

GRASPINNO

Transnational model, strategies and decision support for innovative clusters and business networks towards green growth, focusing on green e-procurement in EE/RES for energy refurbishment of public buildings.

Deliverable: 3.6.1

Technical report on the tests of the unified platform (methodology, results, malfunctions, solutions, improvements)

Prepared by ATLANTIS Consulting

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1 Introduction

1.1 Scope and objectives of the deliverable

This report represents the "Technical report on the tests of the unified platform" deliverable for the GRASPINNO project and describes part of the work undertaken in WP3 "Testing". Its main objective is the description of the methodology followed during the tests of the unified platform, the results, malfunction and improvements gained during the testing. More specifically, the eGPP tool, its DBs and the updated LCC tool were tested, and the results are presented in this deliverable's sections.

This document is the technical report of the unified platform:

- Tests,
- Results,
- Malfunctions,
- Solutions,
- Improvements.

GRASPINNO unified platform is a web-based application developed according to the following web frameworks:

- PHP programming language. PHP is a server-side scripting language designed primarily for web development but also used as a general-purpose programming language.
- UI kit framework. UI kit is a popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web.
- JQuery. jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.
- MySQL database.

1.2 Structure of the deliverable

This deliverable is structured in 4 chapters:

Chapter 2, "**GRASPINNO DataBases Testing**", provides a brief description of the test procedures conducted by the GRASPINNO Technical Team and the respective results, regarding the platform's databases. Moreover, there is a description of the improvements applied, based on the testing results.

In Chapter 3, "**eGPP Tool Testing**", we describe the testing procedures and results that obtained during e-GPP tool's Laboratory Testing. Conclusions are provided in the form of a 'Presentation of the Testing Results' subsection.

Finally, Chapter 4 “**LCC Calculation Tool Testing**”, describes the testing phase of the Life Cycle Cost (LCC) Calculation Tool, the results and malfunctions of such a kind of testing, along with the applied improvements.

2 GRASPINNO DataBases Testing

2.1 Brief description

The GRASPINNO unified platform is a web application project, so there was preformed some web testing.

Web testing is the name given to software testing that focuses on web applications. Complete testing of a web-based system before going live can help address issues before the system is revealed to the public. Issues such as the security of the web application, the basic functionality of the site, its ability to adapt to the multitude of desktops, devices, and operating systems, as well as readiness for expected traffic and number of users and the ability to survive a massive spike in user traffic, both of which are related to load testing.

The following subsections, presents the testing of the GRASPINNO database platform and the results of this testing procedure.

2.2 Performance, Load, Stress Testing

The web platform of GRASPINNO was tested successfully to performance, load and stress testing.

Performance testing is measuring how a system behaves under an increasing load (both numbers of users and data volumes), load testing is verifying that the system can operate at the required response times when subjected to its expected load, and stress testing is finding the failure point(s) in the system when the tested load exceeds that which it can support.

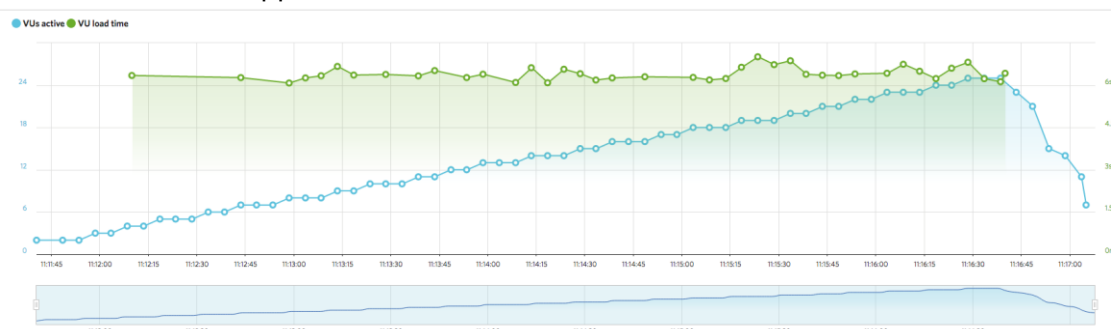


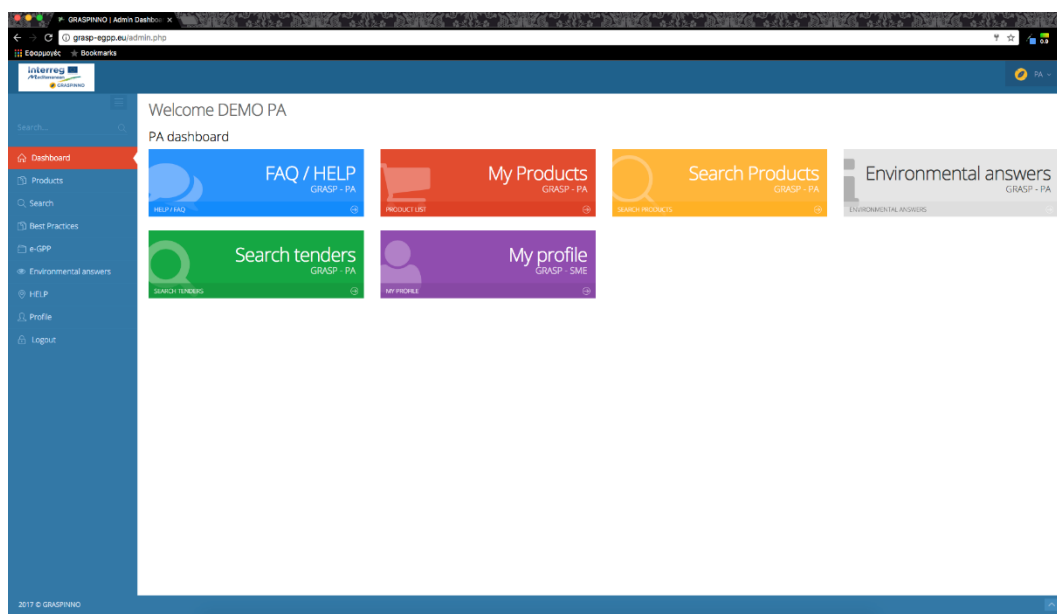
Figure 1: The GRASPINNO web platform was tested under the requests of 25 users online.

2.3 Web Browser Compatibility

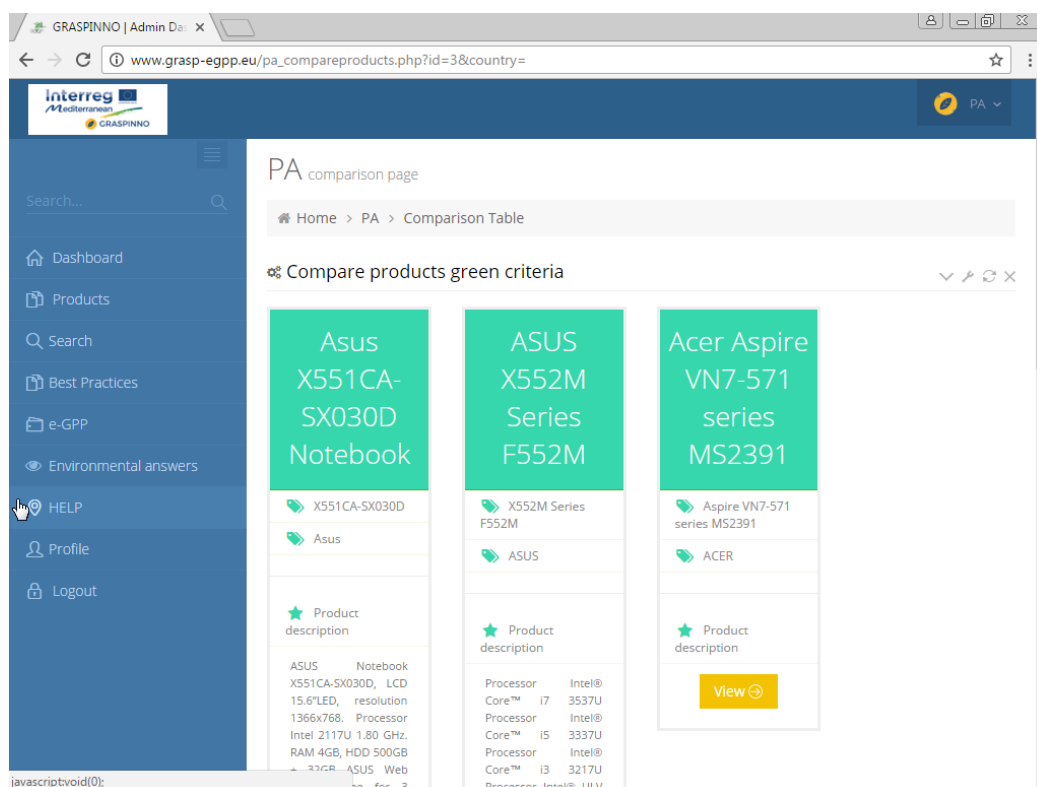
The web browser compatibility part of a testing methodology tests that the product or application is compatible with all the specified operating systems, hardware platforms, web browsers, mobile devices, and other designed third-party programs (e.g. browser plugins). Compatibility tests check that the product works as expected across all the different hardware/software combinations and that all functionality is consistently supported.

The GRASPINNO web platform was tested on the most notable web browsers, like Mozilla Firefox, Google Chrome, Apple Safari, Microsoft Edge at different operating systems, like Windows 10, Ubuntu 16.04 LTS, Debian, macOS Sierra.

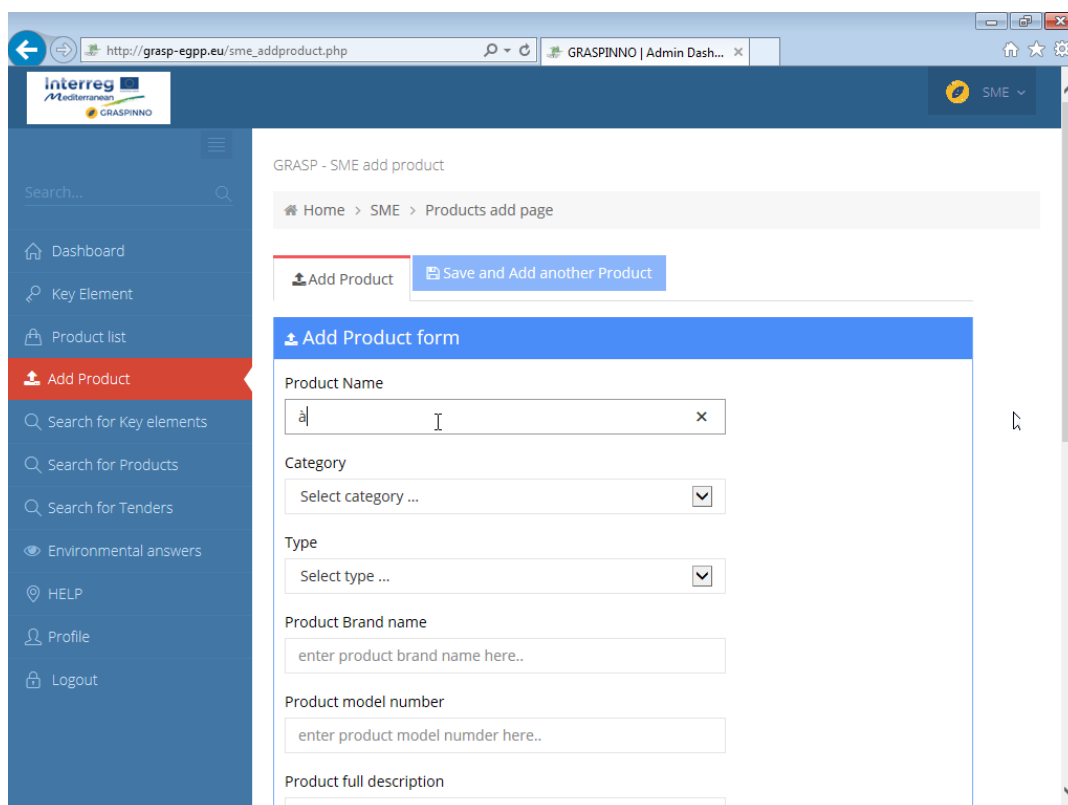
There was, also, some testing on the most used mobile devices, like iPhones, Android mobile devices and iPad and Android tablets. All tests were successful, as it is presented in the following screenshots:



Screenshot 1: Google Chrome 57, macOS Sierra



Screenshot 2: Google Chrome 52, Windows 10



Screenshot 3: Internet Explorer 11, Windows 10

GRASP - SME edit product

Home > SME > Edit product page

Edit Product

or Edit Product form

Category	Criterion name	Criterion description	Criterion value *
Printer	Waste		Select... ✓ OK!
Type	Power Consumption	Consumption of energy due to inefficient equipments	Select... ✓ OK!
LAN	Printing mode	Double-sided printing	Select... ✓ OK!
Product Name	Toners and cartridges manipulation	Toxicity and health problems for handling and using toners and cartridges Standard: Limits emissions of ozone, dust, TVOC	Select... ✓ OK!
Samsung SL M 2070	Toners and cartridges toxicity	Dangerous effects on health associated with the use of hazardous substances	Select... ✓ OK!
Brand name	Ergonomic requirements	Effects on health and safety of workers	Select... ✓ OK!
Samsung	Waste Management	Incorrect disposal of waste and damage to the environment	Select... ✓ OK!
Product model number	Noise	Auditory stress and problems with concentration and communication	Select... ✓ OK!
SL-M2070/SEE	Electromagnetic waves emissions	Health effects arising from the absorption of electromagnetic waves	Select... ✓ OK!
Product features	Consumption of natural resources	Possibility of using 100% recycled paper	Select... ✓ OK!
Feature name	Waste Management	Pickup service of consumables and peripherals	Select... ✓ OK!
Feature value	Savings on paper purchase	50% of potential savings in the purchase of the paper due to double-sided printing	Select... ✓ OK!
Product full description	Multi-Function and network devices	Potential savings in the purchase of different equipments (printer / scanner / fax) through the purchase of multi-function devices. Includes fax for all the same operational tasks.	Select... ✓ OK!

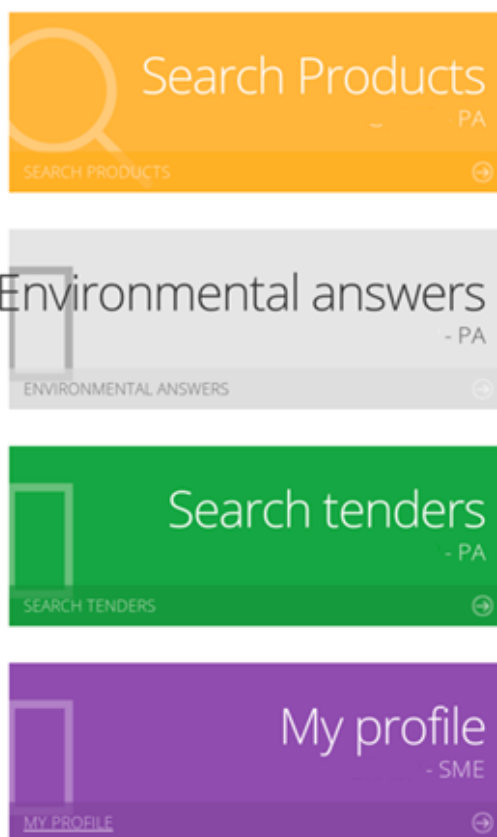
Product full description

Economical efficiency, Eco-compatibility features (i.e. One Touch Eco Button and Easy Eco Driver function) together with the special job accounting functions, allow a consistent paper, toner and energy saving. Furthermore, different sets of toner cartridges allow different volumes printing jobs, minimizing the Total Cost of Ownership (TCO). Through the 3 in 1 possibility, Samsung M2070 assure an efficient workflow, guaranteeing and high performance of the print job.

