

Customer Deployment and Social Engagement Module

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Deliverable

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Statement of Originality

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

Executive Summary

This deliverable entitled “Customer Deployment and Social Engagement Module” corresponds to the TwinERGY project deliverable D7.8. This deliverable is part of the first group of deliverables launched by the project towards the first release of the TwinERGY modules and applications that will be utilized for the actual piloting cases.

The deliverable presents an overview of the functionalities that are addressed by the developed functionalities of the TwinERGY social network module (SNM) mobile application and the general principles regarded for the design. The presentation of SNMs features is framed upon the formal presentation of the functional requirements categorized based on thematic integral areas. Technical details about the development framework are also reported along with additional technical tools that will be used by all projects towards their co-integration. Finally, the interacting points mainly with the Core Data Management Platform, Digital Twin, and the Transactive Energy Market modules are presented.

The Social Network Module functionality which is presented in the following chapters attempts to showcase how social competition/community rewards and gamification challenges can be used in order to enhance consumers’ participation and engagement and reduction in energy usage.

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Annex I: Letter to inform users on the start of the pilots

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1. Introduction

1.1 Scope of document

The deliverable D7.8 on Customer Deployment and Social Engagement Module is the first documented report regarding the Social Network Module (SNM) first release implementation that is developed by European Dynamics in the context of the TwinERGY project. The first mobile application release that is also thoroughly discussed in this deliverable is available for download on Google Play following the [link](#).

The deliverable contains the first steps in the conceptualization of its architecture based on the goals to be achieved based on task description 7.8 of the TwinERGY project, the dependencies on other TwinERGY modules regarding inputs/outputs, the functional requirements list, and finally a navigation through the different environments of the module.

The main goal of this module is to provide a handy mobile application that will essentially increase end-users awareness on energy issues, and trigger behavioral shifts when needed through self and community-based competition. Therefore, the mobile application provides an easy-to-use menu where the users can understand in different graphs and metrics for their energy savings achieved in different time scales. Quiz games are also available to engage the user getting more rewards which aim to provide some training on basic principles of energy consumption and usage.

1.2 Deliverable structure

The deliverable is framed in the following main chapters:

- Chapter 2 develops the content around the mobile application its conceptual targets, the design principles and the social engagement approaches on gamified competitions applied,
- Chapter 3 details the functional requirements of the mobile application that essentially defines the SNM's implementation,
- Chapter 4 provides a navigation along the 1st release of SNM.
- Annex I, proposes a potential letter campaign that can be applied to approach demo users to be informed about the SNMs functionalities and the overall demo process.

1.3 Abbreviation lists

Acronym	Full Name
CDMP	Core Data Management Platform
DT	Digital Twin
SNM	Social Network Module
IDM	Identity Management
UC	Use Case
WP	Work Package
TEM	Transactive Energy Module

2. Overview & objectives of Social Network module

2.1 Conceptual overview

The Social Network module is a mobile application, energy behavior-oriented, social network mobile application which is designed to provide:

1. **Analytical monitoring functionalities:** provides a comprehensive dashboard to enhance end-users' awareness. Multiple analytics are visualized in time-wise organized screens.
2. **Social competition/community rewards** including playful challenges and competitions to enhance consumers' participation and engagement, with the inclusion of gamification capabilities and educational challenges.
3. **A co-creation platform** at the community level in a form of notification board in order for the user to have a visualized frame of reference regarding points of discussion and community interest towards the enhanced engagement of the end-users in the delivery of services.

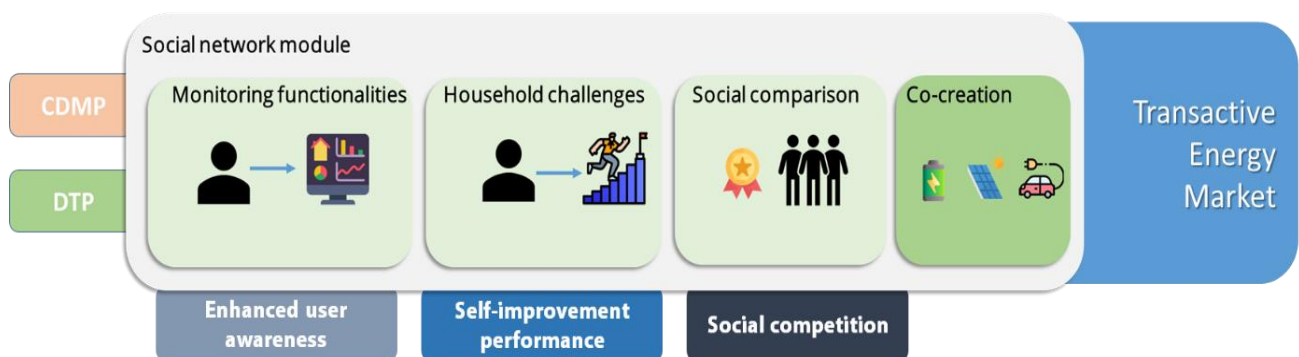


Figure 1 Social Network Module Overview

2.2 Goals

The Social Network Module has been built with the following goals in mind:

- to employ a social competition strategy based on the energy consumption metrics of households,
- to encourage demand response engagement and reduction in energy usage by leveraging on team dynamics,
- to enhance end user's awareness through relevant consumption information,
- to alter indifferent behavior and enhance end user's environmental engagement through gamification challenges,
- to raise important issues at community level,
- to leverage input from other TWINERGY modules in order to produce visual informative and functional results.

2.3 Design

The social network module relies its design and implementation on a well-established application developed in the frame of ChargED¹ project that was further updated in the frame of the BENEFFICE² project to also incorporate advanced features (i.e., the virtual coin as a reward) and is now been introduced to the TwinERGY users further enhanced by the intelligence and the accountability on accurate/reliable forecasts and other data analytic results that the Digital Twin module brings. TwinERGY mobile application aims to streamline the presentation of monitoring analytics related to end-users behavior providing comprehensive plots, dashboards, and metrics (e.g., energy-savings achieved) to assess the achieved pre-set goal.

2.4 Dependencies on other modules

The social network module needs to get continuous streams of data from:

¹ <http://www.charged-project.eu>

² <http://www.beneffice.eu/>

-
- Consumption data (this can be invoked from the Core Data Management Platform too).
 - Disaggregated profiles at device level.
 - Data Analytics or metrics calculated from other modules mainly at the Digital Twin
 - PV generation profiles.
 - Forecast profiles (consumption/generation or net-profiles).
 - Shared DER assets (EV charging point, PV, small wind turbine, Battery) data (this can be invoked from the Core Data Management Platform) or any analytics for them.
 - Recommendation for end-users performance (if any calculated) or behavioral consumption change.
 - Digital wallet balance and coins to be exchanged with the Transactive Energy Market module.

