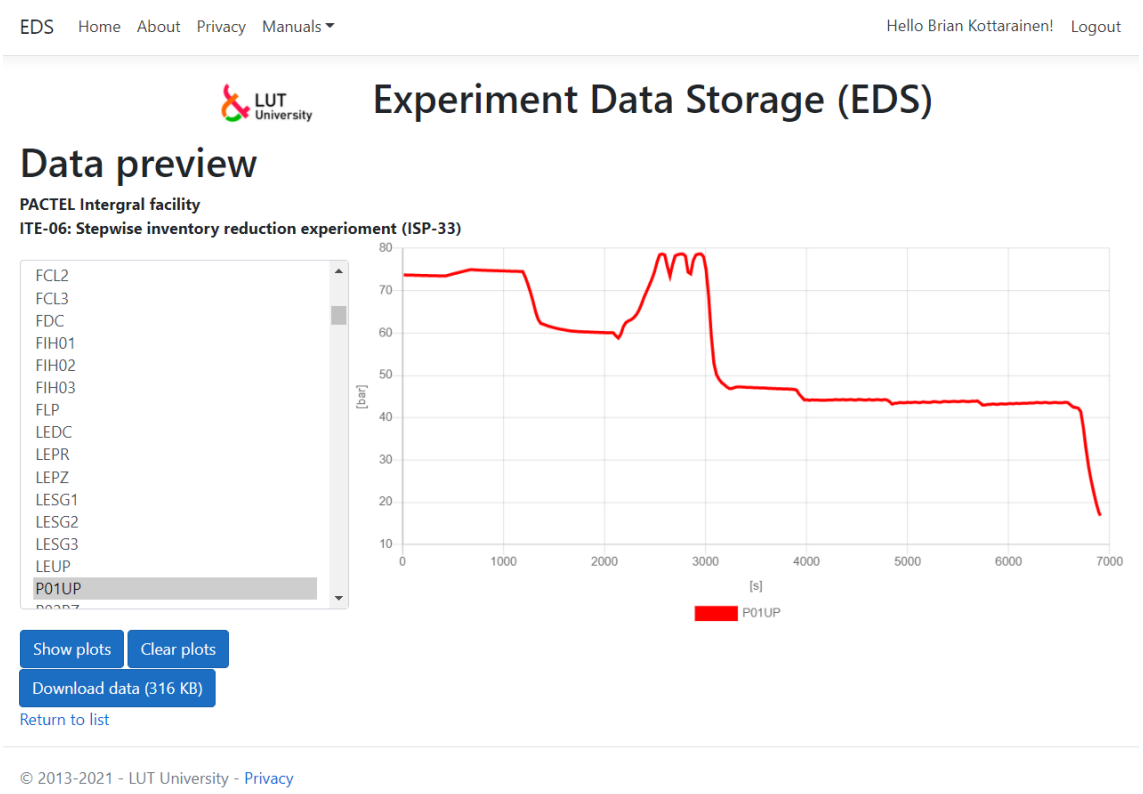


Figure 1. Example of online preview.

3 USE OF DATABASE

3.1 Registration and logging in

General information about the experiment facilities and most of the information in the main page is freely available without registration. To access other parts of the database a user has to login first. A new user requires a registration. In the registration, the user must give some details about him/her and select a password. The user will get a confirmation email of the registration. The user can always check the account settings in the database by clicking the user's name in the menu bar. Users who forget their password can have a link sent to their email account, enabling them to reset their password.

As a new user registers in the database, the user can enter and see the list of documents. The registered user cannot get any file if the database responsible has not assigned a document freely available. To access a specific document, the user can make a request specifying the required documents.

3.2 Accessing data

Accessing the database begins from selecting the facility, checking which tests (some information about each test may be available) and documents are available for one or more specific facilities, see Figure 2 - Figure 4. If the user wants to access specific documents, a request (Figure 5) must be made. The request will eventually be authorized or denied, and the user will be notified via email. The data responsible can give authorization to some or to all requested documents. Once the request has been authorized, the user can download the authorized documents.