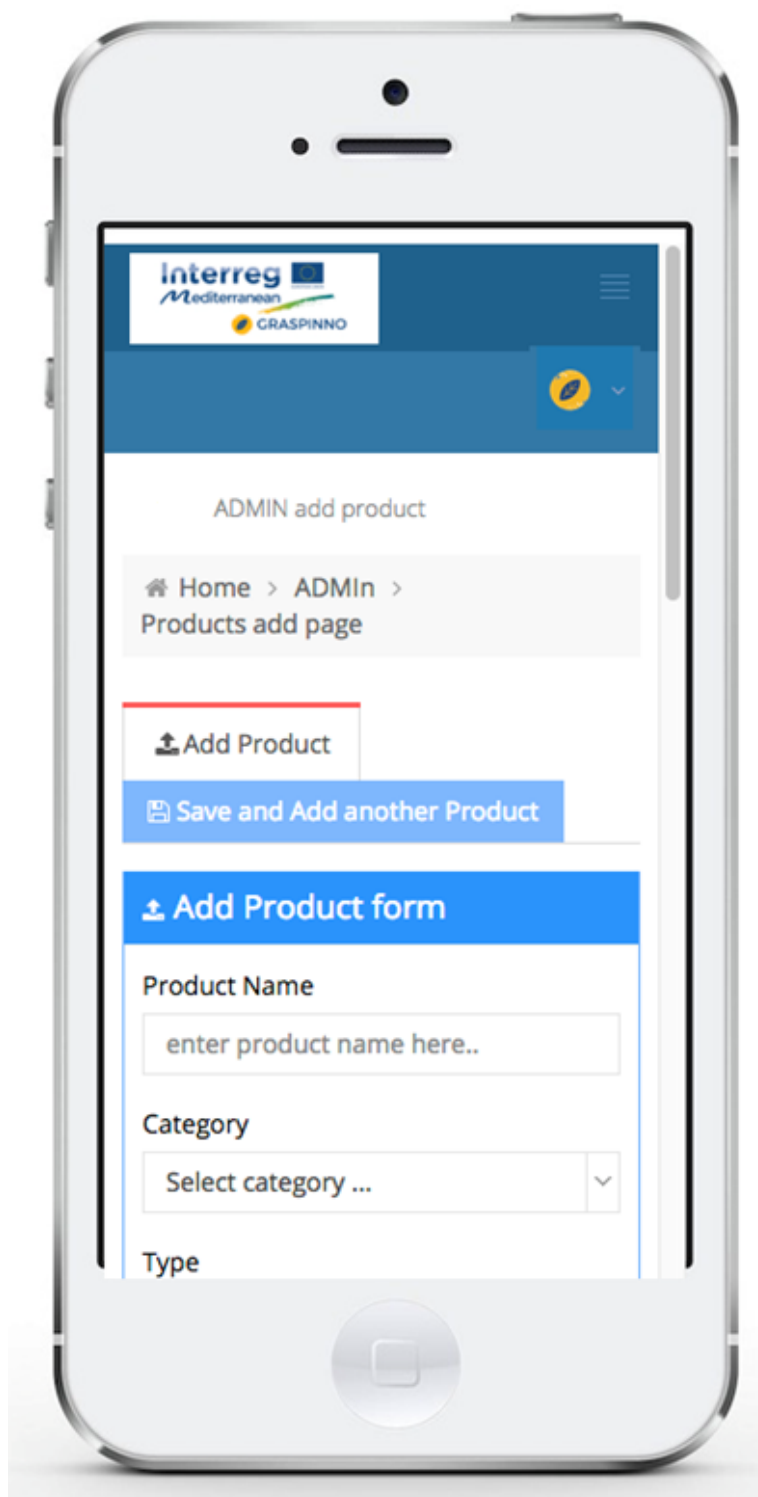
With the print, copy, scan feature M2070 offer an high flexibility solutions to your productivity. New features like ID Copy, N-up Copy, Scan-to-email help your office job to be productive.

Software applications like Easy Printer Manager to quickly and easily print your documents, Easy Document Creator to produce, compile and share your documents and Easy Secure Printing, to preserve from printing your reserved documents through an authentication code, complete the high performances of this multifunction printer.

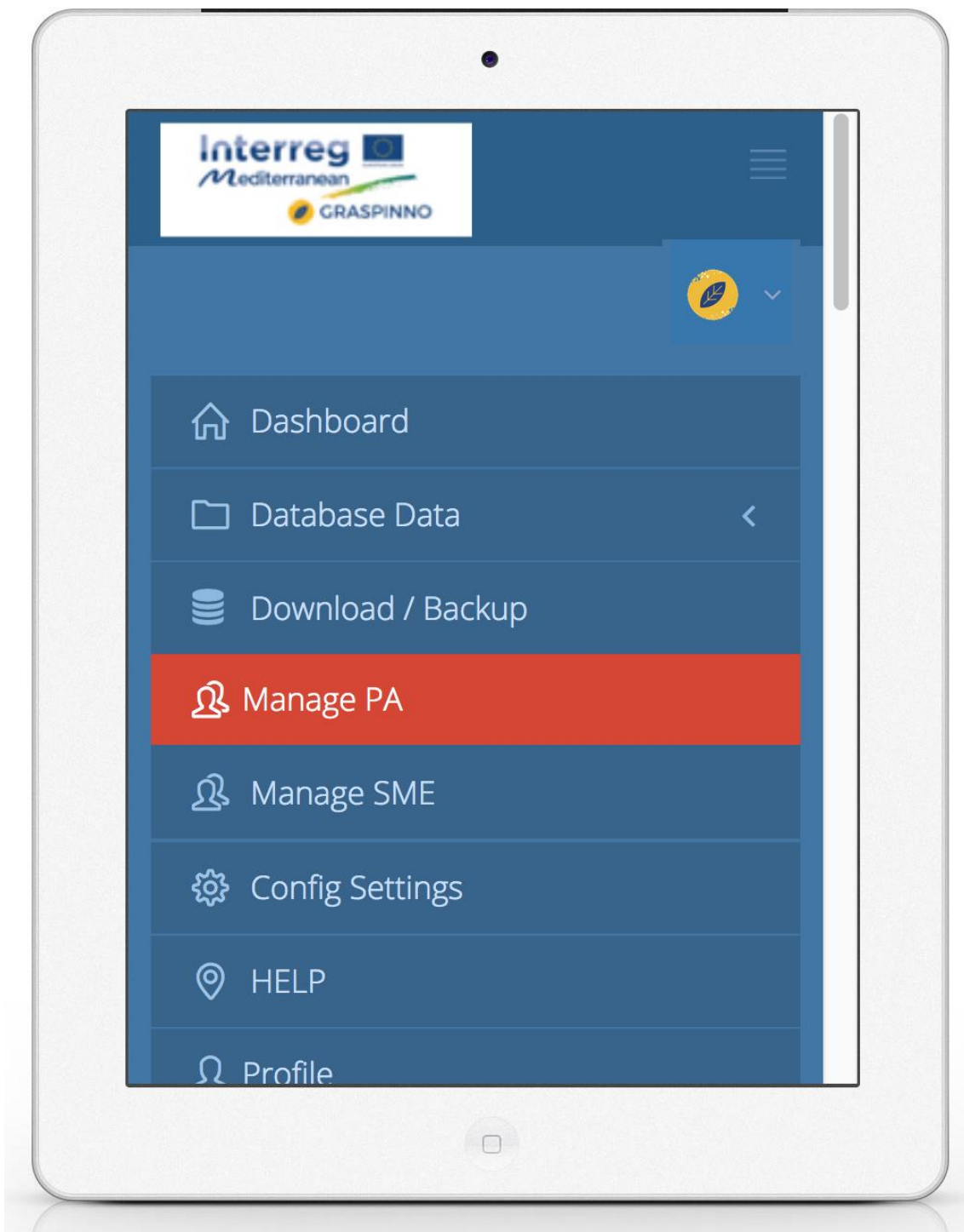
Screenshot 4: Opera 31, macOS Sierra



Screenshot 5: Samsung Galaxy Nexus, Opera browser



Screenshot 6: iPhone 6, Safari



Screenshot 7: iPad Mini, Safari

2.4 Security, Vulnerability Testing

The GRASPINNO database platform was tested to various security lacks and vulnerabilities, like:

- SQL injection,

- Cross Site Scripting,
- PHP code injection,
- Source Disclosure,
- HTTP Header Injection,
- Blind SQL injection,
- Malwares,
- Website blacklisting,
- Injected SPAM,
- Defacements,
- Phishing,
- Worms,
- Backdoors,
- Trojans,
- Suspicious frames,
- Suspicious connections.

The GRASPINNO database platform passed successfully the previous security scans. Security testing is a process intended to reveal flaws in the security mechanisms of an information system that protect data and maintain functionality as intended. Due to the logical limitations of security testing, passing security testing is not an indication that no flaws exist or that the system adequately satisfies the security requirements.

Typical security requirements may include specific elements of confidentiality, integrity, authentication, availability, authorization and non-repudiation. Actual security requirements tested depend on the security requirements implemented by the system. Security testing as a term has a number of different meanings and can be completed in a number of different ways.

2.5 Usability Testing

The GRASPINNO database platform was developed according to the requirements of its users (Public Authority Users and Small & Medium Enterprises Users), where users must be able interact with the platform effectively.

In order to check the usability of the web platform, it was tested to the following web user interface tests:

2.5.1 User Task Analysis

The most important thing to test for is whether users are able to accomplish their tasks and goals when they come to GRASPINNO database platform. It has to be ensured that the users able to do so in the best and most efficient way possible. The first thing that must be done is determine what the core user tasks are and then the users have to perform a task analysis for each task.

Users evaluate task performance under these considerations:

- Learnability: How easy is it for new users to learn to perform the task? For more complicated tasks, are there sufficient help features such as tutorials, in-line tips and hints, tool tips, etc.?
- Intuitiveness: How obvious and easy is the task to accomplish?
- Efficiency: Are users performing tasks optimally? Are there ways to streamline and reduce the time it takes to complete the task?
- Preciseness: How prone to errors is the task? What are the reasons for any errors? How can we improve the interface to lower errors and unneeded repetition?
- Fault Tolerance: If a user makes a mistake while performing the task, how fast can he recover?
- Memorability: How easy is the task to repeat?
- Affordance: Are interactive elements (such as buttons, links and input text boxes) related to the accomplishment of a task obviously interactive and within convenient reach? Is it evident what the results of a user action will be when the user decides to interact with it by clicking, mouse hovering, etc.?

The GRASPINNO database web platform has 3 different groups of users (Administrators, Public Authority Users and Small & Medium Enterprises). In order to evaluate the user tasks, it has to be created tasks for every group of users.

Tasks for Administrators

- Add data to the GRASPINNO database
 - Add categories and subcategories
 - Add type and subtypes
 - Add key element / green criteria
 - Manage products
- Database administration
- Manage PA accounts
- Manage SME accounts

Tasks for Public Authorities

- Registration
- Sign up
- Restore Password
- Product List page
 - General
 - Products per country
 - Search products
 - Compare products
- Environmental answers page
- Manage profile

Tasks for Small & Medium Enterprises

- Registration
- Sign up
- Restore Password
- Product List page

- Add product
- Search for key element – green criteria
- Search for tenders
- Search for product
- Environmental answers page
- Manage profile

2.5.1.1 Tasks for Administrators

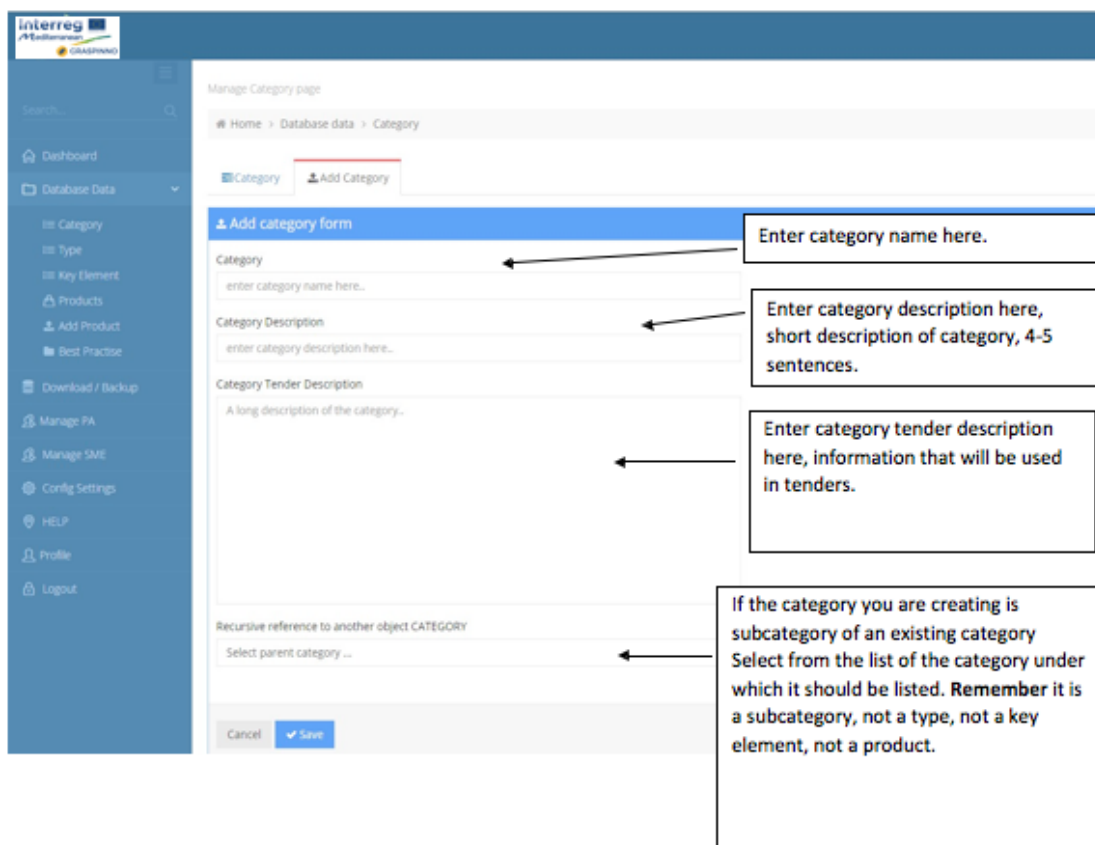
The most important task for the administrators is to add data to the GRASPINNO database:

- **Add categories and subcategories**

In order to add categories they should select the “Categories” at the Database Data menu. They can edit an existing category by clicking the edit button next to the category details row. Then, they fill all the required fields and click “Save” button to save the changes.

In order to delete a category, they need to follow a standard procedure. They need to check if there are no types linked to it; also to make sure there is no product or key element attached to this category.

In order to add a category they have to click on “add category” tab. Then, the “add category form” will be shown. They fill all the required fields and they click “save” button to insert the new category into the database. In order to add a new category they should not leave empty the recursive reference to another category; if the new category is subcategory, they have to select the appropriate parent category.



Interreg Mediterranean

Manage Category page

Home > Database data > Category

Category Add Category

Add category form

Category
enter category name here..

Category Description
enter category description here..

Category Tender Description
A long description of the category..

Recursive reference to another object CATEGORY
Select parent category ...

Cancel Save

Enter category name here.

Enter category description here, short description of category, 4-5 sentences.

Enter category tender description here, information that will be used in tenders.

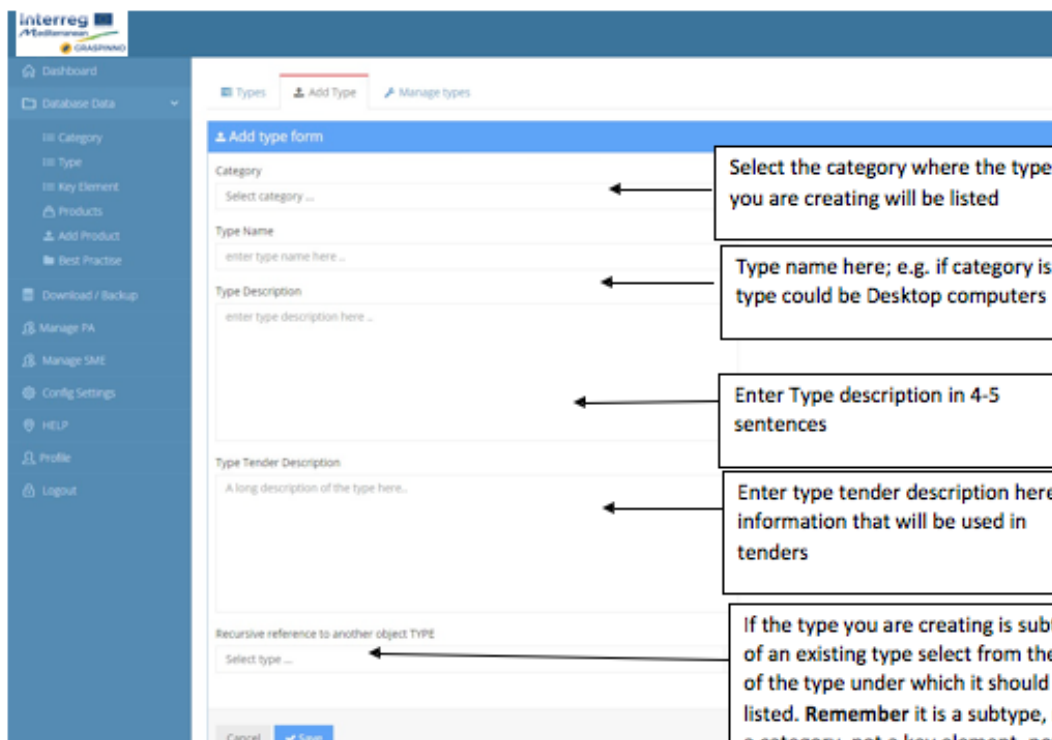
If the category you are creating is subcategory of an existing category Select from the list of the category under which it should be listed. Remember it is a subcategory, not a type, not a key element, not a product.

- **Add type and subtypes**

In order to add types the administrators have to select "Type" at the Database data menu. They can edit an existing type by clicking the "edit" button next to the "type details" row. Then, they fill all the required fields and click "Save" button to save the changes.

In order to delete a category, they need to follow a standard procedure. They need to check if there are no sub types linked to it; also make sure there is no product attached to this type.

In order to add a type they should click on "add type" tab. Then, the "add type" form will be shown. They fill all the required details and click "save" button to insert the new type into the database. In order to add a type they should not leave empty the recursive reference to another type; if it is subtype, they have to select the appropriate parent type.



Interreg Mediterranean

Dashboard Database Data

- Category
- Type
- Key Element
- Products
- Add Product
- Best Practice
- Download / Backup
- Manage PA
- Manage SME
- Config Settings
- HELP
- Profile
- Logout

Types Add Type Manage types

Add type form

Category
Select category ...