The social network module obtains information regarding neighboring consumers at the proximity of a community (list of users/communities) which can be provided by Home & Tertiary real-time Energy Monitoring module. This is an optional step to be decided at the demo sites, since competition may take place for all TwinERGY users in the same manner. The social network module in order to support the consumers in their every-day activities acquire information regarding shared DERs in the community such as current or forecasted status of community Battery, PVs; this type of information is acquired by specific api request to the Digital Twin Platform along with the DER management module. The outputs of the social network module such as recommendations for consumption, challenges amongst end-users and user rewards aim to have a direct impact on the end-user's behavior either as an individual process or through the integration with another module since through its design it can provide these outputs to other modules. So far there are no requests identified from other modules to consider the social-network module's outputs apart from the **Transactive Energy Market** (TEM) module. The integration with this module establishes a concept of a digital wallet among the two modules in order to engage the user in energy activities (DR schemes) and trigger

behavioral changes in their consumption habits. Therefore, the TwinERGY points that are won in the SNM frame are stored in the digital wallet and transmitted to the TEM module, where these coins can be redeemed with eco-positive goods that are available for the community.

Schematically Figure 2, presents potential interactions with other modules, the intrinsic functionalities, and the outputs presented to the SNM TwinERGY user.

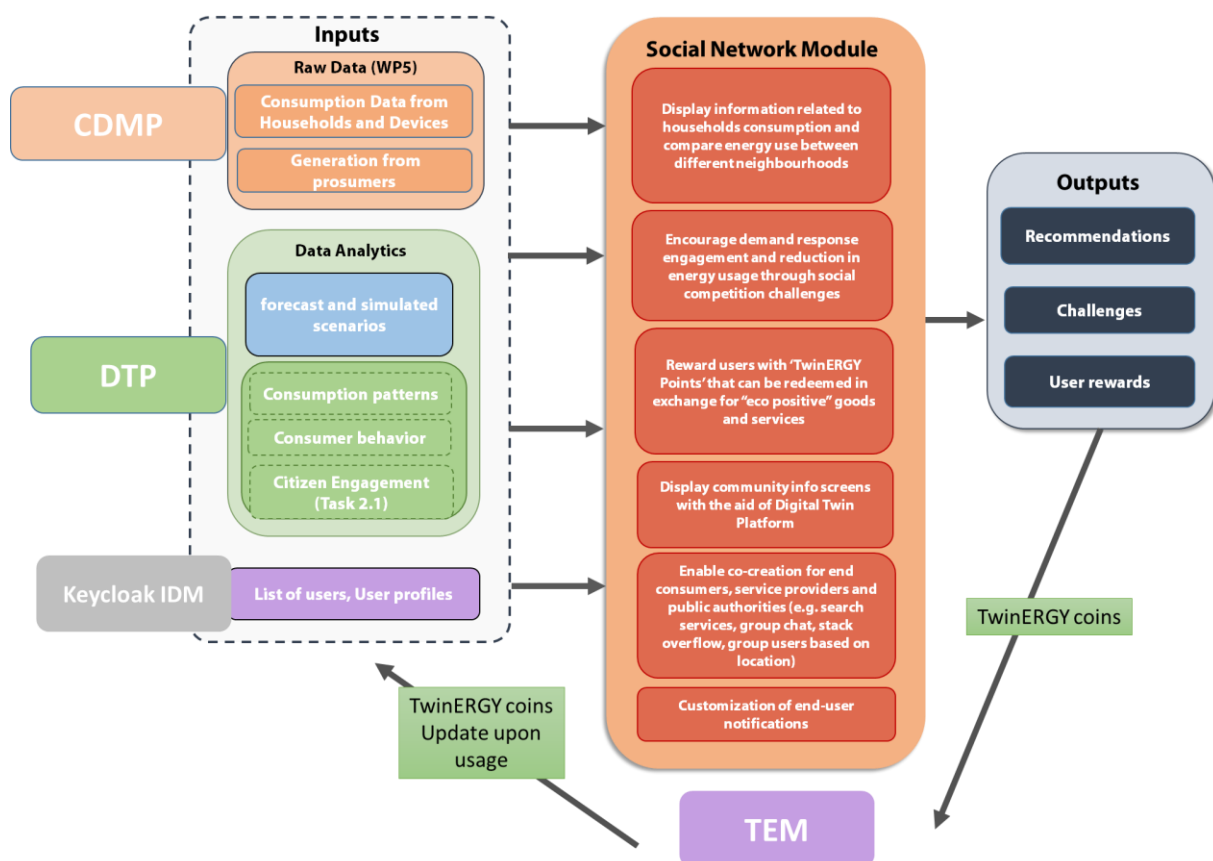


Figure 2 Inputs & Outputs

2.5 Social Aspects

An important aspect of the Social Network Module is to attempt through its use to maximize end-users participation and engagement. In order to achieve this, it tries to:

1. Streamline operation without requesting many inputs & much interaction

2. Attract users and foster comprehensive energy competitions

The SNM will be open to get custom competition based on the Demo needs. The back-end design considers a baseline and an optimized net profile (this might be inputted from any TwinERGY module that performs certain optimization) and then user's assessment is conducted by calculating mismatches among the two cases (baseline and optimized profile). The optimized profile that regards the optimal user behavior so far is considered to be invoked from the DT module to achieve optimized energy savings, where this frames the competition among TwinERGY users. Nonetheless, other goals/objectives could be set as competition in the overall TwinERGY demo context

Competitions among end-users will focus on:

- Minimize total energy consumption
- Minimize total CO2 emission
- Minimize total energy costs
- Maximize share of renewable energy / self-consumption
- Maximize/minimize machine utilization
- Maximize share of heat recovery
- Maximize efficiency factor of the different energy types
- Participation in implicit demand response schemes

2.5.1. Social competition scenarios

Following a discussion with the University Nova de Lisboa (UNL), the potential scenarios for social competition and the target group (Local city or country) have been developed. The social aspects do consider work performed in Deliverable 4.1 of TwinERGY [1] and relevant literature [2], [3].

UNL introduced the idea of the Leaderboard for the ranking list proposing the following scenarios:

1. Upward social comparison + local target (local city or country)

You are using the TwinERGY app, as well as some of your neighbors and citizens of the community. During a week, your energy savings are recorded, and you can access to it every day to improve your performance if you wish. At the end of the week, you receive

a dashboard with your position in comparison to your neighbors (in the same city or country) that best performed:

Example: Nike (with a ranking list and a comment “9.9 miles behind a **friend**”) & Leaderboard (with a podium) & fitness app with social comparison (local target).