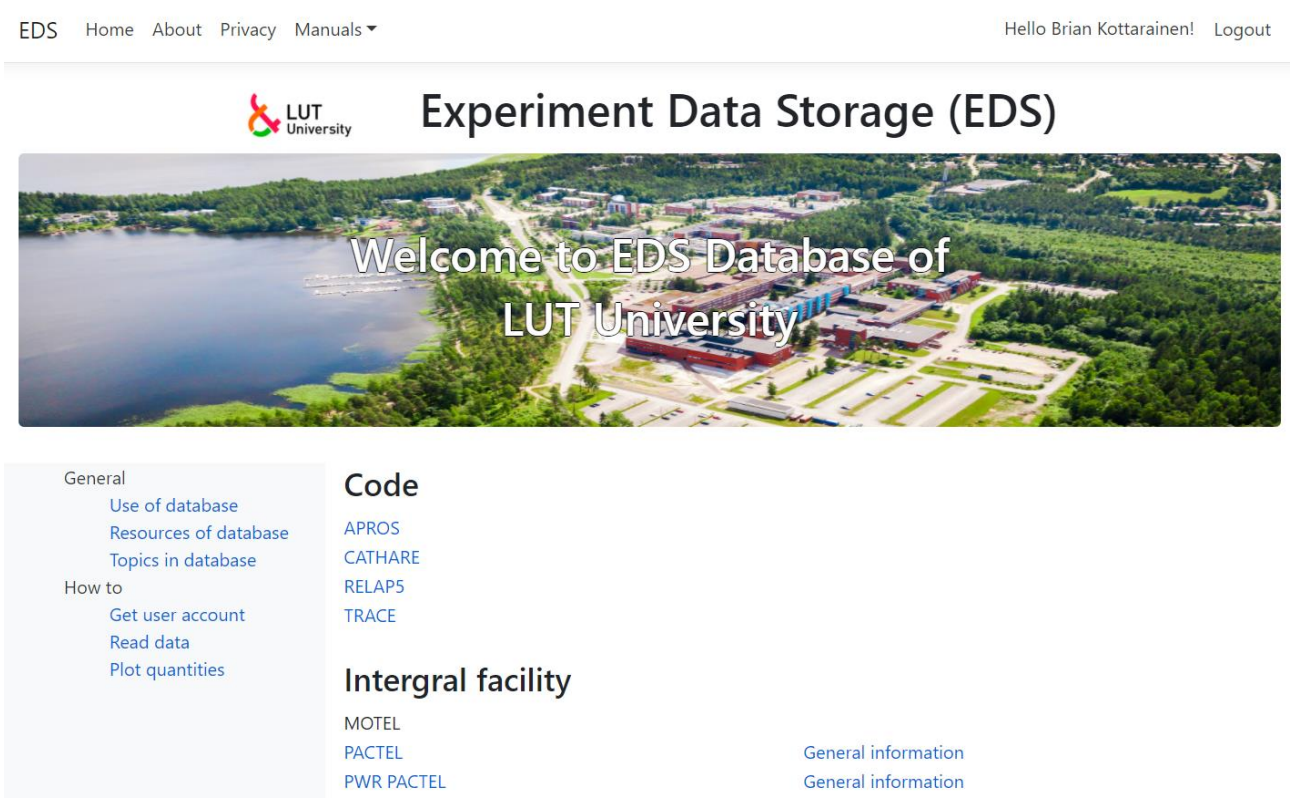


Figure 2. Home page of an EDS database.