Type Name
enter type name here ...

Type Description
enter type description here ...

Type Tender Description
A long description of the type here...

Recursive reference to another object TYPE
Select type ...

Cancel Save

Select the category where the type you are creating will be listed

Type name here; e.g. if category is IT, type could be Desktop computers

Enter Type description in 4-5 sentences

Enter type tender description here, information that will be used in tenders

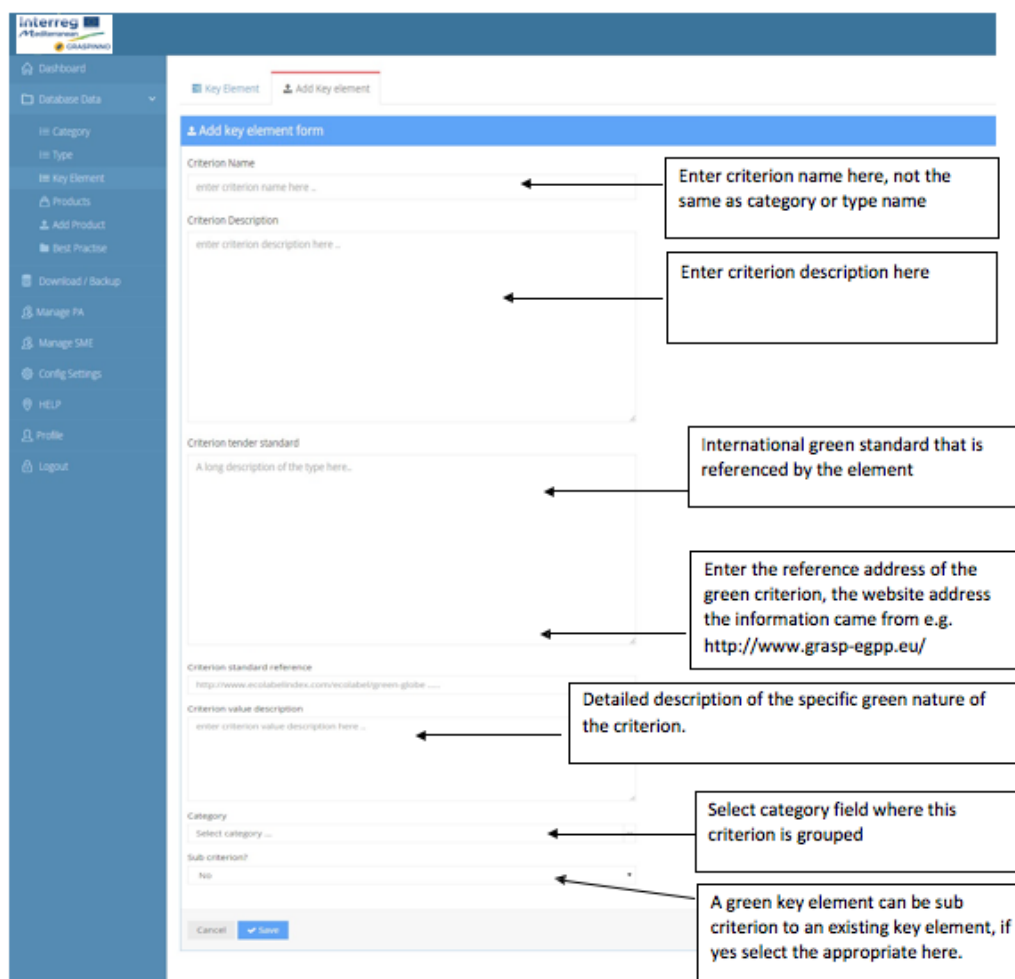
If the type you are creating is subtype of an existing type select from the list of the type under which it should be listed. Remember it is a subtype, not a category, not a key element, not a product.

- **Add key element – Green criteria**

In order to add key element, the administrators have to select “Key element” at the Database data menu. They can edit an existing key element by clicking the “edit” button next to the “key element details” row. Then, they fill all the required fields and click “Save” button to save the changes.

In order to delete a key element, they need to follow a standard procedure. They need to check if there are no products attached to the key element they are going to delete.

In order to add a Key Element, they should click on “add key element” tab. Then, the “Add key element” form will be shown. They fill all the required details and click “save” to insert the new key element into the database. In order to add a key element, they should not leave empty the recursive reference to another object; if it is a sub key element, they have to select the appropriate parent field.



Interreg Mediterranean

Dashboard Database Data Key Element Add Key element

Add key element form

Criterion Name
enter criterion name here ...

Criterion Description
enter criterion description here ...

Criterion tender standard
A long description of the type here...

Criterion standard reference
<http://www.ecolabelindex.com/ecolabelgreen-globe> ...

Criterion value description
enter criterion value description here ...

Category
Select category ...

Sub criterion?
No

Cancel Save

Enter criterion name here, not the same as category or type name

Enter criterion description here

International green standard that is referenced by the element

Enter the reference address of the green criterion, the website address the information came from e.g. <http://www.grasp-egpp.eu/>

Detailed description of the specific green nature of the criterion.

Select category field where this criterion is grouped

A green key element can be sub criterion to an existing key element, if yes select the appropriate here.

- **Manage products**

The administrators can manage products by selecting the "Product" choice at the Database data menu. In order to edit an existing product, they should click the "edit" button next to the product details row. Then, they fill all the required fields and click "Save" button to save the changes.

They can use the search button to search for a product. They can search by using the criteria category, brand name, model or product name.

In order to delete a product, they should follow a standard procedure. They need to check if there are no tenders attached to the product they are going to delete.

Dashboard
Database Data
Category
Type
Key Element
Products
Add Product
Best Practise
Download / Backup
Manage PA
Manage SME
Config Settings
HELP
Profile
Logout

Add Product
Save and Add another Product

Add Product form

Product Name

enter product name here...

Product name, e.g. WD Caviar Blue 500GB

Category

Select category ...

Product category, e.g. Portable Computer

Type

Select type ...

Product type, e.g. HDD (Hard Disk Drive) 500GB

Product Brand name

enter product brand name here...

Product brand name, e.g. Western Digital

Product model number

enter product model number here...

Product model #, e.g. Scorpio Black

Product full description

enter product most common/known - technical specs and give a brief description of the product

Product full description, e.g. The Western Digital Scorpio Black hard drive has a spacious storage capacity that can store all your important data. With a spindle speed of 7200 RPM, provides improved connectivity with other devices.

Product units measurement

Pieces

Product measurement #, e.g. pieces

Product quantity per unit

enter product model number here...

Product Price

enter product price here...

Visible to other SME

No

If you want your product to be visible

Cancel

Continue @

After you filled all required information click continue

Profile
Logout

Product full description

The Western Digital Scorpio Black hard drive has a spacious storage capacity that can store all your important data. With a spindle speed of 7200 RPM, this notebook hard drive reads and writes data from the system at a great speed. The 3 (Gbps) interface in this Western Digital HDD provides improved connectivity with other devices. This notebook hard drive speeds up file transfers at the rate of 180 MB/s. The Western Digital Scorpio Black hard drive ensures noise-free operation due to its seek acoustics of 28 (dBA). So keep all your softwares, games, digital media, and more organized in one place once you fit your laptop with this Western Digital HDD.

Product units measurement

Pieces

Product quantity per unit

1

Product Price

45

Visible to other SME

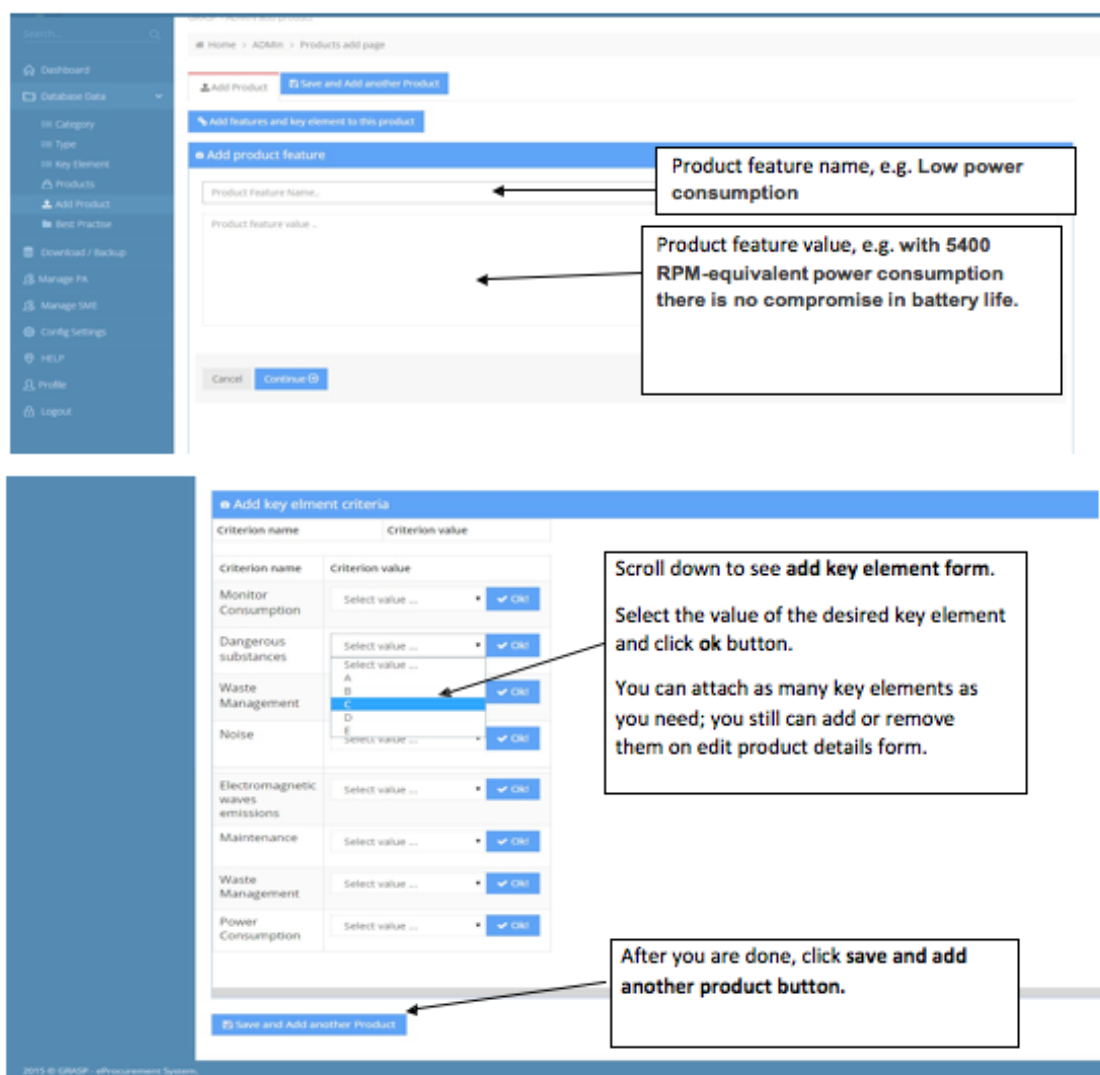
No

Cancel

Continue @

After confirming, click Add features and key element to this product button

Add features and key element to this product



The image shows two screenshots of the GRASPINNO web platform. The top screenshot is the 'Add Product' form, which includes a sidebar menu with options like Dashboard, Database Data, Category, Type, Key Element, Products, Add Product, Best Practice, Download / Backup, Manage PA, Manage SME, Config Settings, HELP, Profile, and Logout. The main form has a 'Home > Admin > Products add page' breadcrumb, an 'Add Product' button, and a 'Save and Add another Product' button. Below these are instructions to 'Add features and key element to this product' and a section titled 'Add product feature'. This section has two input fields: 'Product Feature Name' (with an example 'Low power consumption') and 'Product Feature value' (with an example 'with 5400 RPM-equivalent power consumption there is no compromise in battery life'). At the bottom are 'Cancel' and 'Continue' buttons.

The bottom screenshot is the 'Add key element criteria' form. It has a table with 'Criterion name' and 'Criterion value' columns. The table lists several criteria: Monitor Consumption, Dangerous substances, Waste Management, Noise, Electromagnetic waves emissions, Maintenance, Waste Management, and Power Consumption. Each criterion has a 'Select value ...' dropdown and an 'OK' button. An arrow points to the 'Waste Management' row, with a text box stating: 'Scroll down to see add key element form. Select the value of the desired key element and click ok button. You can attach as many key elements as you need; you still can add or remove them on edit product details form.' At the bottom of the form is a 'Save and Add another Product' button, with an arrow pointing to it and a text box stating: 'After you are done, click save and add another product button.'

They can add a product by selecting "Add Product" at the Database data menu. Then the Add product form will be shown. They fill all the required details and then click "save" to insert the new product into the database. After the submission, a button will be shown, in order to add key element and feature details to that product.

- **Database Administration**

The administrators can back up grasp databases using an embedded tool in the GRASPINNO web platform. They can also import the exported tables or transfer them to another database server by using this tool.

Finally, they can use phpMyAdmin tool to export or backup GRASPINNO DBA, or they can setup a cron job to backup GRASPINNO databases periodically.

- **Manage PA accounts**

The administrators can ban or approve a PA account by selecting "Manage PA" choice. They cannot delete a PA account, but they can ban an account by clicking the "Ban" button next to the "PA details" row.

To approve a PA account, they need to verify first if it is a legitimate according to PA's country's legislation, and then, if everything is ok they can click the "approve" button to activate this account.

- **Manage PA organizations data**

The administrators can manage PA Organization type data. It is essential to fill these data before allowing PA to sign up as this is related to their profile.

To view organization data, they click Organization tab to see organization list, to edit click the Organization data they click the "edit" button next to the organization details row.

To add an organization, they have to click the "Add organization" tab. They fill the "add organization form" fields and click save.

- **Manage SME accounts**

The administrators can ban or approve SME account by selecting "Manage SME" choice.

They cannot delete an SME account, but they can ban an account by clicking the "Ban" button next to the "SME details" row.

To approve an SME account, they need to verify first if it is a legitimate SME according to SME's country's legislation, and then if everything is ok they can click approve button to activate this account.

- **Manage SME Business data**

On this section the administrators can manage SME Business type data. It is essential to fill this data before allowing SME to sign up as this is related to their profile.

To view business data, they click SME Business tab to see business list, to edit the SME Business data they click "edit" button next to the business details row.

To add a business type, they click "Add Business" tab. They fill the "add business" form and click save.

2.5.1.2 Tasks for Public Authorities users

- **Registration – sign up for a GRASPINNO PA account**

The 1st task for a Public Authority user is to make a registration to the GRASPINNO web platform database. A PA candidate user has to follow the url: <http://grasp-egpp.eu/register.php>

Home > GRASP > Create new account

[> Login](#)
[> Restore Password](#)
[> Register](#)
[> Home](#)

Enter your Organization information below:

Are you an PA or SME? ← Select PA account type from the selection option.

Organization Name ← Enter organization name here e.g. Athens's Municipality

VAT# here... ← Enter VAT # here e.g. G123654788E

Company registration number# here... ← Some companies have registration number if you have one enter it, otherwise live it empty

Select country... ← Select your country e.g. Greece

Enter your account details below:

Full name... ← Enter full name, which will be used, on your account

Email... ← Enter e-mail address will be used on your profile

Password... ← Enter your desired password

Re-type Your Password ← Retype your password again to make sure it was entered correctly, and click sign up

☐ I agree to the Terms of Service and Privacy Policy

• **Restore password**

A Public Authority can access the platform even though has forgotten its password. By following the url: <http://grasp-egpp.eu/forgot.php> the PA has the ability to reset its password. A new mail function used for sending e-mails to a Public Authority. The SMTP mail function used for sending e-mails. The SMTP is a standard protocol for sending e-mails and its full name is Simple Mail Transfer Protocol. All the e-mails of the outgoing from the server using the TLS, Transport Layer Security in order to encrypt and secure the e-mail communications of the GRASPINNO platform.