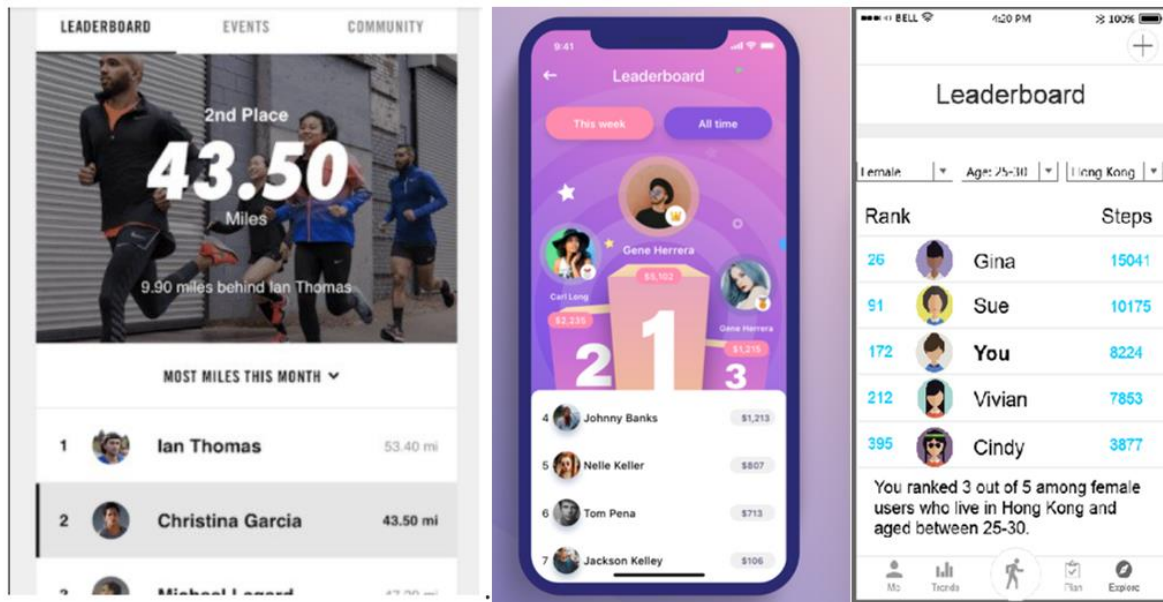


Figure 3 Example from other commercial mobile applications

In Twinergy app:

Your performance this week was of **x** points. The most efficient users were **A, B and C** (neighbors) with the following performance: **x** points, **x** points and **x** points! Keep going! (OR)

X % of your neighbors performed better than you!

2. Upward social comparison + broad target (all twin users)

You are using the TwinERGY app. During a week, your energy savings are recorded, and you can access to it every day to improve your performance if you wish. At the end of the week, you receive a dashboard with your position in comparison to all other twin members that best performed, like the following:

In TwinERGY app:

Your performance this week was of **x** points. The 3 most efficient users were **A, B and C** with the following: **x** points, **x** points and **x** points! Keep going! (OR)

X % of the users performed better than you!

3. Downward social comparison + local target (local city or country)

You are using the TwinERGY app, as well as some of your neighbors and citizens of the community. During a week, your energy savings are recorded, and you can access to it every day to improve your performance if you wish. At the end of the week, you receive a dashboard with your position in comparison to your neighbors (in the same city or country) that worst performed.

In TwinERGY app:

Your performance this week was of **x** points. The least efficient users were **A, B and C** (neighbors) with the following performance: **x** points, **x** points and **x** points! Keep going! (OR)

X % of your neighbors performed worse than you!

4. Downward social comparison + broad target (all twin users)

You are using the TwinERGY app. During a week, your energy savings are recorded, and you can access to it every day to improve your performance if you wish. At the end of the week, you receive a dashboard with your position in comparison to all other twin users that worst performed, like the following:

In TwinERGY app:

Your performance this week was of **x** points. The least efficient users were **A, B and C** with the following performance: **x** points, **x** points and **x** points! Keep going! (OR)

X % of the users performed worse than you!

2.5.2. Self-competition & social competition

The TwinERGY SNM mobile application considers a two-step approach (see Figure 4) for the user engagement on the improvement of behavior. The first one is related to users' self-competition through the continuous improvement on consumption habits which is approached with the utilization of a gamification approach that regards different time-scales to achieve long-lasting participation. This takes place with a set of collected badges that create a complete scenario; yet, due to the fact that the user might be disengaged after a while, certain TwinERGY points will be accounted for well-performing users. The self-competition is further enhanced with the incorporation of TwinERGY points which

are regarded as a virtual/digital coin that can be used in exchange of eco-positive (eco-friendly) goods. The TwinERGY points can be earned through the successful evolution on self-competition achievements along with the assessment on the social competition that relates the user's behavior with other TwinERGY users.



Figure 4 Social Network module two-step approach for self and social

3. Functional Requirements

This Chapter presents the key functional requirements that were identified after the Use Case analysis conducted in Tasks 2.2, 4.4 and in the corresponding TwinERGY project deliverables [4], [5].

3.1 Functional requirements list

The following list presents the high-level functional requirements which formed the basis of the implementation efforts. The functional requirements do follow a taxonomy based on their technical relevance such as:

- **User registration, Authentication & Authorization process through central IDM (Identity management), User profiling process:** this aim to address functional processes related to the on-boarding of the user on TwinERGY context, where user registration and profiling that may be performed by a common technical solution,
- **Mobile application look & feel:** TwinERGY theme brandbook guidelines,
- **Interconnectivity with central NATS Server/Participation in NATS publish/subscribe mechanism:** relies on the interconnectivity with other modules,
- **Integration with TwinERGY modules:** exchange of information with other modules,
- **General information & Analytics Dashboard:**
- **User profile & help page:** this provides customizable profile information for the user along with the help page aimed at guiding the user when needed.
- **Gamification & social competition,** gamified features to raise engagement of user in self-improvement context along with competing with other TwinERGY users.

- **Co-creation platform:** presents monitoring functionalities for shared DERs.

Table 1 SNM functional requirement list

ID	Functional Requirement
User registration, Authentication & Authorization process through central IDM. User profiling process.	
TW_SNM_01	Integration with Keycloak IDM
TW_SNM_02	User profile page view & sign in (login) page
Mobile application look & feel	
TW_SNM_03	Design a UI with common TwinERGY look and feel, with specific user-friendly characteristics.
Interconnectivity with central NATS Server/Participation in NATS publish/subscribe mechanism	
TW_SNM_04	Provide seamless interconnectivity with NATS server
TW_SNM_05	Publish on NATS server requested data from other modules
TW_SNM_06	Subscribe on NATS server to data sources provided from other modules
Integration with TwinERGY modules	
TW_SNM_07	Integration with CDMP platform <ul style="list-style-type: none"> ○ Expose proper REST APIs to interact with CDMP platform
TW_SNM_08	Integration with Digital Twin Module in order to acquire data for: <ul style="list-style-type: none"> ○ Consumption (this can be facilitated from the integration process with Core Data Management Platform also) ○ Disaggregated profiles at device level. (may be extended to acquire considered load types per model). ○ Data Analytics or metrics calculated (if any) ○ Generation profiles (this can be facilitated from the integration process with Core Data Management Platform also)

	<ul style="list-style-type: none"> ○ Forecast profiles (consumption/generation or net-profiles) ○ Shared DER assets such as EV charging point, PV, small wind turbine, battery data (this can be facilitated from the integration process with Core Data Management Platform also). The SNM may also present analytics for the above assets depending on the agreed level of integration. ○ Recommendations for end-user's performance (if any calculated) or behavioral consumption changes
TW_SNM_09	<p>Integration with Transactive Energy module</p> <ul style="list-style-type: none"> ○ Interconnectivity with Transactive Energy module to exchange information related to potential TwinERGY points of users and user's balance.
TW_SNM_10	User able to view interesting info from other modules (e.g., temperature, comfort-level)
General information & Analytics Dashboard	
TW_SNM_11	Monitor user's energy consumption (hourly, daily, weekly, monthly)
TW_SNM_12	Monitor user's daily, weekly and monthly energy consumption savings given multiple comprehensive graphs and metrics
TW_SNM_13	Monitoring user's energy consumption with disaggregated information on device level
TW_SNM_14	<p>Provide to the user a specialized information & analytics dashboard providing:</p> <ul style="list-style-type: none"> ○ General house's consumption information ○ distribution among device categories ○ analytical visual graphs for the above information (hourly, daily, weekly, monthly) ○ Graphs and analytics about DERs (EV, BESS, PV)