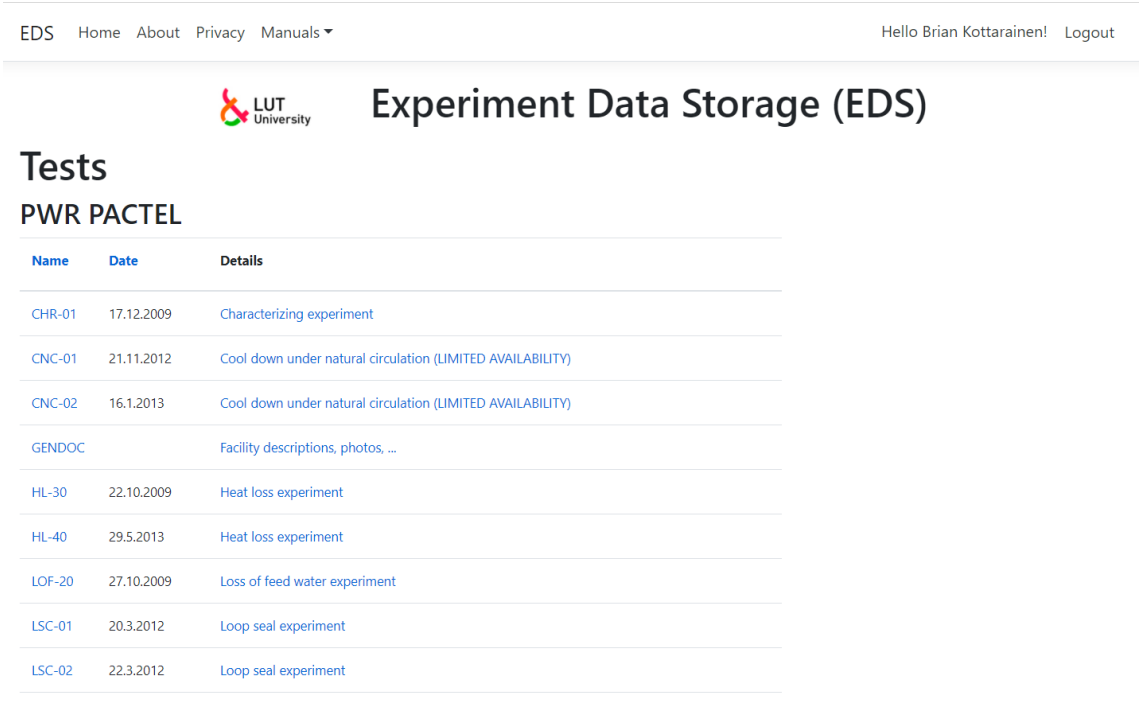


Figure 3. Example list of the available experiments.