• **Product List**

GRASP - PA - product list

Home > PA > Product list page

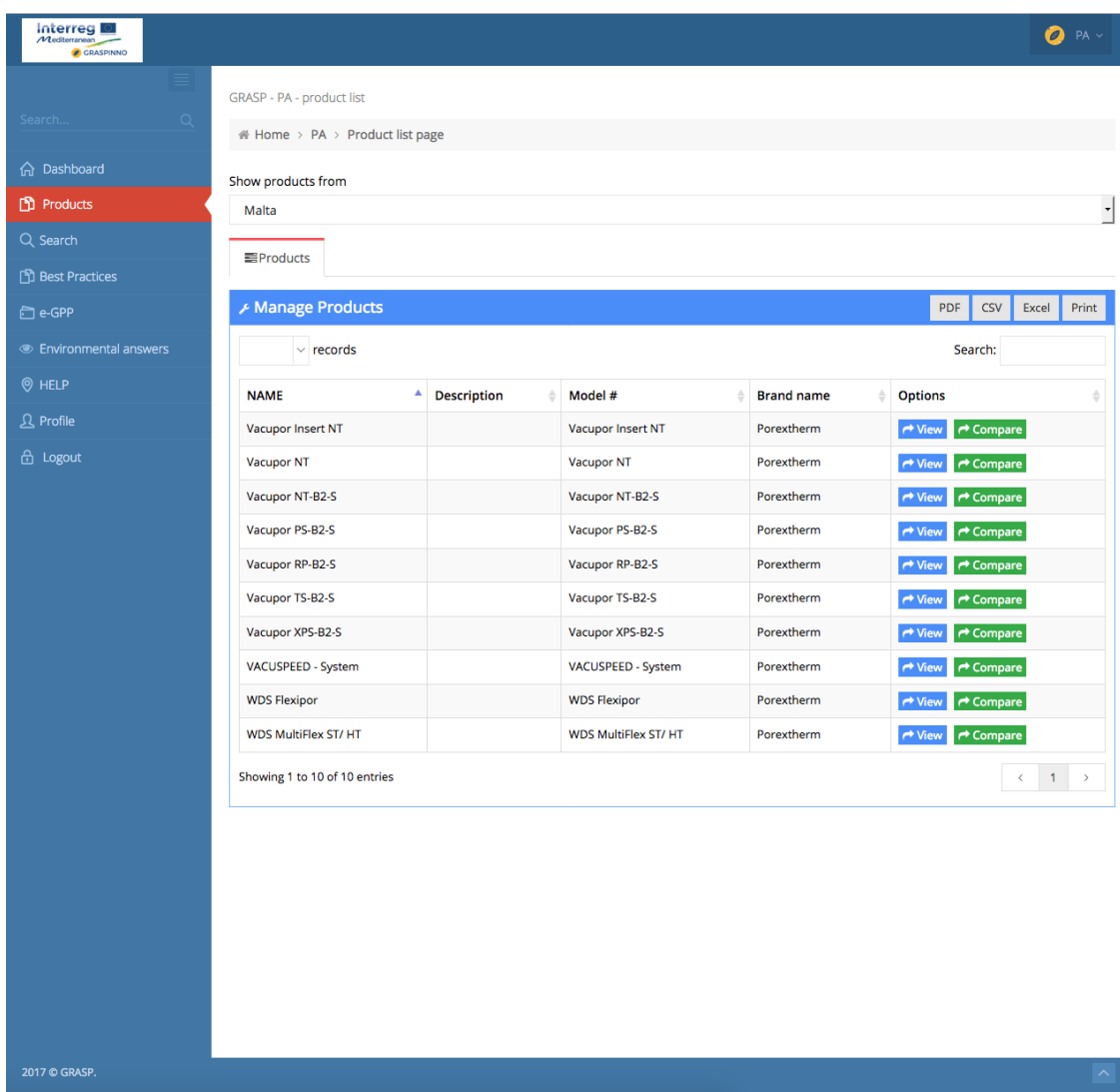
Show products from

All countries

Acet Aspir Vn7-571 series MS2391	Aspire Vn7-571 series MS2391	ACER	View	Compare
Acet Veriton N4620G-U3237X	N4620G-U3237X	ACER	View	Compare
AGS SOLAR TMS200	AGS SOLAR TMS200	AGS SOLAR TMS200	View	Compare
Air cooled heat pump EWYQ016BAWP	EWYQ016BAWP	DAIKIN	View	Compare
AIRWELL MQH D 18	MQH D 18	airwell	View	Compare
AKRILIT - acrylic facade with biocide	Akrilit comprises of mineral fillings, acrylic binder, light resistant pigments, additives and biocides. Used for protection and decoration of facade and interior walls. Available in large number of shades from the Colorit color card. To be applied by rostrfrei float in grain thickness, while the structure is achieved by scrubbing with a plastic float. Adding biocides reduces the possibility of occurrence of algae and fungus on the surface facade layer.	AKRILIT	View	Compare

On the Product List page the PA user can view or compare product details. It can also Print, export to pdf, excel or csv the table of the products. It can use the live search at the top of the table where you can search by any word in the products table.

If it wants to search more product details it should use Search for products page. The upgraded feature of the Product list page is that a PA user can filter products per countries. The system, actually, has the ability to filter the products of the GRASPINNO database according the country of the SME, which has inserted specific products to the GRASPINNO database. For example, a PA user wants to see which products have been inserted to the GRASPINNO database by SMEs of Malta. The user selects from the dropdown list Malta country and the system appears a table with products only from Malta.



GRASP - PA - product list

Home > PA > Product list page

Show products from

Malta

Products

Manage Products

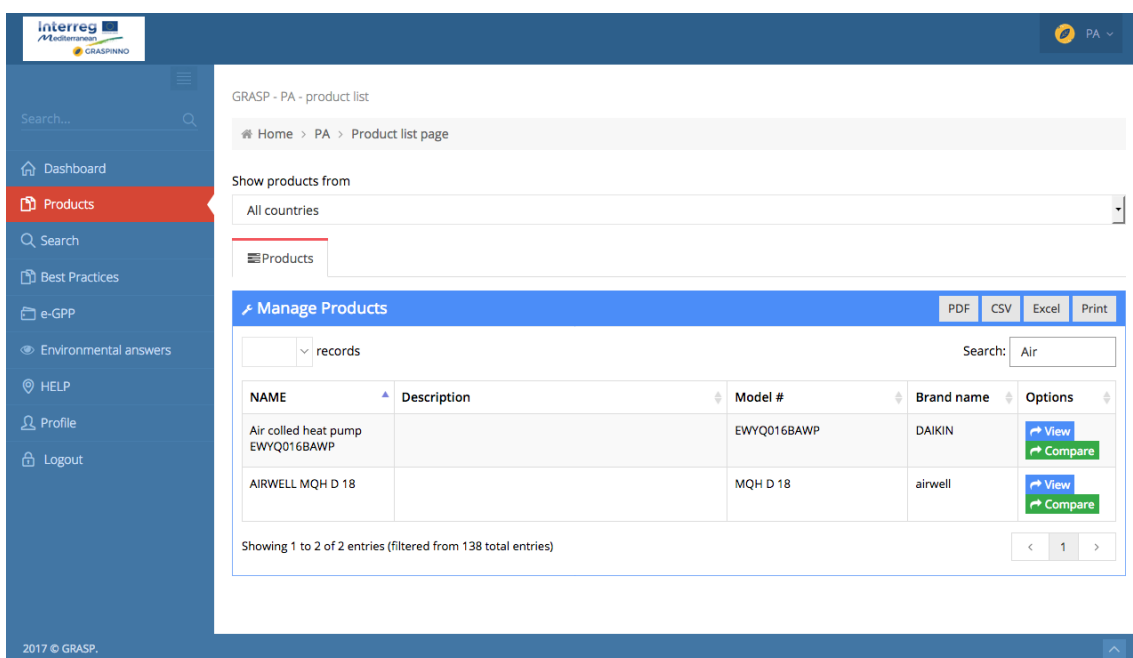
PDF CSV Excel Print

records Search:

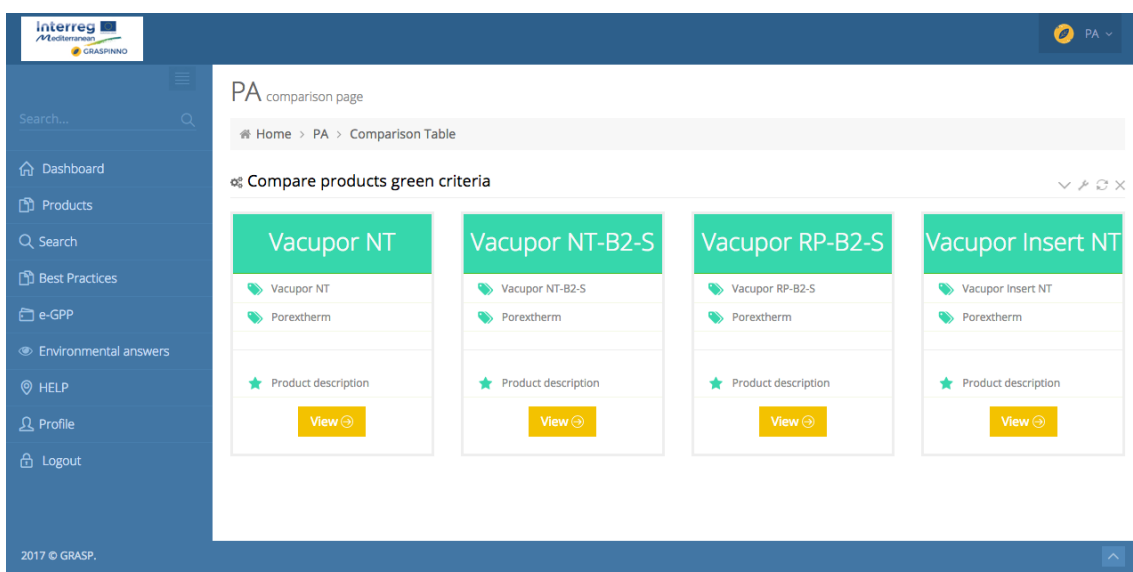
NAME	Description	Model #	Brand name	Options
Vacupor Insert NT		Vacupor Insert NT	Porextherm	View Compare
Vacupor NT		Vacupor NT	Porextherm	View Compare
Vacupor NT-B2-S		Vacupor NT-B2-S	Porextherm	View Compare
Vacupor PS-B2-S		Vacupor PS-B2-S	Porextherm	View Compare
Vacupor RP-B2-S		Vacupor RP-B2-S	Porextherm	View Compare
Vacupor TS-B2-S		Vacupor TS-B2-S	Porextherm	View Compare
Vacupor XPS-B2-S		Vacupor XPS-B2-S	Porextherm	View Compare
VACUSPEED - System		VACUSPEED - System	Porextherm	View Compare
WDS Flexipor		WDS Flexipor	Porextherm	View Compare
WDS MultiFlex ST/ HT		WDS MultiFlex ST/ HT	Porextherm	View Compare

Showing 1 to 10 of 10 entries

The Public authority can use live instant search to search for products. It writes in the search box the name of the product, or any other word related to product details and automatically the product that much to its search criteria will be shown below.

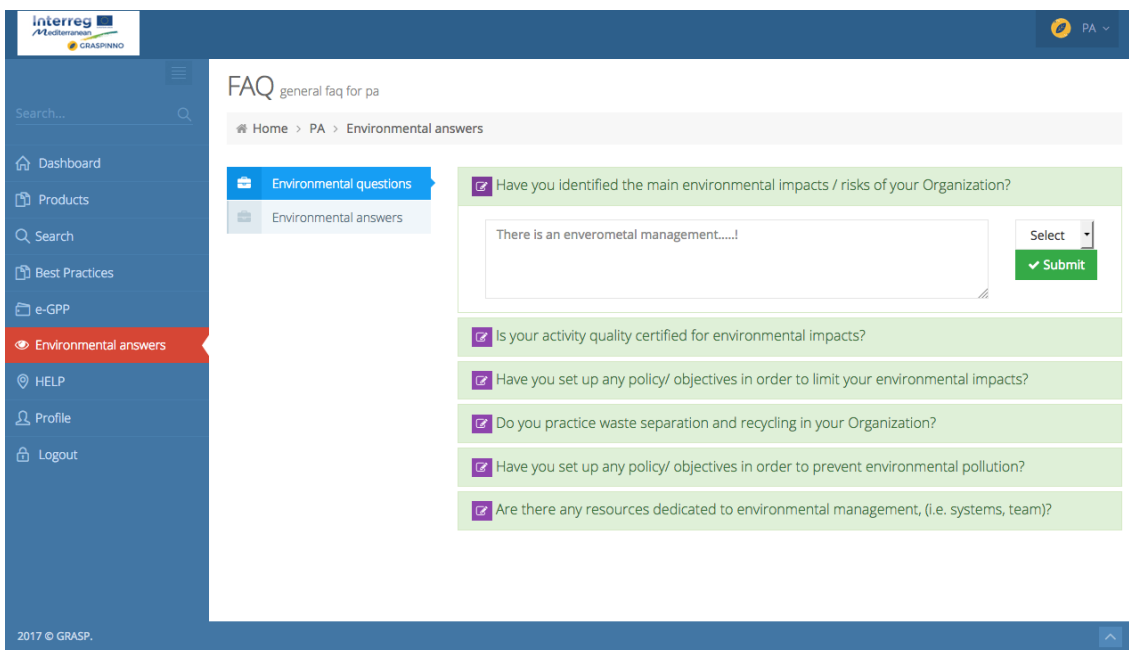


The Public authority can compare product. It searches for a product and then it can click product name to see product details or click the compare button to see the comparison with other products. If it clicks the “compare” button, the system automatically will display a comparison table with all products related to this product.



- **Environmental answers**

The Public Authority can answer environmental questions by using this section. It clicks the edit icon on the left of the question, and then the question form is appeared, where the PA should complete its answer. It writes its comment on the text area provided, selects yes or no, and then clicks the “ok” button. The PA can delete its answer if there is something wrong and add it again later.



Interreg Mediterranean GRASPINO

PA

Search...

Dashboard
Products
Search
Best Practices
e-GPP
Environmental answers
HELP
Profile
Logout

FAQ general faq for pa

Home > PA > Environmental answers

Environmental questions
Environmental answers

Have you identified the main environmental impacts / risks of your Organization?

There is an enveremetal management.....!

Select

Submit

Is your activity quality certified for environmental impacts?

Have you set up any policy/ objectives in order to limit your environmental impacts?

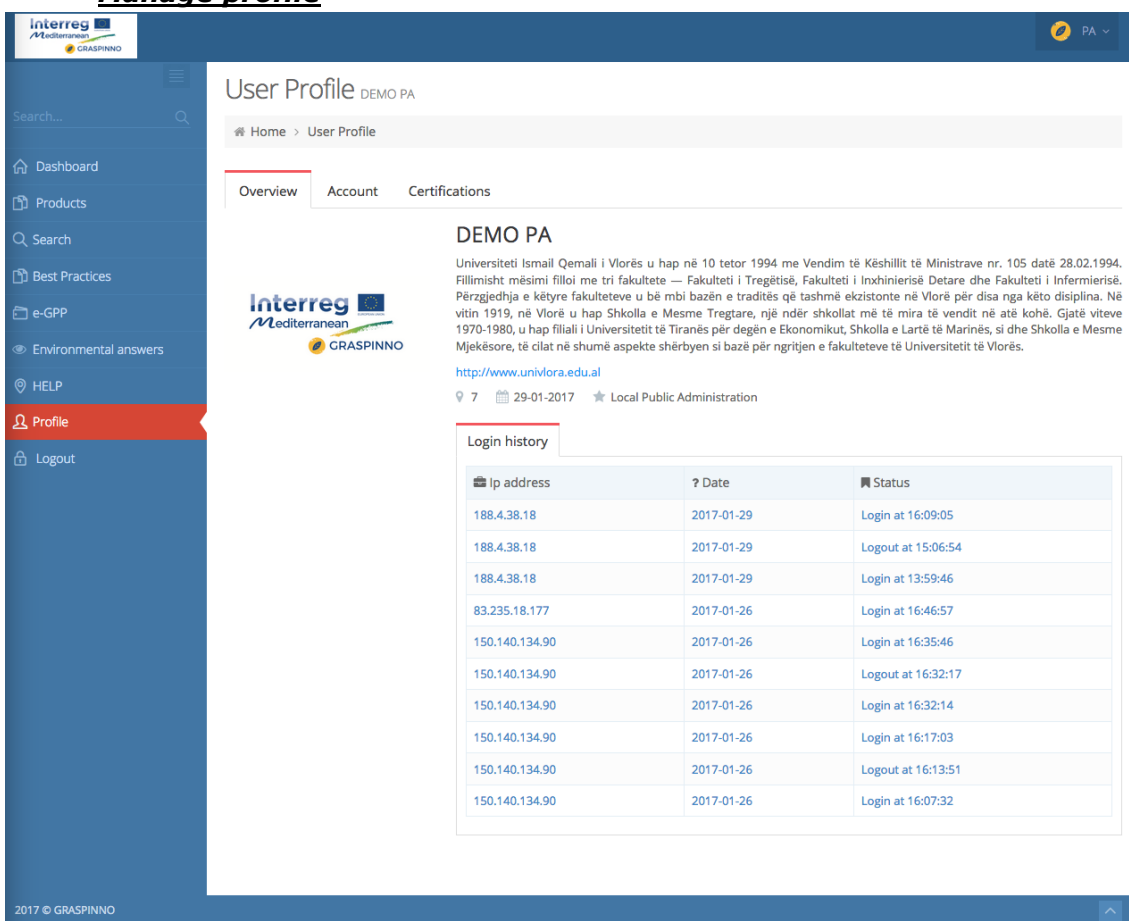
Do you practice waste separation and recycling in your Organization?

Have you set up any policy/ objectives in order to prevent environmental pollution?

Are there any resources dedicated to environmental management, (i.e. systems, team)?

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• **Manage profile**



Interreg Mediterranean GRASPINO

PA

Search...