	<ul style="list-style-type: none"> ○ Graphs and contextual information about user's total energy savings and consumption in relation to the baseline/optimized net consumption (daily, weekly & monthly).
User profile & help page	
TW_SNM_15	Receive personalized messages and recommendations related to user's energy consumption metrics
TW_SNM_16	Accept provided feedback in case user finds them useful
TW_SNM_17	View personal TwinERGY points earned & balance
TW_SNM_18	Q&A and support through a dedicated Help Screen
Gamification & social competition	
TW_SNM_19	<p>Capability to participate in educational quizzes</p> <ul style="list-style-type: none"> ○ Special questions designed to raise awareness on energy consumption/production
TW_SNM_20	Provide the user with gamified context related to energy consumption savings [self-competition "Grow your own home page tree"]
TW_SNM_21	Earn TwinERGY coins and badges of different categories (energy savings ranking, tree growth, quizzes)
TW_SNM_22	Display TwinERGY users ranking to raise competition among them
Co-creation platform	
TW_SNM_22	<p>Display notification board with capabilities such as:</p> <ul style="list-style-type: none"> ○ Post issues ○ Vote upon posted issues

3.2 Technical overview

The Social Mobile Application is going to be available in iOS and Android. The application will be able to be displayed on both mobile phones and tablets. The application is developed using the ionic framework. Ionic has the advantage to offer the same native look and feel on different mobile operating systems. It reduces the requirement for code changing as it gives the codes of mobile-optimized HTML, JS, and CSS components. Aside from this, Ionic incorporates into AngularJS, which turns into a robust structure that makes code more manageable. With regards to creating mobile and web applications, AngularJS is a broadly preferred framework. The extensions to HTML's sentence structure offered by AngularJS are extremely useful for the design of mobile applications. The Ionic structure utilizes AngularJS to offer a bunch of center functionalities to the designer with the goal that they can incorporate alluring components into the application.

For user authentication the Keycloak Identity Management Server is used which is an open-source product that provides Access Management and Single Sign On Services. The mobile app integrates with it to support user sign in and authentication and in turn obtains an access token which is used for validating the user's identity. This token can also be forwarded to other software components in the project that integrate with Keycloak when a user requests an external service through the app which will transparently authenticate them and provide seamless integration. It also provides the possibility to configure the validity of the user sessions and the time that is needed for the tokens to be refreshed in order to find a balance between adequate security and user convenience.

4. Social Network mobile application demonstration

4.1 Main Interface

After the user login the user finds himself/herself at the Home screen (Figure 5) which is also the main screen of the gamification environment (tree structure). At the bottom of the screen the user can select to visit the "Home", "Energy Dashboard", "TwinERGY coins", "Badges" and "Leaderboard" Screens. Screenshots of the Social Network Mobile application screen are shown in the below chapters:

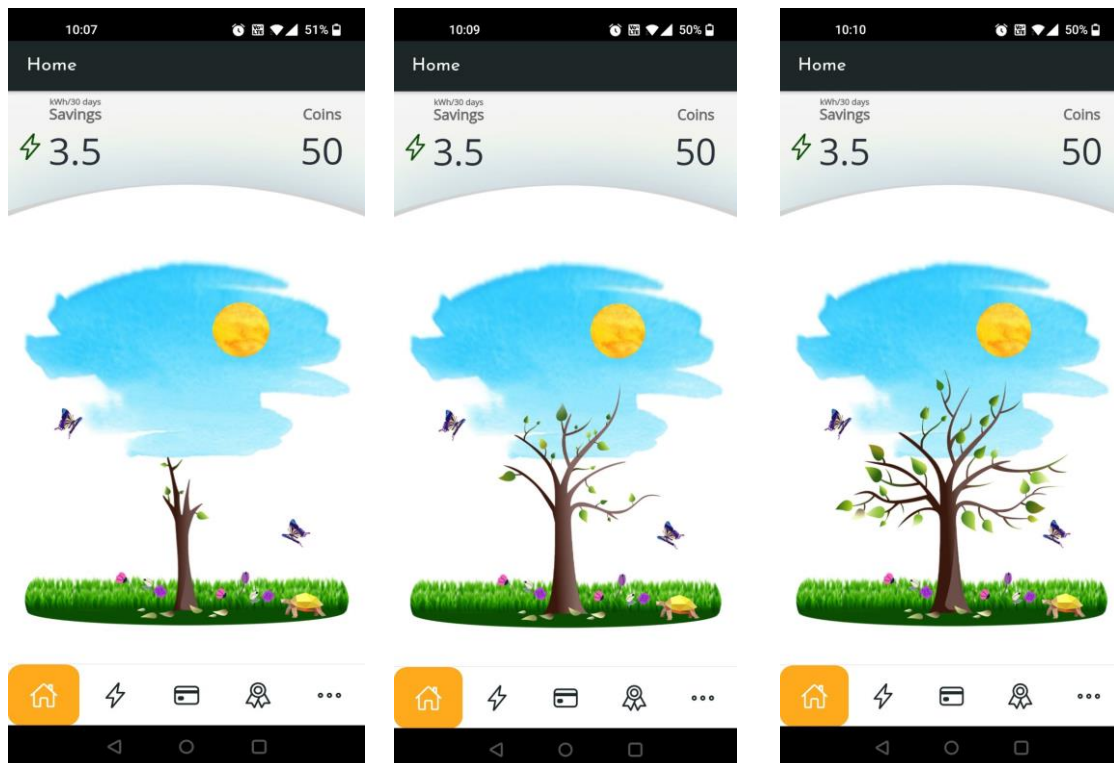


Figure 5 Home screen

4.2 Gamification Tool (Home Dashboard)

The tree growth and tree surroundings are linked to the available badges.

Tree badge: The tree growth is linked to the weekly savings of the household. There are 7 tree levels available and the tree level changes every week. The starting level is tree level 4 with a semi-grown tree. If the weekly consumption is less than the baseline weekly consumption then there are savings and the tree level is increased by one. If there are no weekly savings the tree level is decreased by one. Screenshots that depict the tree levels are presented in the Figure 6 below.



