Understand

Overview over the EDI-Net service

Abstract

EDI-Net provides tools for all user groups in a municipality some of which open to the wider public, others requiring a login.

You can reach the **public area** via http://dashboard.edi-net.eu :

Open to the public are league tables summarising the performance of buildings with smiley faces across buildings and over time for each resource within a building comparing past consumption. Changes in weather are being taken into account. The discourse forum provides opportunity to point out possible reasons for wastage or ideas on how to improve efficiency directly to energy professionals. Furthermore, quizzes and a large range of awareness material is rolled out always linking directly to the actual and current performance of the building.

Restricted features include the backend of the dashboard providing a homogenous tool with numerous means to keep overview of the consumption within and across buildings. This overcomes one challenge in municipalities often running various energy management services in parallel. Analysis is performed using big data analytics. Furthermore, a benchmark tools provides anonymous insights across municipalities and empowers decision makers and energy professionals to assess measures to be taken using models based on actual and most up to date data from the buildings in question.

EDI-Net tools require short time series (typically half-hourly) meter data, campaigns and networking to increase the capacity of public authorities to implement sustainable energy policy.

Public features

Public features target all non-energy professionals and all kind of building users including staff and on occasion visitors or school children etc. You can reach the **public area** via http://dashboard.edi-net.eu.

Dashboard

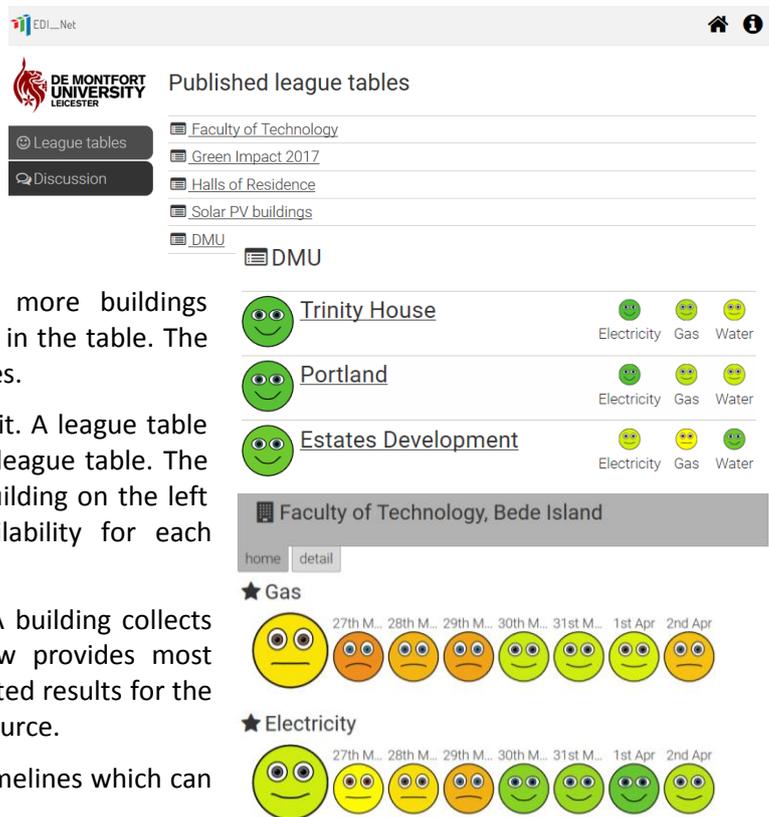The dashboard provides **league tables** and **building** information.

Public results are available to anyone on the internet. They do not require a log-in and can therefore be used to inform any kind of staff with our without knowledge of the energy system.

League tables are a collection of one or more buildings summarising the core results for each building in the table. The start screen is a list of all published league tables.

A **league table** can be selected by clicking on it. A league table summarises the results of all buildings in the league table. The overview provides an overall result of each building on the left side (large smiley) and depending on availability for each resource on the right side

A **building** can be selected by clicking on it. A building collects results from various resources. The overview provides most recent performance (large smiley) and aggregated results for the past week (small smiley) for each available resource.

Further detail is accessible using graphs and timelines which can be zoomed into for any period of time.
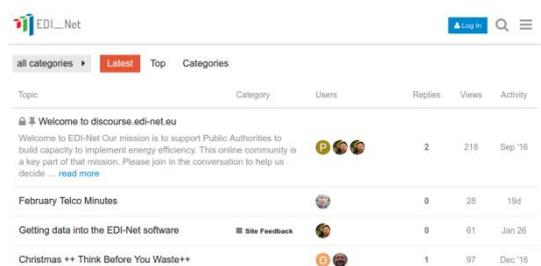
Discourse forum

The on-line discussion forum is a tool for staff to use as part of an integrated awareness raising and training package allowing them to share knowledge and experiences. The forum uses the open source Discourse software. This is a robust, conversation-led software approach that enables users to share their knowledge and experience online. The discussion forum has the capacity to work across the EU in more languages.

A discourse instance has been created for the project at https://discourse.edi-net.eu. This single instance will be used by all of the Participating Public Authorities (PPA). The forum facilitates structured communication and dialogue between users. Structured communication and dialogue is essential for raising awareness, training and engaging users in energy management and sustainable energy policy, and therefore essential for reducing energy consumption through cooperation.

Other public features

Quizzes on energy efficiency are accessible through the public dashboard. Other awareness material is available for Participating Public Authorities. Ideally, these templates are incorporated in existing schemes and provide QR codes to the results and the topic in discourse to reduce friction for communication.

Restricted features

Restricted features require login and target system admins, decision makers and energy professionals. On occasion, special rights can be granted to non-energy professionals highly engaged in achieving maximum efficiency in a given building. The dashboard backend is accessible

Dashboard

The EDI-Net system is a powerful analysis tool which enables the monitoring of an entire building portfolio from a single dashboard. Consumption data are automatically imported into the system and the analysis happens automatically on our server so the results are continuously updated.