Dashboard
Products
Search
Best Practices
e-GPP
Environmental answers
Profile
Logout

User Profile DEMO PA

Home > User Profile

Overview Account Certifications

DEMO PA

Universiteti Ismail Qemali i Vlorës u hap në 10 tetor 1994 me Vendim të Këshillit të Ministrave nr. 105 datë 28.02.1994. Fillimisht mësimi filloi me tri fakultete — Fakulteti i Tregëtisë, Fakulteti i Inxhinierisë Detare dhe Fakulteti i Infermierisë. Përzgjedhja e këtyre fakulteteve u bë mbi bazën e traditës që tashmë ekzistonte në Vlorë për disa nga këto disiplina. Në vitin 1919, në Vlorë u hap Shkolla e Mesme Tregtare, një ndër shkollat më të mira të vendit në atë kohë. Gjatë viteve 1970-1980, u hap filiali i Universitetit të Tiranës për degën e Ekonomikut, Shkolla e Lartë të Marinës, si dhe Shkolla e Mesme Mjekësore, të cilat në shumë aspekte shërbyen si bazë për ngritjen e fakulteteve të Universitetit të Vlorës.

<http://www.univlora.edu.al>

7 29-01-2017 Local Public Administration

Login history

Ip address	Date	Status
188.4.38.18	2017-01-29	Login at 16:09:05
188.4.38.18	2017-01-29	Logout at 15:06:54
188.4.38.18	2017-01-29	Login at 13:59:46
83.235.18.177	2017-01-26	Login at 16:46:57
150.140.134.90	2017-01-26	Login at 16:35:46
150.140.134.90	2017-01-26	Logout at 16:32:17
150.140.134.90	2017-01-26	Login at 16:32:14
150.140.134.90	2017-01-26	Login at 16:17:03
150.140.134.90	2017-01-26	Logout at 16:13:51
150.140.134.90	2017-01-26	Login at 16:07:32

2017 © GRASPINO

The Public Authority can edit only full name from personal information. It cannot edit user-name or e- mail address as this identifies its account. If PA does not want to use

its user profile e- mail it can add a different e-mail address in the organization section in the "SME email" field.

User Profile DEMO PA

Home > User Profile

Overview **Account** Certifications

Personal info **Organization info** Change Password

To edit organization information, you should go of Profile page, Account tab and then Organization info.

Organisation: GRASP TEAM

Organisation email: info@grasp.com

Country: ALBANIA

Contact person: FABIOLA

Telephone Number: 355 123 32 125 36

Fax Number: 355 123 32 125 36

Contact email address: info@univlora.edu.al

Website Url: http://www.univlora.edu.al

Organization establishment year: 1993

Enter Organization name here

Organization official email address here.

Enter Organization name here

Organization official contact person

Organization official contact person's telephone number

Organization official contact person's fax number

Organization official contacts' Person email address

Organization official website address

Organization establishment year

Unique VAT number: K0532541P

About: Universiteti i Smalit i Vlorës u hap në 10 tetor 1994 me Vendim të Këshillit Fakultet – Fakulteti i Tregëtisë, Fakulteti i Inzhinierisë Detare dhe Fakulteti i Përzgjedhja e këtyre fakulteteve u bë mbi bazën e traditës që tashmë ekziston. Mesazhi Tregëtarë, një ndër shkollat më të mira të vendit në atë kohë. Gjatë viteve Shkollën e Lartë të Marinës, si dhe Shkollën e Mesme Mjekësore, të cilat në shpirt Vlorës.

Number of employees: 150

Number of departments: 4

Departments Location: UNIVERSITETI I VLORËS (SMALIT QEMAL) Adresa: L. Pasaparis, 9400 Vlorë, Shqipëri Telephone: 355 33 222288 Email: info@univlora.edu.al

Organization type: Local Public Administration

Organization unique VAT number, (tax registration number)

Organization short description, (about, operation field any achievement, covering area etc.)

Organization number of employees in total

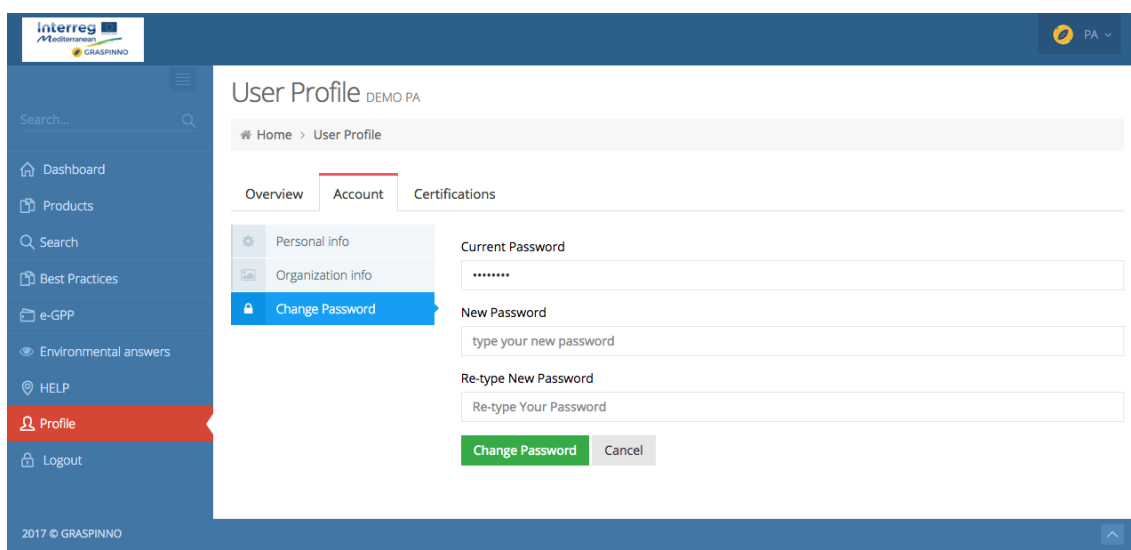
Organization number of departments (e.g. 4)

Organization department's location full address

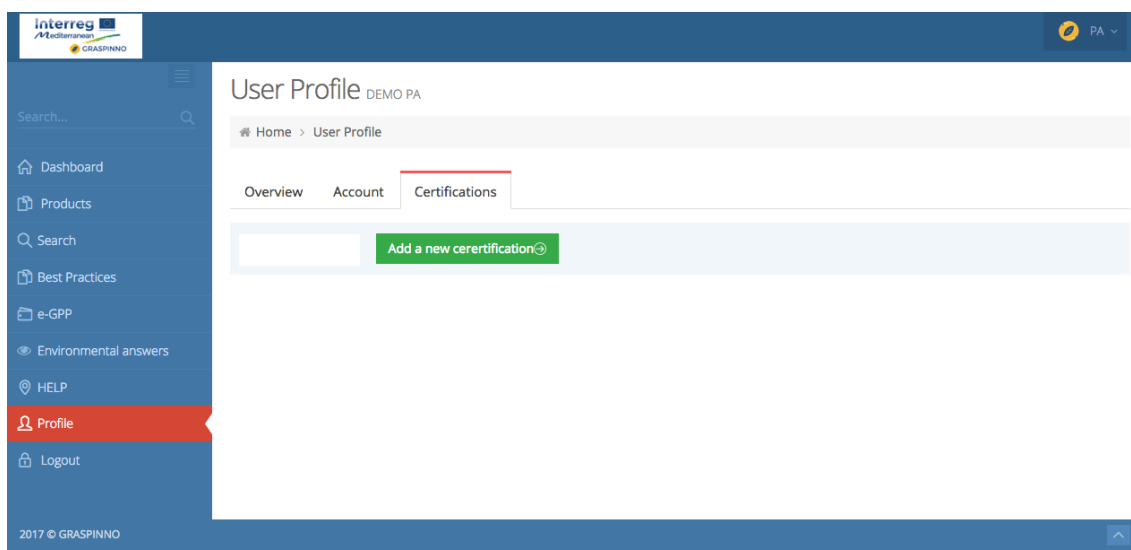
Organization type, e.g. local public administration or national public administration

Save Changes Cancel

The PA can change or update its password at any time. It has to provide the old password, enter the new password in the new password field, and click "change password" button.



The Public Authority can upload certificates on its profile page, certification section. It clicks "Add certification" button. In the form provided enters certification code (e.g. ISO123654), certification description (e.g. 4-5 sentences summarizing its certification) and attaches certification document. The Attached document should be in .pdf file format. It can add as many certifications as it has.



2.5.1.3 Tasks for Small & Medium Enterprises users

- **Registration**

The 1st task for a Small & Medium Enterprises user is to register to the GRASPINNO web database platform. This task can take place by following the url: <http://grasp-egpp.eu/register.php>

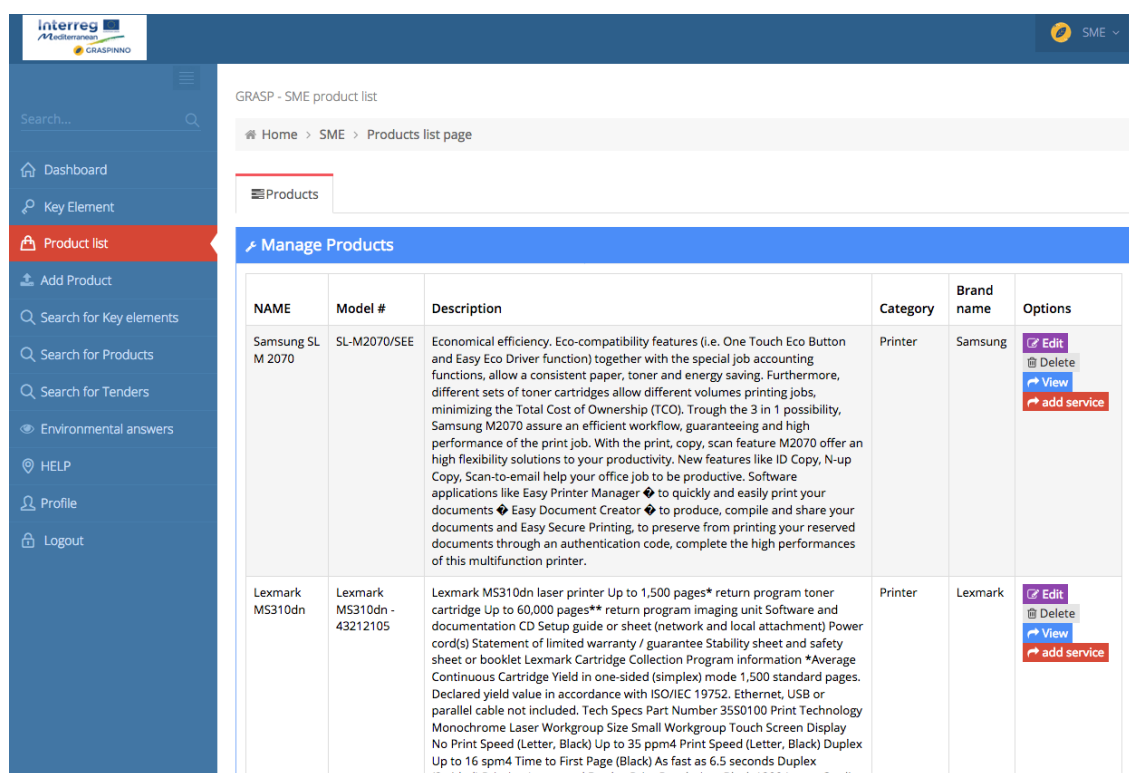
- **Restore password**

A Small & Medium Enterprise can access the platform even though has forgotten its

password. By following the url: <http://grasp-egpp.eu/forgot.php> the SME has the ability to reset its password. A new mail function used for sending e-mails to a Small & Medium Enterprise. The SMTP mail function used for sending e-mails. The SMTP is a standard protocol for sending e-mails and its full name is Simple Mail Transfer Protocol. All the e-mails of the outgoing from the server using the TLS, Transport Layer Security in order to encrypt and secure the e-mail communications of the GRASPINNO platform.

• **Product List**

On the Product List page the Small & Medium Enterprise can edit, delete or view product details. It can also Print, export to pdf, excel or csv the table of the products.



The screenshot shows the 'GRASP - SME product list' page. On the left is a sidebar with navigation links: Dashboard, Key Element, Product list (selected), Add Product, Search for Key elements, Search for Products, Search for Tenders, Environmental answers, HELP, Profile, and Logout. The main content area has a breadcrumb trail: Home > SME > Products list page. Below this is a 'Manage Products' section with a table of products.

NAME	Model #	Description	Category	Brand name	Options
Samsung SL M 2070	SL-M2070/SEE	Economical efficiency, Eco-compatibility features (i.e. One Touch Eco Button and Easy Eco Driver function) together with the special job accounting functions, allow a consistent paper, toner and energy saving. Furthermore, different sets of toner cartridges allow different volumes printing jobs, minimizing the Total Cost of Ownership (TCO). Through the 3 in 1 possibility, Samsung M2070 assure an efficient workflow, guaranteeing and high performance of the print job. With the print, copy, scan feature M2070 offer an high flexibility solutions to your productivity. New features like ID Copy, N-up Copy, Scan-to-email help your office job to be productive. Software applications like Easy Printer Manager to quickly and easily print your documents, Easy Document Creator to produce, compile and share your documents and Easy Secure Printing, to preserve from printing your reserved documents through an authentication code, complete the high performances of this multifunction printer.	Printer	Samsung	Edit Delete View add service
Lexmark MS310dn	Lexmark MS310dn - 43212105	Lexmark MS310dn laser printer Up to 1,500 pages* return program toner cartridge Up to 60,000 pages** return program imaging unit Software and documentation CD Setup guide or sheet (network and local attachment) Power cord(s) Statement of limited warranty / guarantee Stability sheet and safety sheet or booklet Lexmark Cartridge Collection Program information *Average Continuous Cartridge Yield in one-sided (simplex) mode 1,500 standard pages. Declared yield value in accordance with ISO/IEC 19752. Ethernet, USB or parallel cable not included. Tech Specs Part Number 3550100 Print Technology Monochrome Laser Workgroup Size Small Workgroup Touch Screen Display No Print Speed (Letter, Black) Up to 35 ppm4 Print Speed (Letter, Black) Duplex Up to 16 ppm4 Time to First Page (Black) As fast as 6.5 seconds Duplex (2 sided) Printing Integrated Duplex Print Resolution: Black 1200 Images/Inch...	Printer	Lexmark	Edit Delete View add service

• **Add product**

To add a product, the Small & Medium Enterprise has to fill in all the fields listed on the page. It has to select the product category first and the product type will be filtered automatically if it exists. In the Product full description field the SME can enter product full description

After it fills in all the required fields, it will be shown a form to add green criteria. It can attach related green criteria by clicking the corresponding button.

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Dashboard Database Data Category Type Key Element Products Add Product Best Practice Download / Backup Manage PA Manage SME Config Settings HELP Profile Logout

Add Product Save and Add another Product

Add Product form

Product Name
enter product name here... Product name, e.g. WD Caviar Blue 500GB

Category
Select category ... Product category, e.g. Portable Computer

Type
Select type ... Product type, e.g. HDD (Hard Disk Drive) 500GB

Product Brand name
enter product brand name here... Product brand name, e.g. Western Digital

Product model number
enter product model number here... Product model #, e.g. Scorpio Black

Product full description
enter product most common/known - technical specs and gr... Product full description, e.g. The Western Digital Scorpio Black hard drive has a spacious storage capacity that can store all your important data. With a spindle speed of 7200 RPM, provides improved connectivity with other devices.

Product units measurement
Pieces Product measurement #, e.g. pieces

Product quantity per unit
enter product model number here...

Product Price
enter product price here... Product price, e.g. 45 (currency is euro)

Visible to other SME
No If you want your product to be visible

Cancel Continue Go After you filled all required information click continue

2015 © GRASP - eProcurement System

Logout

Product full description
The Western Digital Scorpio Black hard drive has a spacious storage capacity that can store all your important data. With a spindle speed of 7200 RPM, this notebook hard drive reads and writes data from the system at a great speed. The 3 Gbps interface in this Western Digital HDD provides improved connectivity with other devices. This notebook hard drive speedily transfers files at the rate of 180 MB/s. The Western Digital Scorpio Black hard drive ensures noise-free operation due to its seek acoustics of 28 dB(A). So keep all your softwares, games, digital media, and more organized in one place once you fit your laptop with this Western Digital HDD.