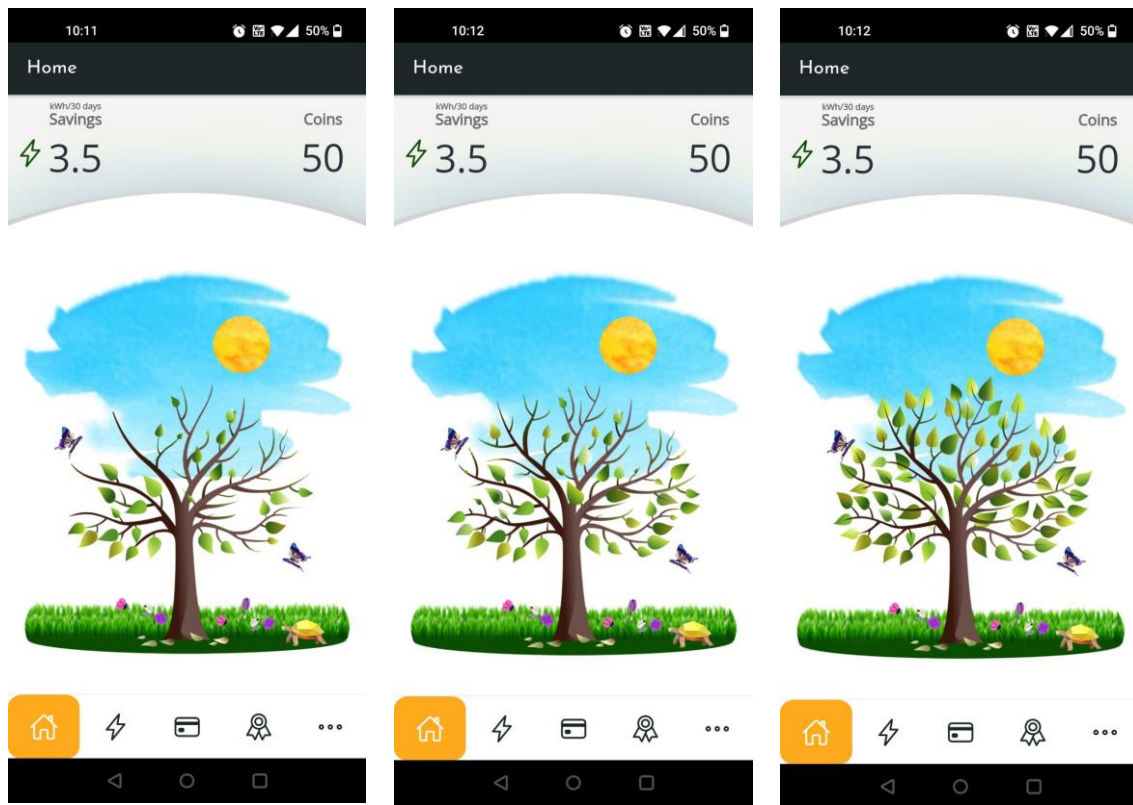


Figure 6 Tree growth (Tree levels 1-6)

Streak badges: Streak badges are related to having daily energy savings for 2 or more consecutive days -achieving thus a streak- and they change the surroundings of the tree. There are streak badges available for achieving 2,3,4,5 or 6 days of savings and each day another streak badge is added to the tree. If the user loses the streak or if he/she reaches the maximum streak of 6 days savings, all streak badges are removed from the tree and the counter starts again from day 1. In the Figure 7 below, the appearance of the tree level 7 with a 4 days streak is presented.



Figure 7 Streak badge (4 days streak, Tree level 7)

Monthly report card badge: This badge can be won or not every month. If the monthly consumption of the user is less than the baseline monthly consumption then there are monthly savings and the user wins a monthly report card badge which is a parrot that appears on the tree of the home page.

Profile badge: The profile badge can be won once by a user once he/she completes the profile. When the user completes all profiling questions, he/she is rewarded with the profile badge, a bird that appears on the tree of the home page.

Quiz badges: There are 3 quiz badges available. The user in pre-defined time intervals receives a quiz that is comprised of 4 questions. Once the user provides a correct reply to all 4 questions of a quiz, he/she is rewarded with a quiz badge that is a bird that appears on the tree of the home page. It should be noted that the user has the opportunity to answer a question many times in order to find the correct one as an

attempt to learn something on the process regarding the energy behavior and house consumption.

4.3 Energy Dashboard

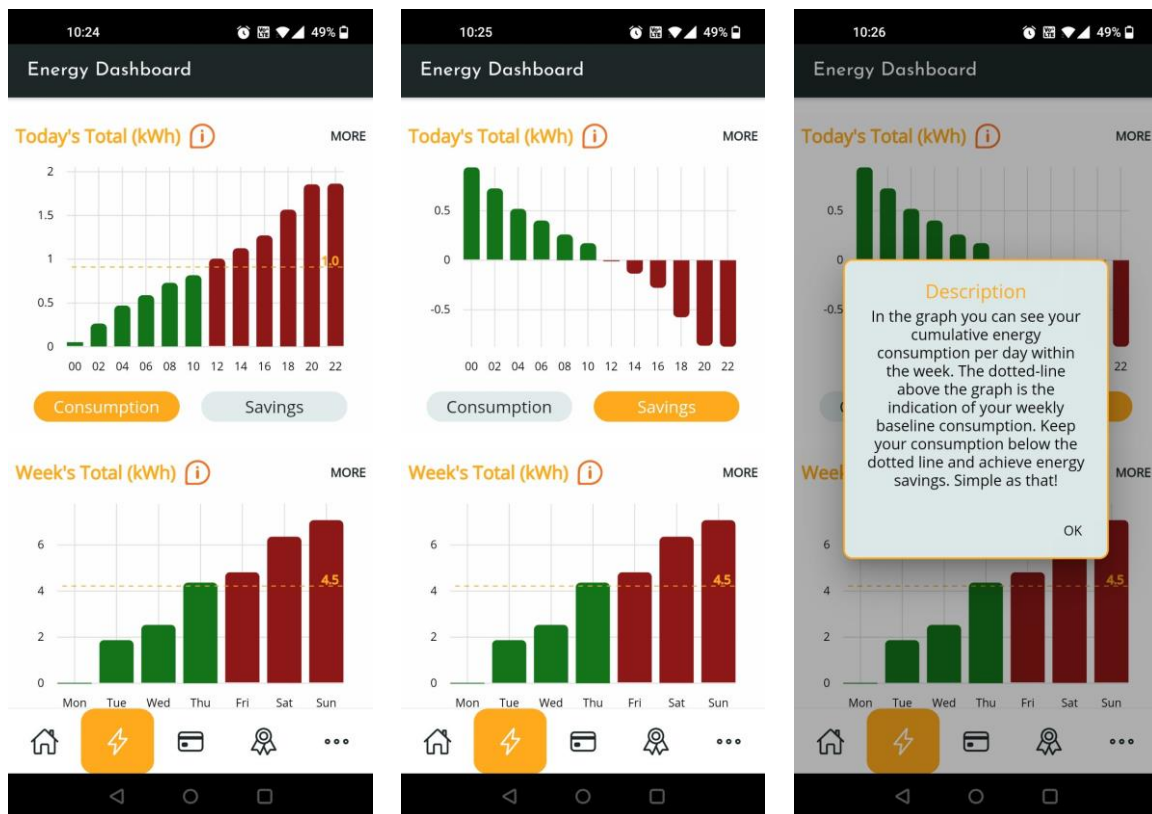


Figure 8 Energy Dashboard Screens (Consumption, Savings, Info)

In the Energy Dashboard screen (Figure 8) the user can view the total daily, weekly or monthly cumulative consumption per pre-defined time frames within the day, week or month (“Consumption” tab). The orange dotted line above each graph is the indication of the daily, weekly and monthly baseline (i.e., dotted red-line in Figures, calculated by DT module) respectively. The user should keep the consumption below the dotted line in each case in order to achieve savings. The user has also to option to view the daily, weekly or monthly savings simply by pressing the “Savings” tab. In addition, by clicking to the “info” icon, the user is presented with a description of what is shown in each diagram.

