

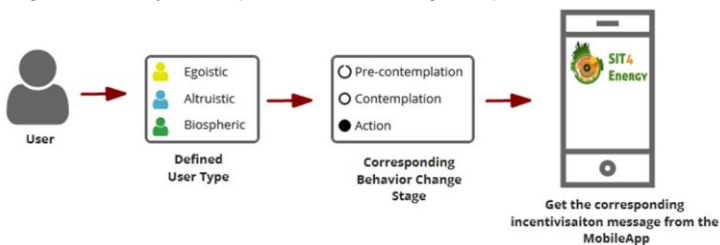


The project progress

During the last one-year period the project has progressed significantly both from technical and dissemination point of view. Despite the obstacles coming from Covid-19 pandemic, almost all milestones have successfully achieved. Towards materializing the knowledge acquired, all the tools and assets envisioned in the project have been delivered. Enjoy reading important insights attained regarding the SIT4Energy assets incorporated in the SIT4Energy mobile app and Smart Energy Dashboard.

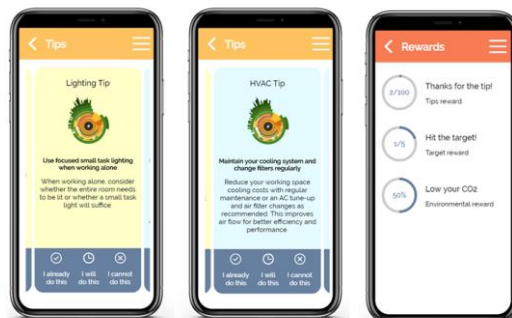
Adaptive incentivisation model

An interesting element of the SIT4Energy project is the adaptive incentivisation model which determines the user's type and the change stage through a survey deployed in the SIT4Energy Mobile app. To define this dual user profiling, the answers obtained from the SIT4Energy users are evaluated through specific rules. As a result, for each set of user type and change state a specific incentivisation message is selected to support the recommendation generated by the recommendation engine.



Activity tracking and micro-moment detection module

One of the core innovation in the project is its micro-moment detection tool incorporated in the SIT4Energy Mobile app. The main concept of this tool is that the messages from the SIT4Energy recommendation engine is not directly pushed to the user but is filtered towards delivering it in the optimal moment during which the user would be more susceptible to a nudge.

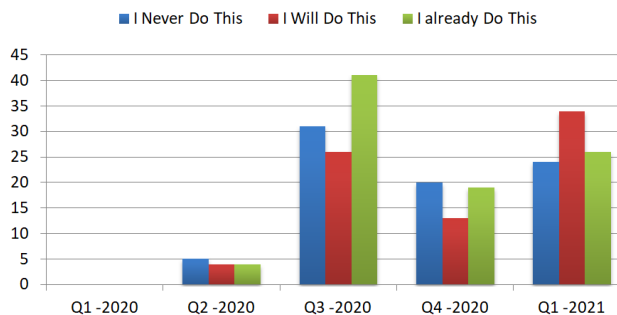


Context-aware attention triggering module

The incorporation of the context-aware attention triggering model in the Smart Energy Dashboard provides notifications for increasing engagement of prosumers using the Smart Energy Dashboard. Furthermore, the asset provides daily information about market energy prices as well as daily recommendations to improve self-sufficiency depending on different conditions assessed in the weather forecast.



First User-Feedback: Preliminary results after six months of deployment have introduced some interesting results, that are presented below. Currently, the project is its final stage, where an intensive validation activities are taking place both in the German and Greek pilot sites.



- Interesting insights & good visualizations
- Perfect tool to determine the degree of self-sufficiency
- Easy handling with clear arranged features
- Only PV integration with separate production-meter
- Recommendations don't fit for every household





The project's workshops

■ **Generation of “Green Habits” among young individuals:** Supported by HAEC, ITML organized an event that advocates positive energy consumption behaviors, with the help of their brand-new mobile application designed for SIT4Energy. The event was held on the 4th of December 2020, and we can say that it was a success, considering the SARS-COVID limitations. Many students and faculty members had illuminating perspectives regarding what SIT4Energy brings to the energy-consumption seen, and what can we do to improve it. They also participated in trying the tool and filling out a questionnaire related to their consumption of energy.

■ **German Student Workshop:** The SIT4Energy Mobile App for Sustainable Energy Behaviour was tested and analysed in an online workshop on 7th of January 2021 on user-centred gamification with students from the Master's degree programme in Business Informatics at Stralsund University of Applied Sciences. The workshop took place as part of Prof. Novak's course on CSCW & Collective Intelligence. The students have analyzed the mobile app with respect to the principles of user-centered gamification for different player types and generated ideas for its further development in future work.

The project's past and upcoming events

■ E-world Energy & Water fair

A team of SIT4Energy demonstrated the project's basic concept through an illustrative poster in the E-world Energy & Water fair, held on 11-13 of February 2020, in Essen, Germany.



■ SIT4Energy at the Universidad Politécnica de San Luis Potosí

The application of machine learning and the use of visual analytics applied mainly to the development of the SIT4Energy utility dashboard was virtually presented in a virtual event hosted by the Universidad Politécnica de San Luis Potosí, Mexico.

■ AI Symposium of the University of Applied Sciences Stralsund

The SIT4Energy team presented a talk about the overall project as well as two posters related to the Utility Dashboard and the Adaptive Incentivisation Service. The event was held on the 10th of September 2020 in the premises of the University of Applied Sciences, Stralsund.

■ SpliTech Conference

SIT4Energy presented a work entitled “Optimal Recommendation Strategy Identification towards Energy Efficiency in Tertiary Buildings“ in the “5th International Conference on Smart and Sustainable Technologies”, conference, on 23-26 of September 2020.

■ 10th SEIT-2020

The article “Combining Machine Learning with Visual Analytics for Explainable Forecasting of Energy Demand in Prosumer Scenarios” was accepted to be published in Procedia Computer Science as part of the proceedings of the SEIT2020 Conference.

SIT4Energy will organize a workshop on Energy Efficiency and Artificial Intelligence (EEAI) at the 17th International Conference on Artificial Intelligence Applications and Innovations (AIAI 2021), which will take place in Crete, Greece, on the 25-27 of June 2021.

Key Facts

Start: March 2018
Duration: 3 years
Budget: € 711.832

Project Coordinator

Dr. Dimitrios Tzouvaras,
Centre for Research & Technology Hellas
Information Technologies Institute
Dimitrios.Tzouvaras@iti.gr

Scientific Coordinator

Prof. Dr. Jasminko Novak,
Hochschule Stralsund -University of Applied Sciences
Institute for Applied Computer Science
jasminko.novak@hochschule-stralsund.de

Project Partners



Funding Agencies