Product units measurement
Pieces

Product quantity per unit
1

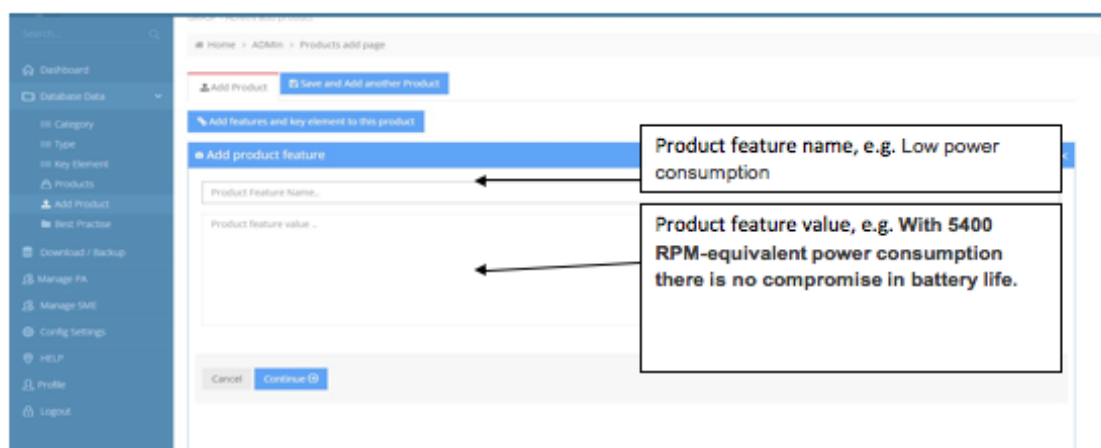
Product Price
45

Visible to other SME
No

Cancel Continue Go

Add features and key element to this product After confirming, click Add features and key element to this product button

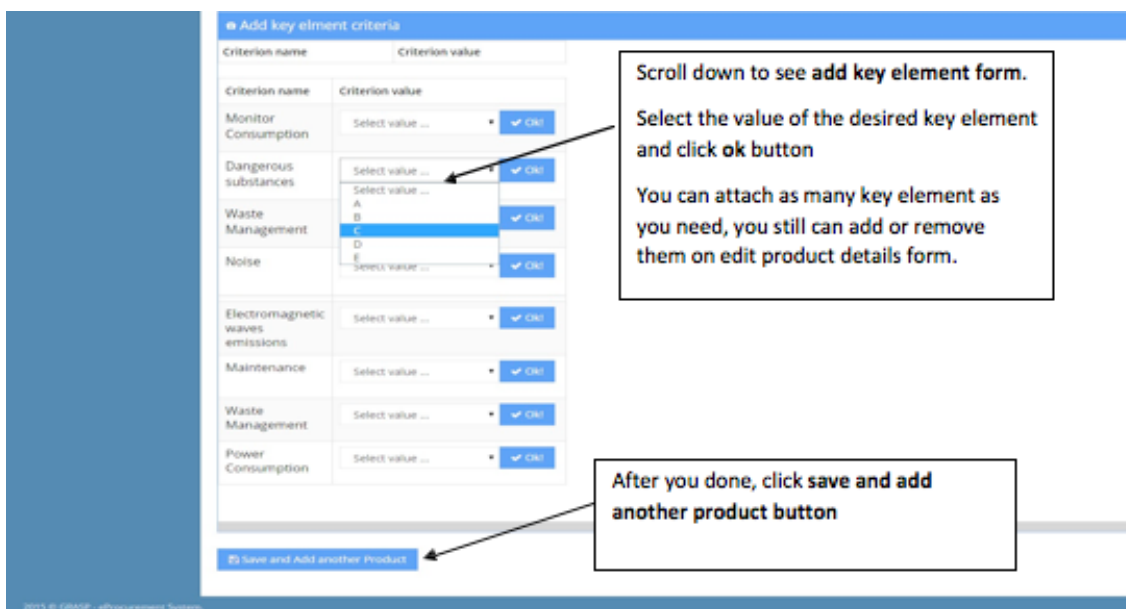
2015 © GRASP - eProcurement System



- **Add green criteria to a product**

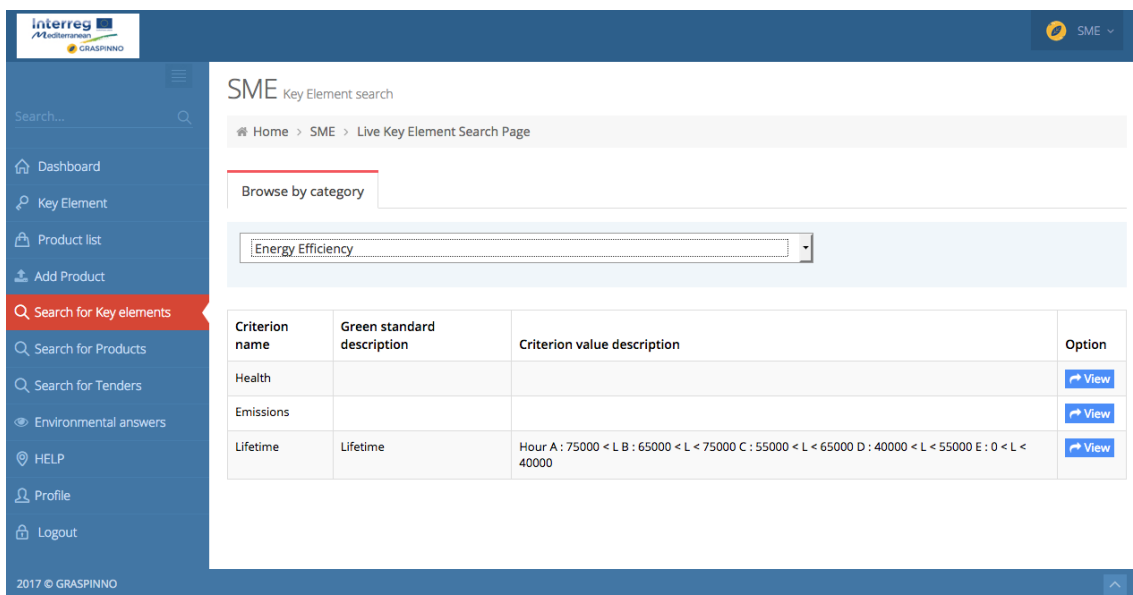
The Small & Medium Enterprises can add green criteria to a product after they have inserted the product or when they edit the product. Firstly, they should specify a value 1 to 5 for the green criteria they want to attach and then click the "ok" button. Each Product can be rated from A to E with respect to each CRITERION, where:

- A=very low;
- B=low;
- C=medium;
- D=high;
- E=very high



- **Search for key element – green criteria**

The SME can search for any key elements – green criteria are in the GRASPINNO database by using search for key element's page. It selects category and the results appeared below the dropdown list. Then the SME can view every green criterion by clicking the "View" button.



interreg Mediterranean GRASPINNO

SME Key Element search

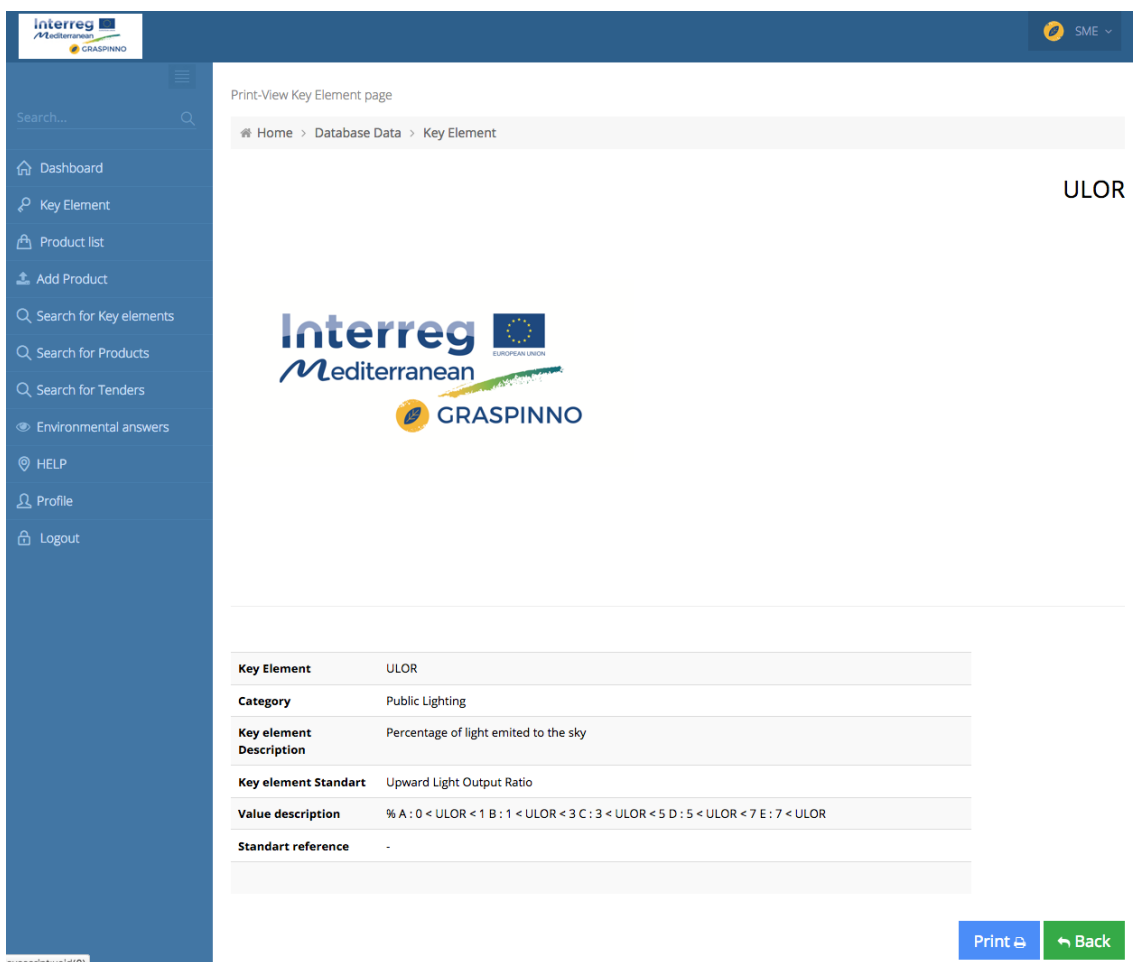
Home > SME > Live Key Element Search Page

Browse by category

Energy Efficiency

Criterion name	Green standard description	Criterion value description	Option
Health			View
Emissions			View
Lifetime	Lifetime	Hour A : 75000 < L B : 65000 < L < 75000 C : 55000 < L < 65000 D : 40000 < L < 55000 E : 0 < L < 40000	View

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interreg Mediterranean GRASPINNO

Print-View Key Element page

Home > Database Data > Key Element

ULOR

Interreg Mediterranean GRASPINNO

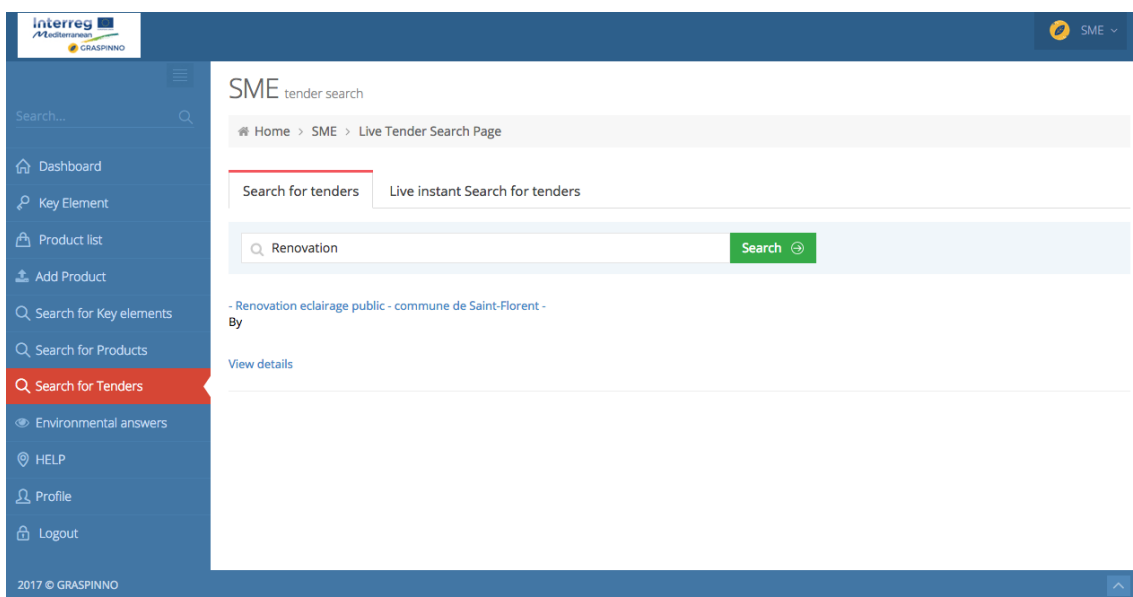
Key Element	ULOR
Category	Public Lighting
Key element Description	Percentage of light emitted to the sky
Key element Standart	Upward Light Output Ratio
Value description	% A : 0 < ULOR < 1 B : 1 < ULOR < 3 C : 3 < ULOR < 5 D : 5 < ULOR < 7 E : 7 < ULOR
Standart reference	-

Print Back

- **Search for tenders**

The SME can search for any tenders by using search for tender's page. It can type any word in the search box and if there are any tenders matching its search criteria

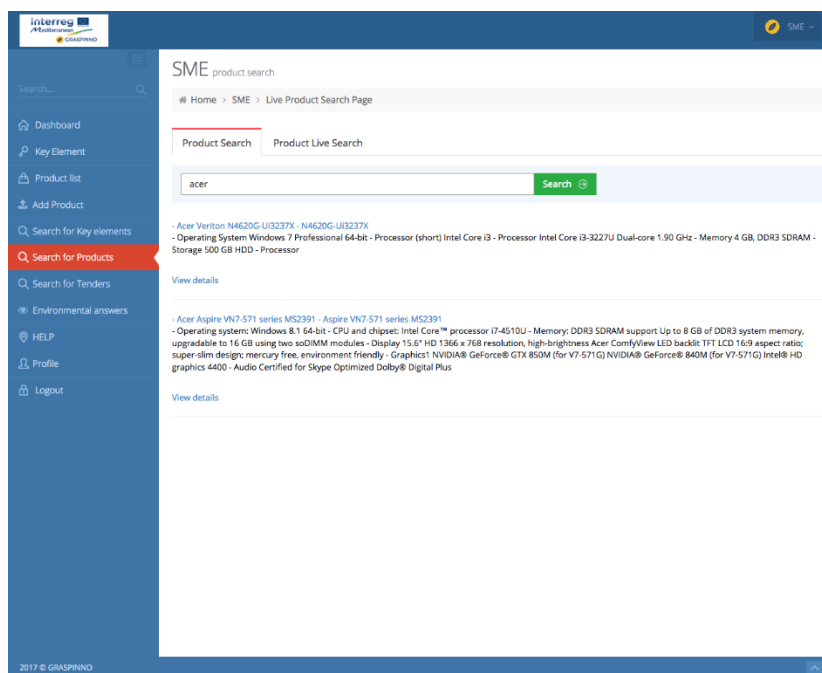
will be shown below the search box. Then it can click the tender name to see its details, like opening and closing date, organization and tender details.



- **Search for product**

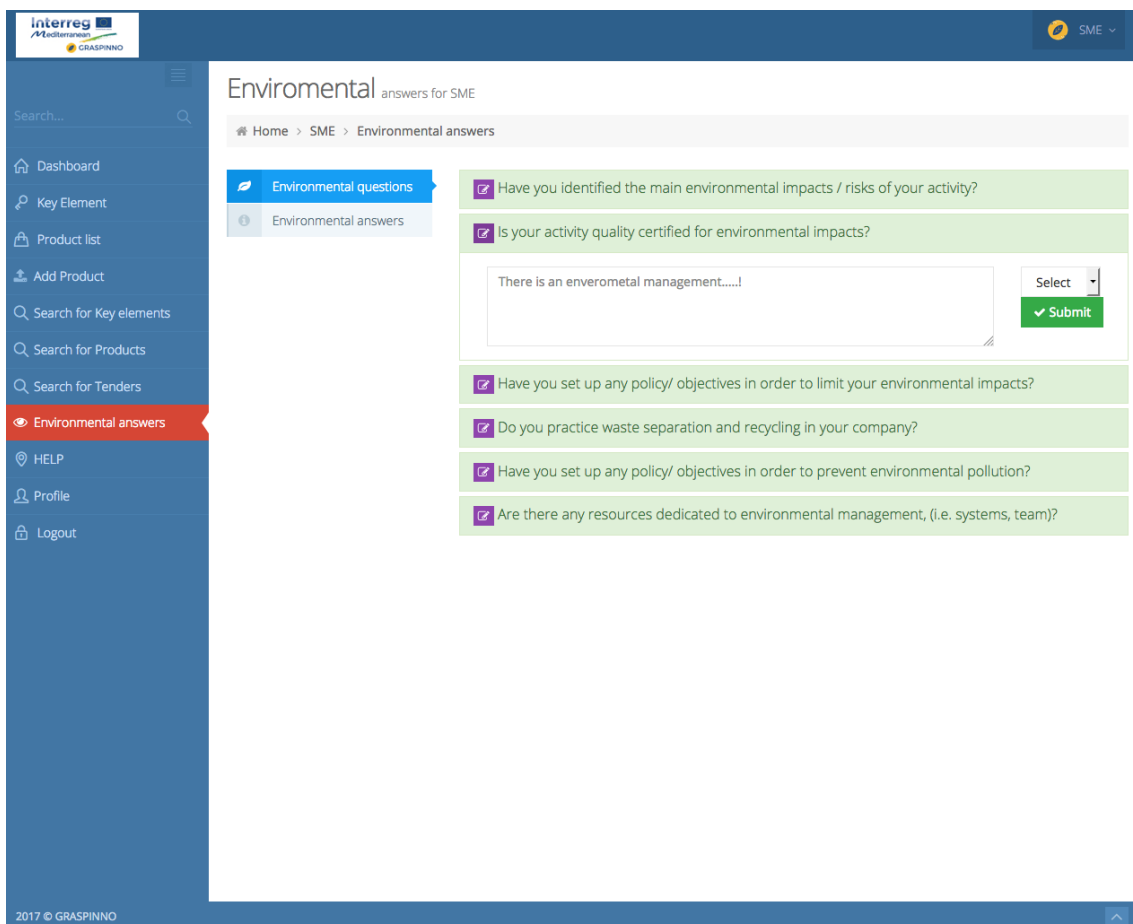
The Small & Medium Enterprise types any words related to product name or product green description and clicks the “Search” button. then any products that contain that word will be shown below the search box.