In the Energy Dashboard the user has also the option to click on the “More” button at the upper right side of each graph in order to see more detailed information regarding his/her consumption in the “Energy Details” screen. In the Energy Details screen – Overview tab, the user can select to view daily, weekly or monthly consumption (see Figure 9). There are also some comparisons available with the daily, weekly or monthly average consumption or the consumption from the last day, week or month. The green arrows show reduction in the consumption while the red arrows show increase in the consumption.

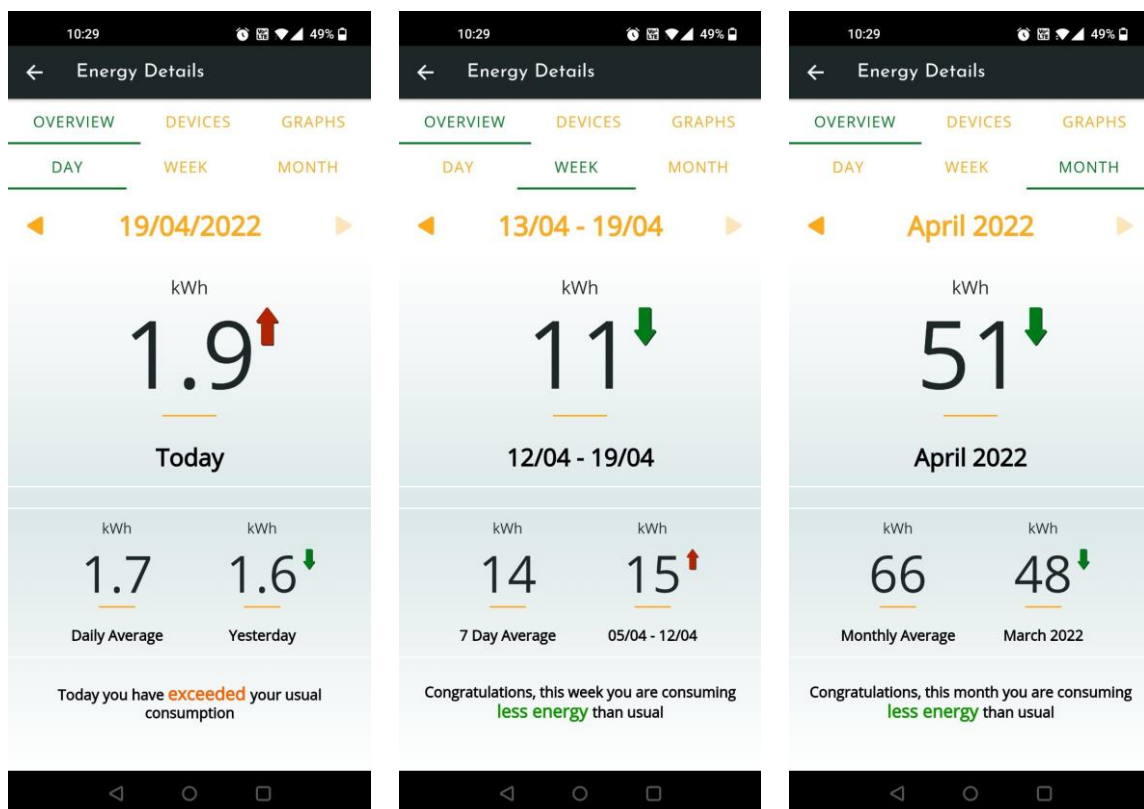


Figure 9 Energy Details screen (Overview tab: daily, weekly, monthly)

In the Energy Details screen – Devices tab (see Figure 10), the user can view the results of the disaggregation algorithm and how the total consumption is distributed (in %100 percentages) in 9 different categories of devices:

- HVAC systems (e.g., air-condition, electric heater, electric radiator, etc.)
- Freezers and refrigerators

- Water Heaters and Boilers
- Finite state machines (e.g., fan, humidifier, iron, coffee maker, hairdryer, vacuum cleaner etc.)
- Washing machines (e.g., for clothes, dishes, dryers, combo washer-dryers etc.)
- On/Off devices (e.g., waffle maker, saver, trimer, TV, toaster etc.)
- Kitchen related appliances (e.g., oven, stove, microwave)
- Continuously varying devices (e.g., laptop, desktop PC, PS4, Xbox etc.)
- Electric vehicles

By pressing in each one of the categories the user can see more information on each category (what kind of devices this category includes and the total consumption in KWh) for the respective day, week or month of his preference.

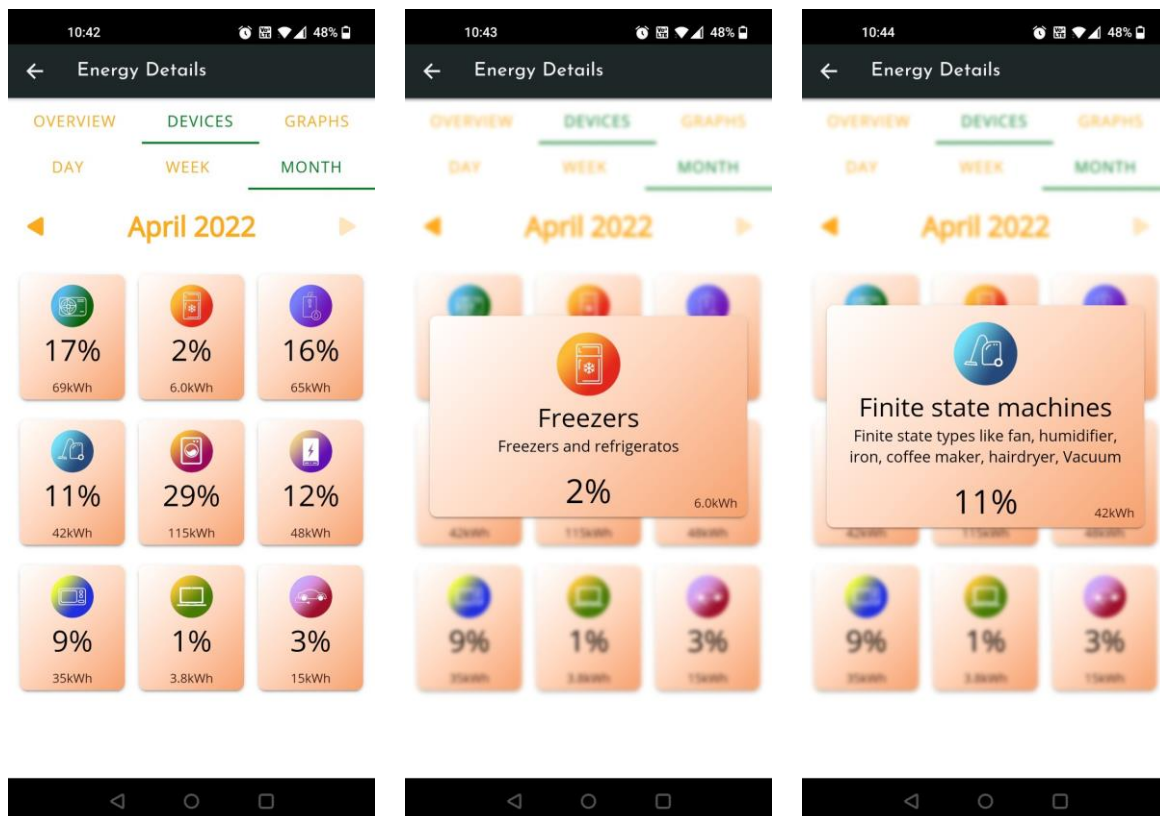


Figure 10 Energy Details screen (Devices tab)

In the Energy Details screen – Graphs tab (see Figure 11), the user can see useful graphs related to a) his/her daily, weekly, monthly consumption, b) the consumption per device category (daily, weekly, monthly) and c) a pie chart with the consumption per device category (daily, weekly, monthly).