Each dataset is automatically analysed to generate a baseline model of consumption which is then continuously compared to new data providing a simple measure of performance. Being based on historic data it is easy to see when consumption diverges from expectation, the system provides a simple and up-to-date summary in a single interactive report. The system also allows for the creation of simple publishable reports which are ideal for sharing with stakeholders. Published reports are very simple to understand even for a complete non-expert. For the more technically minded, detailed diagnostic reports are available in a few clicks.

The building blocks of the system are designed to ensure results are quickly attainable but flexibility maintained so that fundamental steps (import, data) have only to be undertaken once.
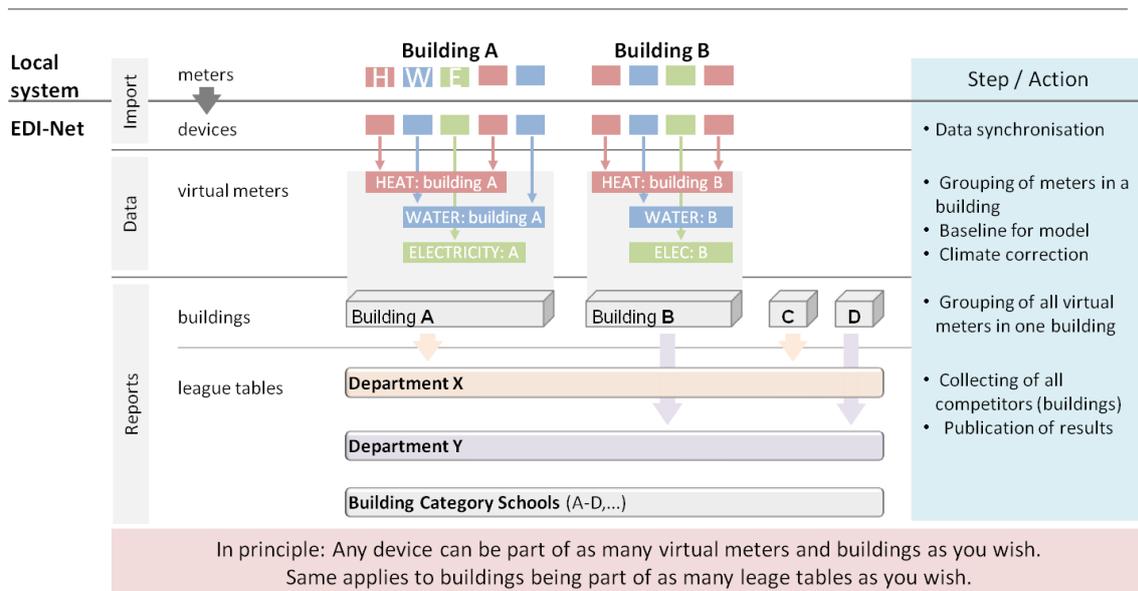

Energy action oriented benchmarking tool (EEM)

This application provides a **general dashboard** summarising the buildings for which a user is responsible. **General analysis** provides further insight into any selected building or departments.

From **user general dashboard** the users can see all buildings and EEM that they have registered in the system and also can add new buildings.In each building appear three smiley faces, that represent the last month consumption (global, electricity and thermal) compared with the expected consumption provided by the model. The model prediction is based on previous consumption in each time step normalized by weather conditions.
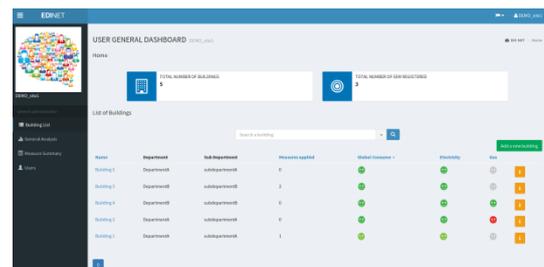
In **general analysis** the user can see different analytics about the data of all the buildings to which the user has access. All graphs and tables that appear in General Analytics can be downloaded, for further processing by the user. The user can see here the number of buildings and the data quality of these buildings (percentage of buildings linked with electric consumption, thermal consumption, area or occupancy). Finally, the user has the total investment registered in his buildings, the total electricity and thermal consumption of the last year, and the savings compared with the model.
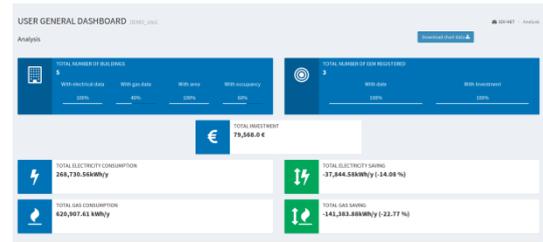
Furthermore, charts explain the evolution of electric and thermal consumption split by departments of the organisation. Charts depict the current consumption of each department and the base line (historical consumption), it is presented in order to see the variation of consumption and see quickly the department is increasing o decreasing the consumption. A similar view is available to distinguish building typologies.

Awareness material

EDI-Net is provided with a wide range of awareness material. The formats are open and can easily be adopted to comply with exiting corporate designs etc. Quizzes are also made available via a link which can be embedded into public web-sites as well as the login screen for staff via an iFrame or similar.

Use case to rule out behavioural impact for assessing measures using CBA

One use case could be that when the energy professional identifies a certain pattern of wastage, a quiz is shown with the first login of the working week. The impact of raising awareness can then be measured by comparing metering data. If further educational measures such as announcements in meetings do not trigger a change it is likely that a structural problem exists. The fix can be assessed with greater confidence in a cost-benefit analysis having ruled out the impact of behaviour.