In order to see product details clicks on title of the product or in the “View details” link. At this page SME can search for any product that exists in the GRASPINNO database.



- **Environmental answers**

The Small & Medium Enterprise can answer environmental questions by using this section. It clicks the edit icon on the left of the question, and then the question form is appeared, where the SME should complete its answer. It writes its comment on the text area provided, selects yes or no, and then clicks the "ok" button. The SME can delete its answer if there is something wrong and add it again later.

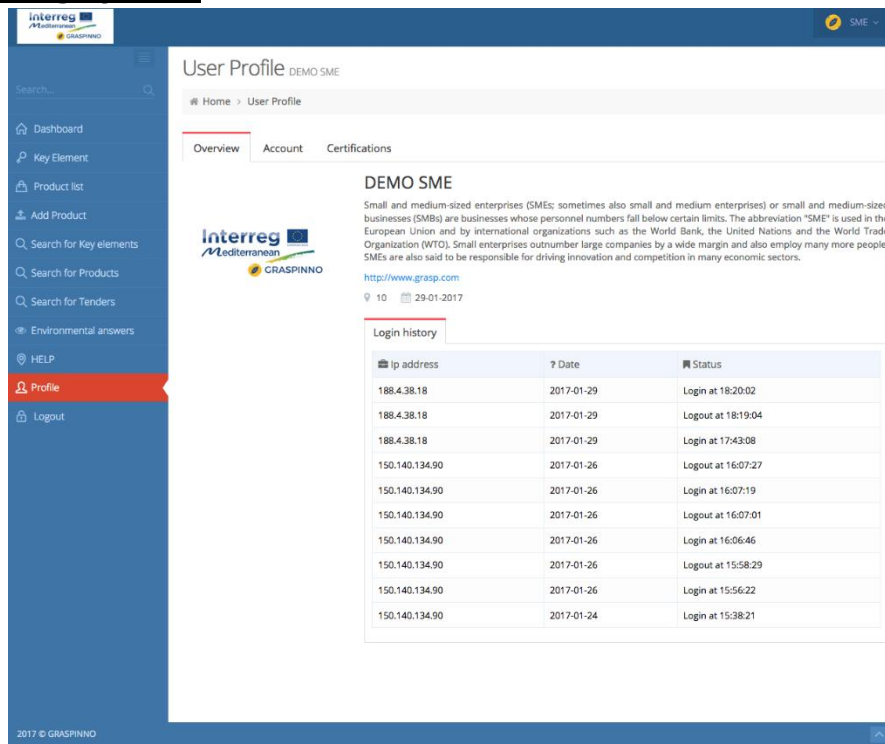


The screenshot shows a web application interface for SMEs to provide environmental answers. The top header includes the Interreg Mediterranean and GRASPINNO logos, along with a user profile icon labeled 'SME'. The left sidebar contains a search bar and a list of navigation items: Dashboard, Key Element, Product list, Add Product, Search for Key elements, Search for Products, Search for Tenders, Environmental answers (highlighted in red), HELP, Profile, and Logout. The main content area is titled 'Enviromental answers for SME' (note the typo in the image). Below the title is a breadcrumb trail: Home > SME > Environmental answers. A sub-header 'Environmental questions' is visible. The main content area displays a list of questions, each with a checkbox for 'Yes' or 'No' and a 'Submit' button. The questions are:

- Have you identified the main environmental impacts / risks of your activity?
- Is your activity quality certified for environmental impacts?
- There is an enverometal management.....! (Note the typo in the image) [Select dropdown] [Submit button]
- Have you set up any policy/ objectives in order to limit your environmental impacts?
- Do you practice waste separation and recycling in your company?
- Have you set up any policy/ objectives in order to prevent environmental pollution?
- Are there any resources dedicated to environmental management, (i.e. systems, team)?

 The footer of the page shows '2017 © GRASPINNO' and an upward arrow icon.

- **Manage profile**



User Profile DEMO SME

Home > User Profile

Overview Account Certifications

DEMO SME

Small and medium-sized enterprises (SMEs: sometimes also small and medium enterprises) or small and medium-sized businesses (SMBs) are businesses whose personnel numbers fall below certain limits. The abbreviation "SME" is used in the European Union and by international organizations such as the World Bank, the United Nations and the World Trade Organization (WTO). Small enterprises outnumber large companies by a wide margin and also employ many more people. SMEs are also said to be responsible for driving innovation and competition in many economic sectors.

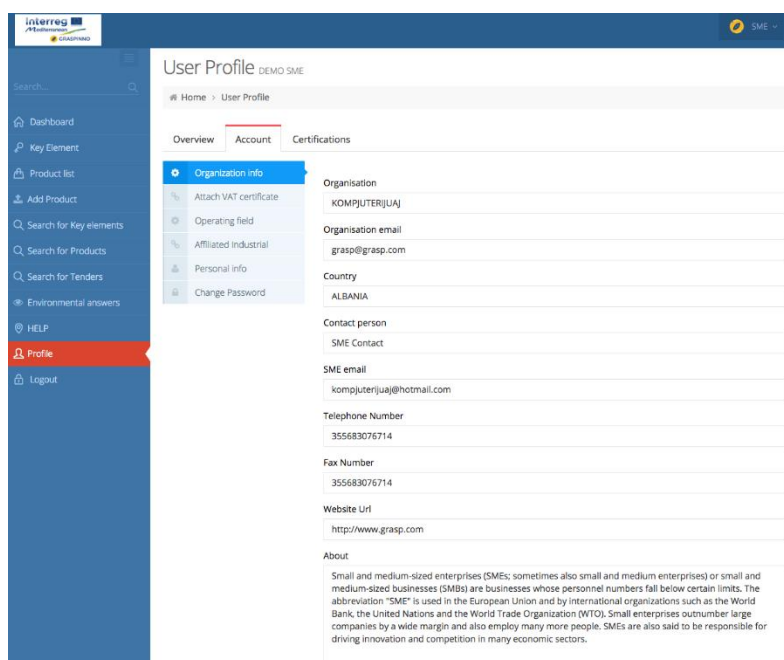
<http://www.grasp.com>

10 29-01-2017

Login history

Ip address	Date	Status
188.4.38.18	2017-01-29	Login at 18:20:02
188.4.38.18	2017-01-29	Logout at 18:19:04
188.4.38.18	2017-01-29	Login at 17:43:08
150.140.134.90	2017-01-26	Logout at 16:07:27
150.140.134.90	2017-01-26	Login at 16:07:19
150.140.134.90	2017-01-26	Logout at 16:07:01
150.140.134.90	2017-01-26	Login at 16:06:46
150.140.134.90	2017-01-26	Logout at 15:58:29
150.140.134.90	2017-01-26	Login at 15:56:22
150.140.134.90	2017-01-24	Login at 15:38:21

The SMEs are required to enter their organization information as required on the profile page, organization information section. They should enter Organization name, official contact email address, and official contact person, on this section they can provide also a different e-mail address to be contacted.



Search...

Dashboard

Key Element

Product list

Add Product

Search for Key elements

Search for Products

Search for Tenders

Environmental answers

HELP

Profile

Logout

User Profile DEMO SME

Home > User Profile

Overview Account Certifications

Organization info

Attach VAT certificate

Operating field

Affiliated Industrial

Personal info

Change Password

Organisation

KOMPUTERJUAJ

Organisation email

grasp@grasp.com

Country

ALBANIA

Contact person

SME Contact

SME email

komputerjua@hotmail.com

Telephone Number

355683076714

Fax Number

355683076714

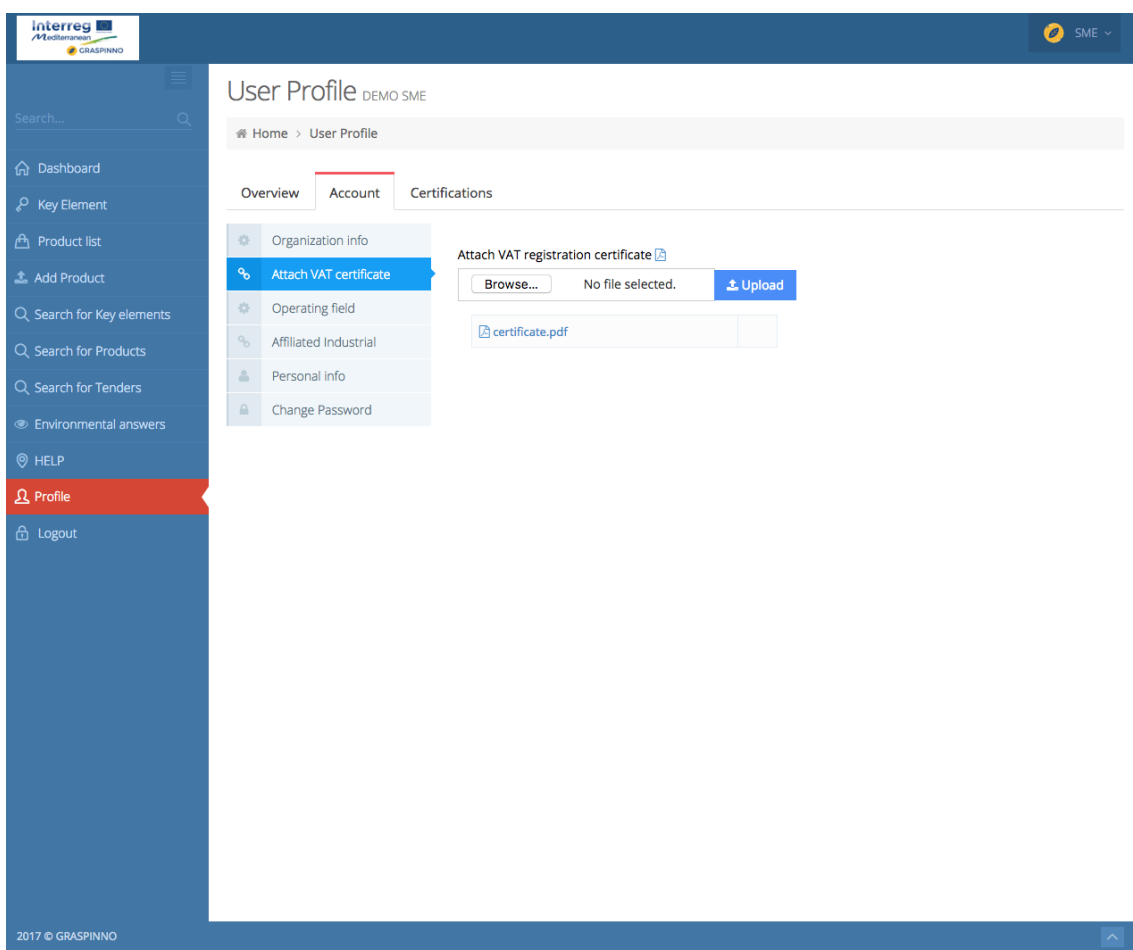
Website Url

http://www.grasp.com

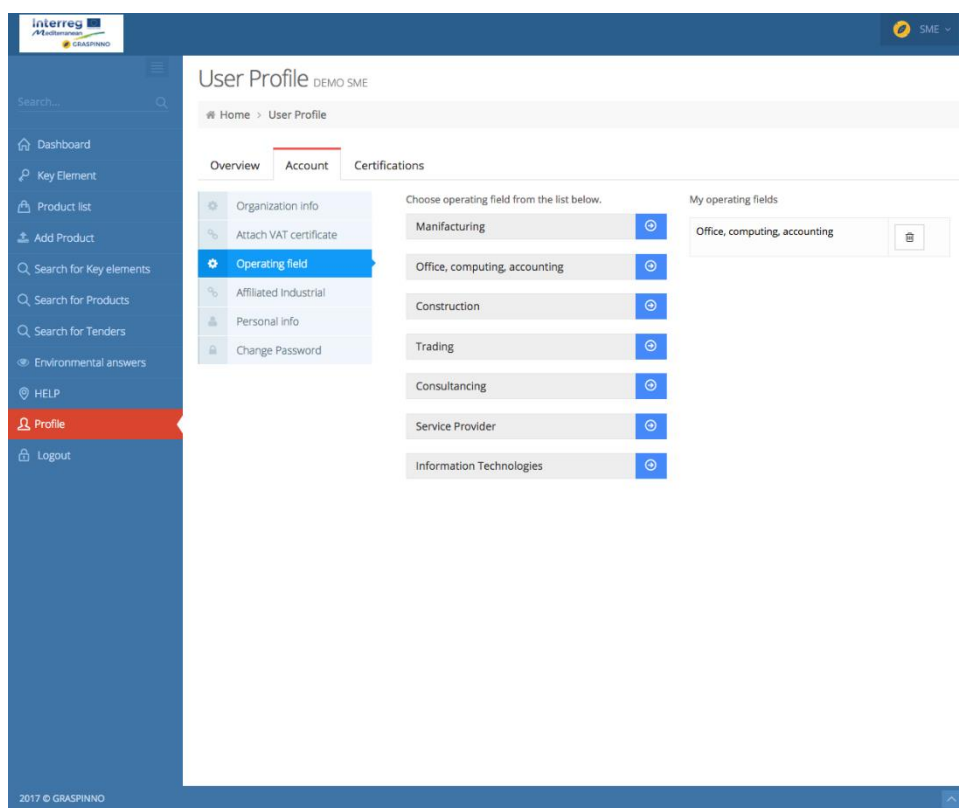
About

Small and medium-sized enterprises (SMEs; sometimes also small and medium enterprises) or small and medium-sized businesses (SMBs) are businesses whose personnel numbers fall below certain limits. The abbreviation "SME" is used in the European Union and by international organizations such as the World Bank, the United Nations and the World Trade Organization (WTO). Small enterprises outnumber large companies by a wide margin and also employ many more people. SMEs are also said to be responsible for driving innovation and competition in many economic sectors.

The SMEs can attach a VAT certificate on their profile page, on the account section. Certificate should be in .pdf format. They can change it any time if the certificate expires or is renewed. To replace their certificate, they should delete the existing one and then upload a new one.

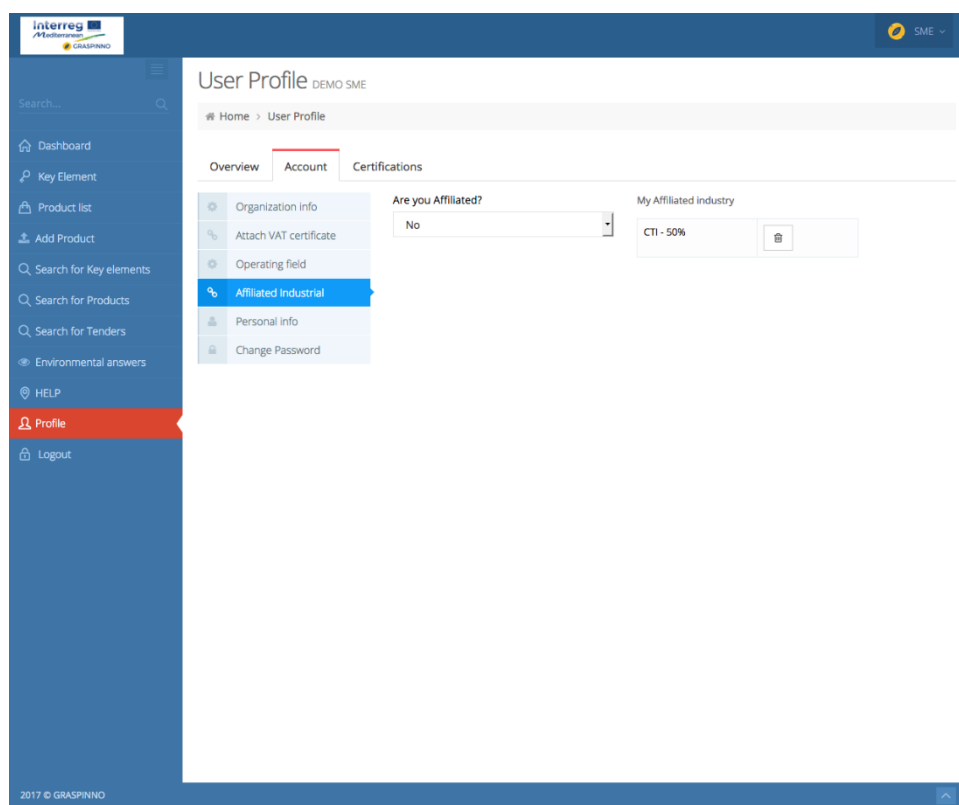


The SMEs can add operating field. They must click the blue button next to the desired operating field and it will be added. They can delete them by clicking delete button next to it, if they change operating field and add new one.