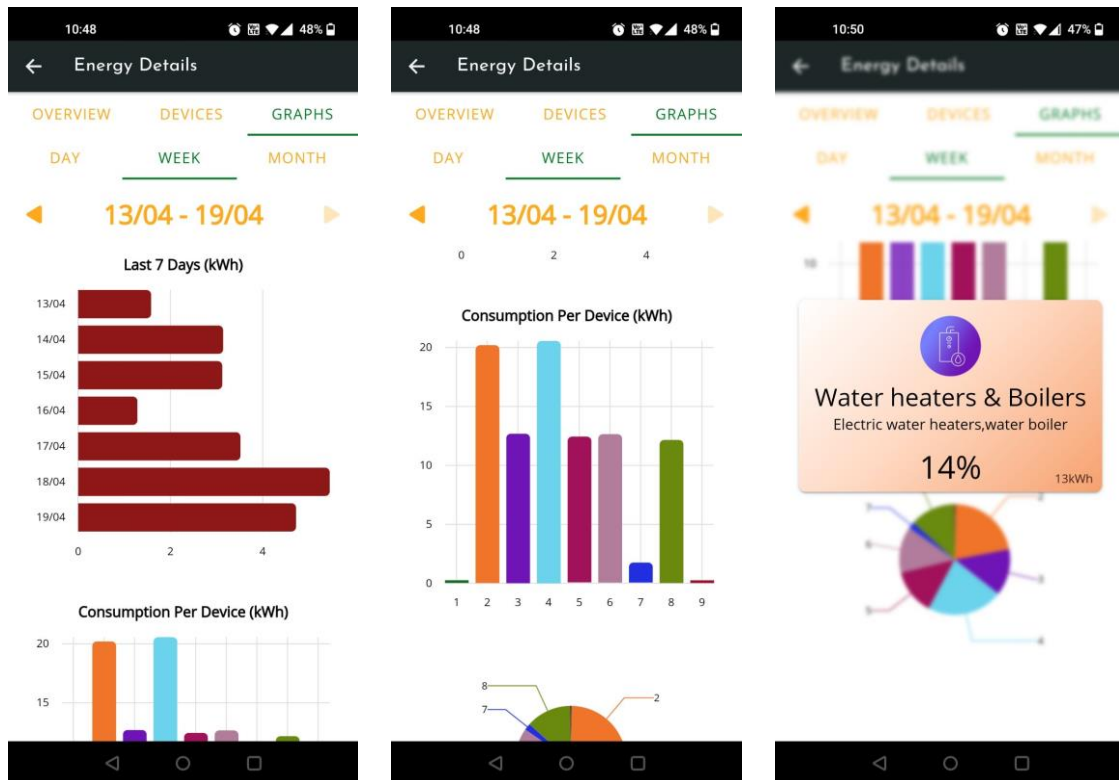


Figure 11 Energy Details screen (Graphs tab)

4.4 TwinERGY Points Dashboard

The next tab at the bottom of the Home screen is the TwinERGY points screen (see Figure 12). In this screen the user can see the total TwinERGY points (virtual game currency) won and the account balance with the currently available € (depending on the amount of TwinERGY points in his wallet incoming from the TEM module). It should be noted that the TwinERGY points screen can be accessed also by the top right corner of the Home screen by clicking on the number of TwinERGY points. This screen presents joint information from the SNM and the TEM modules which will be refreshed upon any

change. Changes may happen on both modules either due to occurring transactions on TEM (i.e., balance affected) or on the TwinERGY points (i.e., points won or used to get eco positive goods, available in TEM as in Figure 14).

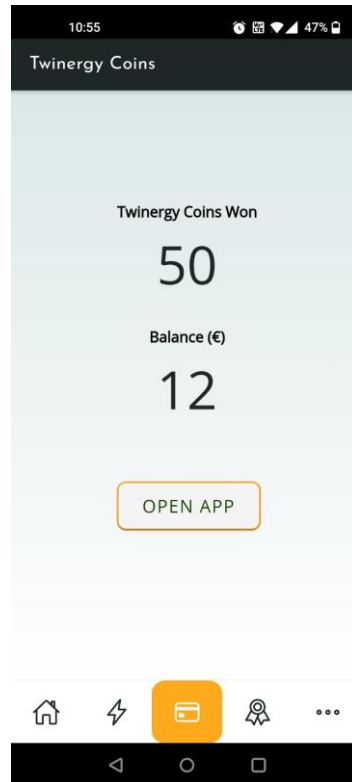


Figure 12 TwinERGY points screen

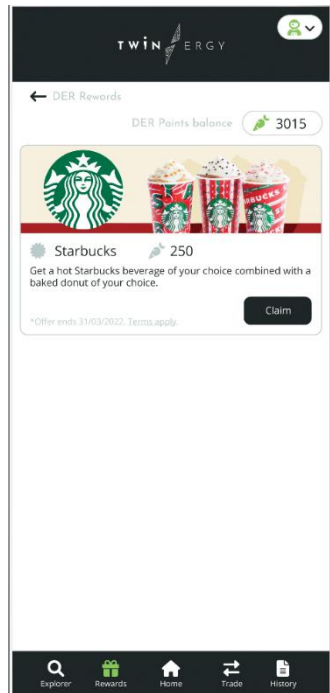


Figure 13 Transactive Energy Market module screen

4.5 Badges & Messages Dashboard

The third tab of the Home screen is the “Badges and Messages” screen that contains two tabs: One with the overview of all available badges and one with all the messages received by the user and generated by the Recommendation and the DT scheduling modules.

In the “Badges” tab (see Figure 14), the user can see the list of available badges and their status. Full color in the badges means that they have been won and placed on the Home page tree while greyed out color in the badges means that they are still available to be won. The user by pressing the “More” button can view more information regarding the badges, how he/she can win each badge from each category and the amount of TwinERGY points to be won with each badge.

