atelier
Positive Energy Districts

PROJECT RESULT

Smart Iteration Tools

PARTNERS

Deusto
Universidad de Deusto

Bilbao

PROJECT

EU Programme:
Horizon 2020 Innovation Action

Coordination:
City of Amsterdam

Partners:
29 partners, 10 countries

European grant:
19.6 M€

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Result in a nutshell

App#1.
Serious game: You decide!

Designed to engage users through interactive scenarios that simulate real-life decision-making regarding energy consumption and sustainability. Users can explore the consequences of different energy choices as they are valued according to four criteria: environment, society, economy, and innovation. In this process there are no good or bad solutions, but different future scenarios are being projected for the island of Zorrotzaurre.

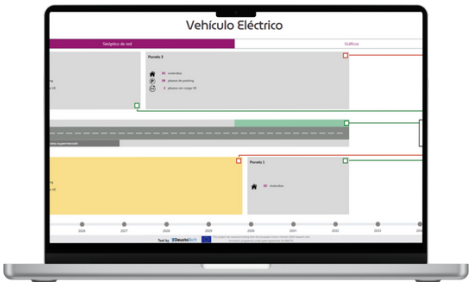
https://serious-game.atelier.apps.deustotech.eu/

App#2.
InDESim: Integrated District Energy Simulator

Energy modelling tool that allows users to simulate different renovation energy scenarios and compare them with a baseline scenario that reflects the state of their building (residential/tertiary) or district before interventions.

https://indesim.atelier.apps.deustotech.eu/

App#3.
Integration of Electric Vehicles in the Distribution Grid at Building Level



Enables users to explore the impact of electric vehicles (EVs) on the grid at building level. Through this interactive simulation, users can assess the evolution of EVs in the multi-year horizon and visualize the benefits of integrating e-mobility into urban environments.

https://electric-vehicle.atelier.apps.deustotech.eu/

Details on result

Technical aspects:

App#1

This app has been developed as Progressive Web Application, (PWA) using React.
PWAs are applications developed with web technology (HTML, CSS, JavaScript, etc.), but they look and act like native applications, which are software applications developed for a specific platform (iOS or Android).

App#2 & App#3

These apps are built using React, a popular JavaScript library for building user interfaces. It leverages Redux Toolkit for efficient state management, ensuring a scalable and maintainable data flow across the application. The app also integrates react-chartjs-2 and Recharts for data visualization, providing interactive and dynamic charting capabilities.

Application areas and target groups:

These Apps promote learning and increase awareness of energy sustainability in urban environments. They can be applied in the areas of education, policy making (evaluation) and energy communities.

They were designed to be used by the following target groups:

- **Students and professionals** in the field of energy and sustainability can use them as educational and training resources.
- **Decision-makers and urban planners** can utilize them to assess decarbonization strategies in energy districts.
- **Citizens and local communities** can engage with these applications to enhance their understanding of energy efficiency and their role in the transition toward sustainable cities.

Implementation:

App#1 is focused on the location where the Positive Energy District will be developed in Bilbao: Zorrotzaurre Island.

App#2 and App#3 are generically designed to simulate any building or urban space.

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