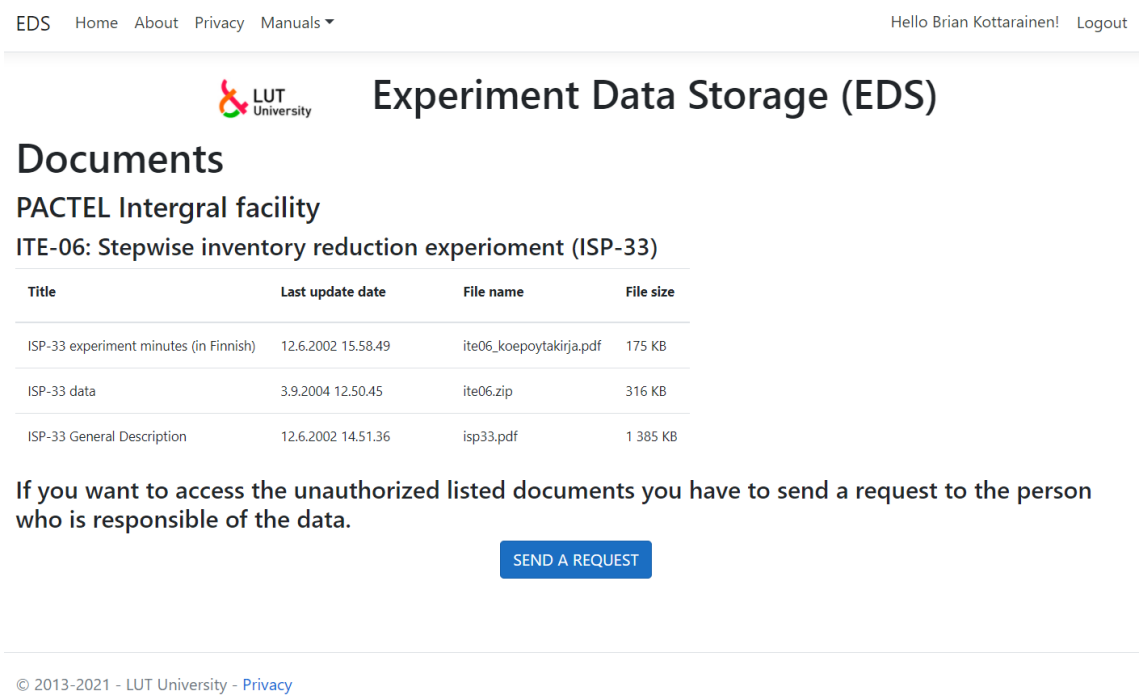


Figure 4. Example of available material for a selected experiment.

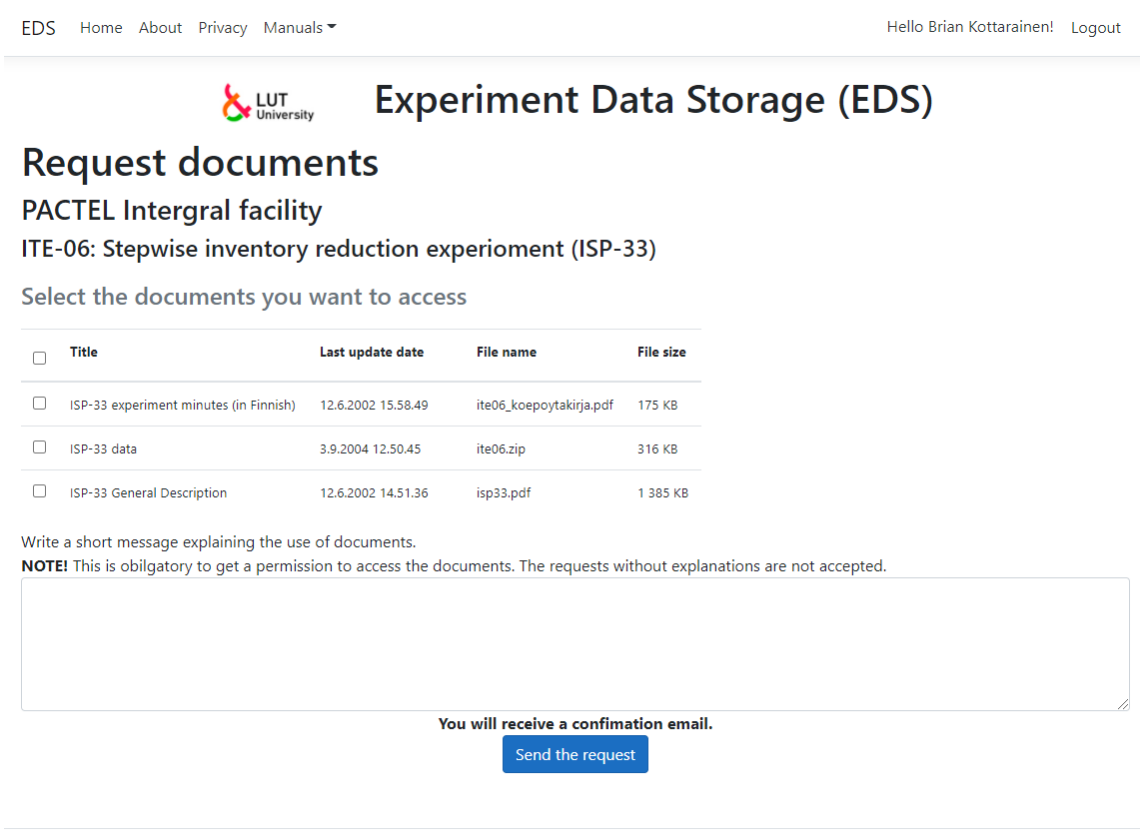


Figure 5. Web page to request an authorization.