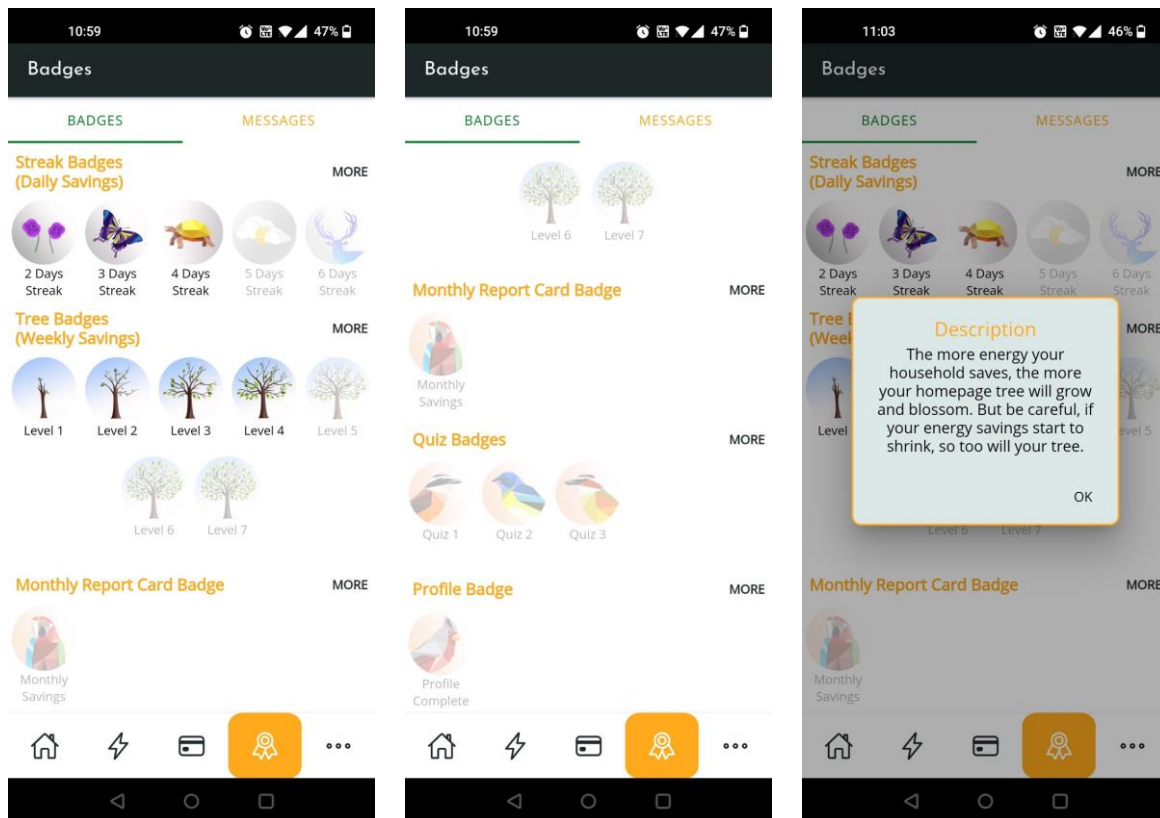


Figure 14 Badges and Messages screen (Badges tab)

In the “Messages” tab of the “Badges and Messages” screen (see Figure 15), the user can see all the received messages. The user has the option to like or dislike incoming messages whether he/she has found the messages helpful or not and interact in this way with the platform.



Figure 15 Badges and Messages screen (Messages tab)

4.6 “More” Dashboard

By pressing the “...” at the bottom of the “Home” screen the user is re-directed to the “More” page (see Figure 16). From the “More” page, the user can see the Indoor and Outdoor temperature (other interesting to the user attributes might be added potentially from the Consumer DT module), visit the “Help” screen and Logout from the app.



Figure 16 “More” & “Temperature” screens

4.7 Leaderboards

Through the “Leaderboard” screen the user is able to check his ranking among other participants as per the TwinERGY coins balance. This ranking adheres to provide another social competition aspect and give a motive for the user to use the app in order to win TwinERGY points.

Leaderboards		
rank	name	points
1	frank	2524
2	sophie	1824
3	rebecca	1672
4	timothy	1598
5	alice	1211
6	ray	1045
7	poppy	794
8	elizabeth	682
9	theodore	569












Figure 17 Leaderboards screen

Annex

Annex I: Letter to inform users on the start of the pilots

European Dynamics suggests that the following letter campaign could be uniquely prepared from all technical partners and demo leaders to approach the piloting users. The campaign could properly attract the user to get physically on-board on the piloting phase comprehending the functionalities that TwinERGY may offer and define the overall lifecycle of the project demonstration phase.

Dear Pilot Users,

A big thank you for volunteering to participate in the TWINERGY "Pilot" phase and for your patience and support so far!

Most of you have already received and installed the TWINERGY equipment at your homes.

We have now enough energy consumption measurements as a baseline for a period of a few months that will help us calculate your savings more accurately.

We are now ready to provide you the complete version of the TWINERGY mobile application to officially start trying it out to support you in saving energy and gaining TwinERGY coins.

What services does the TWINERGY app offer?

- Monitor your energy consumption (hourly, daily, weekly, monthly)
- Monitor your daily, weekly and monthly savings
- Receive personalized messages and recommendations related to your energy efficiency and provide your feedback in case you find them useful or not!
- Check how your house's consumption is distributed among different categories of devices based on the total energy consumption of your home

- Check graphs that analyze your energy consumption (hourly, daily, weekly, monthly) and inform you about your total daily, weekly and monthly savings and energy consumption in relation to the daily, weekly and monthly baseline consumption
- Earn TwinERGY coins and badges of different categories (streak, tree, monthly, quiz and profile badges)
- “Grow” your own home page tree. You’re helping the environment after all!
- Check the indoor and outdoor (regional) temperature
- Check your earned TwinERGY coins and the balance of TwinERGY coins any time
- Update your profile
- Find answers and support at the Help screen

How to start? Follow the steps below:

a) download the TWINERGY mobile application following one of the links below:

- Android: <https://play.google.com/store/apps/details?id=com.eurodyn.TwinERGY>
- iOS: **to be defined**

b) create an account inside the app using:

- a username: the email you provided to the installer during the configuration of the hardware kits/(default dummy user: user, password: testapp)
- a password: select one of your preference according to the rules (at least 8 alphanumeric characters)

c) log-in to the app and start saving!

How to manage your earned TwinERGY’s points/coins won?

Click on the link to Open App through digital wallet of TwinERGY Social Network Module mobile app, to be redirected to the Transactive Energy Module and check the available eco-positive goods that can be redeemed.

<<Placeholder for future common communication with Transactive Energy Module>>

What happens next?

Your full involvement is key to the success of this process. You are part of the final stage of development. Take your time to explore the app and follow the advice and recommendations to achieve energy savings!

Your feedback is really precious, to improve the app. Although less exciting, we are honored to have you with us and will ensure that you receive a really interesting and engaging service! Provide your suggestions for improvement and report any malfunction to us. We will try to implement all reasonable feedback as soon as possible. A formal questionnaire will take place at the end as well to express your opinion. After all, it will be our honor to see you becoming the “Energy-Saving Heroes” of the day! And don't forget! At the end of the pilots (XXX) you will have the option to either keep the equipment or return it to the TWINERGY consortium, if it is not useful to you.

Please note that the ownership of the equipment transfers to you, two months after the end of the project. In case you want to drop-out from the TWINERGY pilots, before their completion (though we will be really sad to hear it), you are of course free to do so, but first you will need to return the equipment to the consortium. This way we will be able to validate the TWINERGY system with the appropriate number of pilot users.

Thank you all for your support! We appreciate it!

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