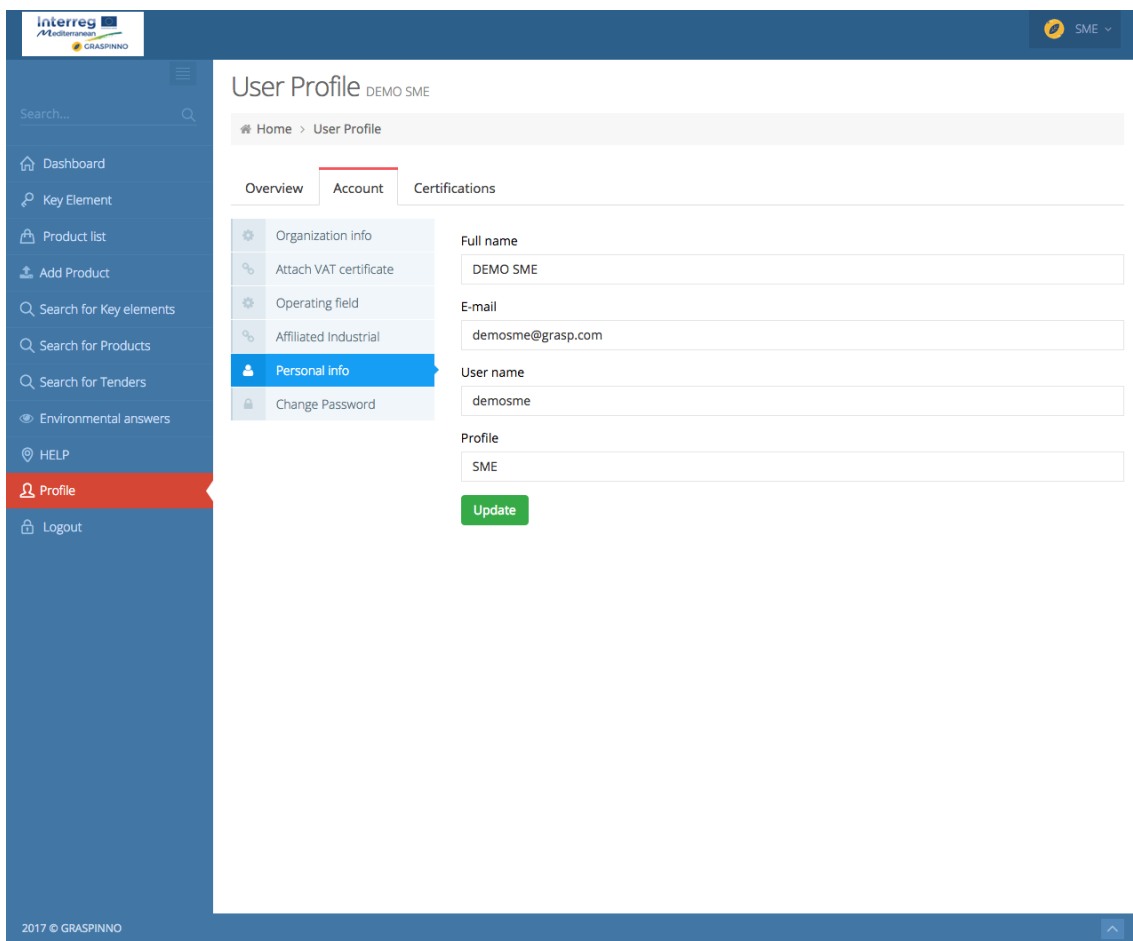
The screenshot shows the 'User Profile' page for a 'DEMO SME'. The left sidebar contains navigation links: Dashboard, Key Element, Product list, Add Product, Search for Key elements, Search for Products, Search for Tenders, Environmental answers, HELP, Profile (highlighted), and Logout. The main content area has tabs for Overview, Account, and Certifications. Under the 'Account' tab, there is a section for 'Operating field' with a list of available fields: Manufacturing, Office, computing, accounting, Construction, Trading, Consultancy, Service Provider, and Information Technologies. A 'My operating fields' box on the right shows 'Office, computing, accounting' as a selected field.

The SMEs can add as many affiliations they have. Available affiliation will be listed on their profile page on the account section.



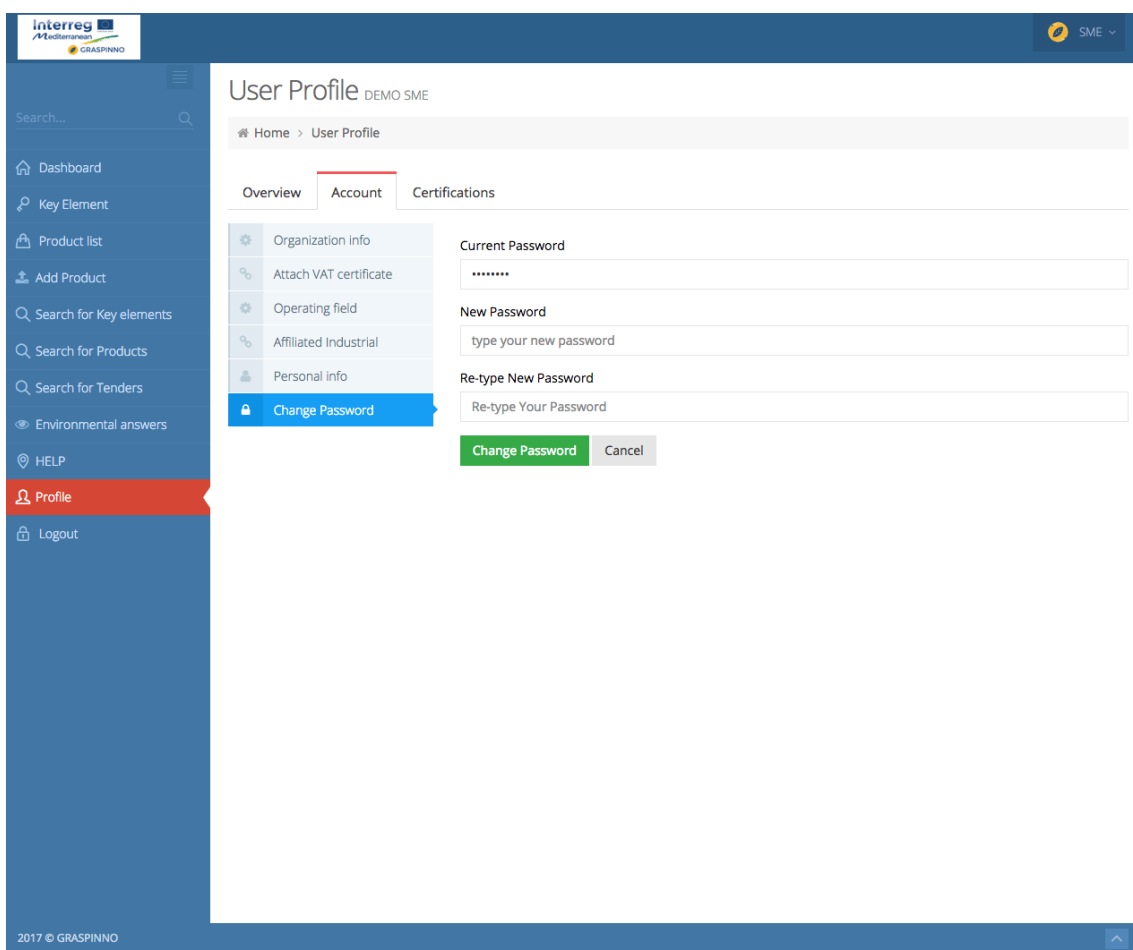
This screenshot shows the 'User Profile' page for a 'DEMO SME' with the 'Affiliated industrial' section selected. The left sidebar is identical to the previous screenshot. The main content area shows the 'Account' tab with a section for 'Affiliated industrial'. It includes a dropdown menu for 'Are you Affiliated?' (set to 'No') and a text input for 'My Affiliated Industry' (set to 'CTI - 50%').

They can edit only the full name from personal information. They cannot edit user-name or e-mail address as this identifies their account. If they do not want to use their user profile e-mail they can add a different e-mail address on the organization section on the SME email field.



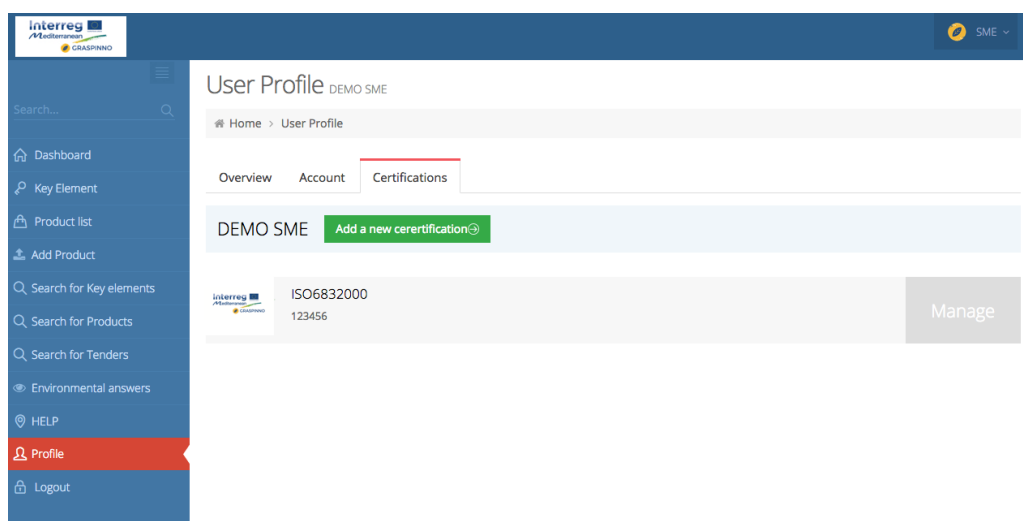
2017 © GRASPINNO

They can change or update their password. They have to provide the old password and enter the new password on the new password field and click "change password" button.



The screenshot shows the 'User Profile' page for a 'DEMO SME'. The left sidebar contains a search bar and navigation links: Dashboard, Key Element, Product list, Add Product, Search for Key elements, Search for Products, Search for Tenders, Environmental answers, HELP, Profile (highlighted), and Logout. The main content area has tabs for Overview, Account, and Certifications. Under the Account tab, there is a 'Change Password' button. To the right of this button are three password input fields: 'Current Password' (with masked characters), 'New Password' (with the placeholder 'type your new password'), and 'Re-type New Password' (with the placeholder 'Re-type Your Password'). Below these fields are 'Change Password' and 'Cancel' buttons. The footer shows '2017 © GRASPINNO'.

The Small & Medium Enterprises can upload certificates on its profile page, certification section. They click "Add certification" button. In the form provided they enter certification code (e.g. ISO123654), certification description (e.g. 4-5 sentences summarizing their certification) and attaches certification document. The Attached document should be in .pdf file format. They can add as many certifications as they have.



The screenshot shows the 'User Profile' page for a 'DEMO SME', specifically the 'Certifications' tab. The left sidebar is identical to the previous screenshot. The main content area shows a table with one certification entry. The entry has a certification code 'ISO6832000' and a description '123456'. To the right of the description is a 'Manage' button. Above the table, there is a green button labeled 'Add a new cerertification' (note the typo in the image).

2.5.2 Readability

The GRASPINNO database platform was tested for its content and how readable is it. Readability hinges on these considerations:

- Ease of Comprehension: Is the content easy to understand and internalize? Are sentences and paragraphs as concise as possible?
- Legibility: Are fonts big enough? Is there enough contrast between the text and its background?
- Reading Enjoyment: Would users appreciate the content? Is the information accurate, of high quality and well-written? Do font characteristics such as size, spacing and color make reading longer passages easy or do they strain the eyes?

Readability Results

The following table contains the readability results for <http://www.grasp-egpp.eu>.

Reading Level Results

Summary	Value
Total sentences	69
Total words	329
Average words per Sentence	4.77
Words with 1 Syllable	168
Words with 2 Syllables	68
Words with 3 Syllables	52
Words with 4 or more Syllables	41
Percentage of word with three or more syllables	28.27%
Average Syllables per Word	1.90
Gunning Fog Index	13.21
Flesch Reading Ease	41.54
Flesch-Kincaid Grade	8.65

Table 1: Readability results for GRASPINNO database platform

2.5.3 Site Navigability

The site navigability is imperative for the GRASPINNO database platform as the users (PA and SMEs users) have to be able to move through multiple webpages as easily as possible. Navigability consists of numerous user interface components, such as navigation menus, search boxes, links within the copy of a webpage, sidebar widgets that display recent or top content and so on.

The major considerations for a site's navigability are:

- Information Architecture (IA): How well are webpages categorized and organized? How well are navigational features constructed?
- Findability: Are there sufficient site features such as search boxes, archive pages, links and navigation features that aid in finding relevant webpages?
- Efficiency of Navigation: How fast and in how many actions (number of clicks, how much text, etc.) does it take to get to page of interest?

2.5.4 Accessibility

A website should be accessible to everyone, including those of us with disabilities that affect how we experience the web.

When evaluating a website's accessibility, it's important to look at it from a universal design point of view. People often mistake web accessibility as being only for those with barriers like blindness or mobility issues. However, it should be broaden our view to include anything that might hinder a user accessing GRASPINNO's site from a number of browsing situations. This is especially critical with the rapid adoption of mobile devices, tablets, netbooks and web-enabled TVs and gaming consoles. Internet users also have a much wider array of web browsers than ever before: IE, Chrome, Firefox, Safari, Opera and so forth. The general goal of evaluating a site's web accessibility is how well it deals with these varying circumstances.

Here are considerations to take into account when performing web accessibility analysis:

- Cross-Browser/Cross-Platform Compatibility: Does the site work in as many browsing situations as possible? Is the site responsive, flexibly changing the layout depending on how the user views it?
- Semantic HTML Markup: Especially for those who use assistive technologies like a screen reader, the quality and accuracy of the webpage's structure is important. Are HTML tags being used correctly?
- Color Choice: Are the colors used high contrast? Do the colors create a hindrance to people with colorblindness or poor vision?
- Use of HTML Accessibility Features: There are HTML features and techniques that aid users with visual impairments. Are these features and techniques being used?

The GRASPINNO web platform was validated using the W3C Mark Validator tool (<https://validator.w3.org/>), for correcting semantic HTML markup errors.

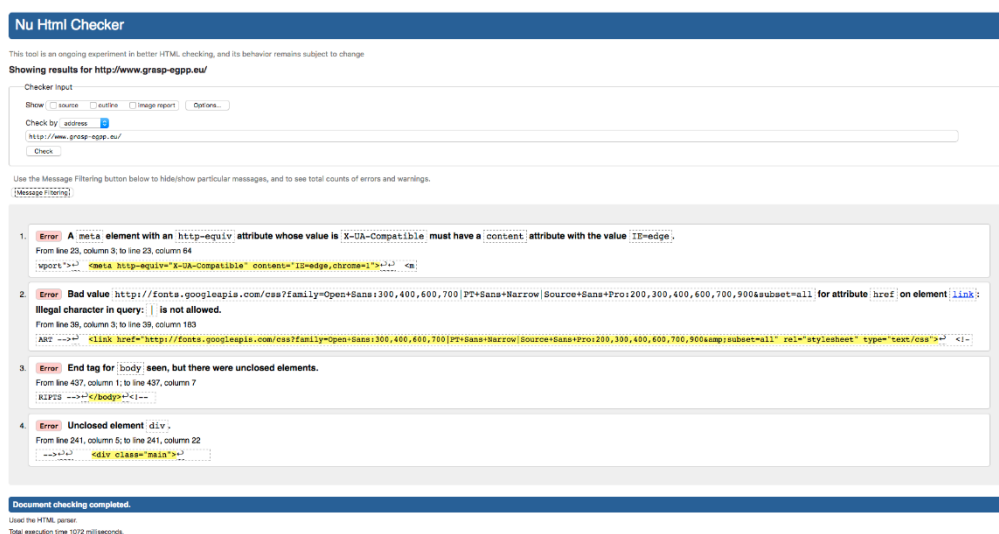


Image 1: Semantic HTML Markup Validator tool for GRASPINNO database platform

2.5.5 Website Speed

One factor of usability that's not completely evident is the need for a website to be speedy and responsive. The better performing a website is, the more efficient a user will be when completing his desired tasks. Here are considerations for evaluating the speed of a website:

- Webpage Response Time,
- Webpage Size,
- Code Quality.

The GRASPINNO database platform was passed successfully the test of the Webpage Response Time, as the server responded quickly. Minifying css, html and javascript should reduce the webpage size. The images should be optimized for better web performance. It will also be considered to enable compression with gzip or deflate which will reduce the number of bytes sent over the network. Finally, it will be good the web platform to be enabled the leverage browser caching by setting an expiry date or a maximum age in the HTTP headers for static resources instructs the browser to load previously downloaded resources from local disk rather than over the network.

2.5.6 User Experience

User experience (UX), at its core, tries to study and evaluate how pleasant a website is to use. This factor is largely subjective because it deals with user perception, which can be vastly different from one user to the next. The way UX can be evaluated is through user feedback. By asking questions of users, you can gain a better understanding of how they feel about the site.

The UX GRASPINNO web platform was evaluated by some test users which was browsing the web platform as a PA users and as SMEs users.

Some considerations when evaluating UX:

- Fulfillment: Do users feel satisfied after interacting with the website?
- Usefulness: Does the user feel like he's obtained value from using the website?
- Enjoyment: Is the experience of being on the website fun and not burdensome?
- Positive Emotions: Do users feel happy, excited, pleased, etc. when they interact with the site?

2.6 Malfunctions

There were some malfunctions at the GRASPINNO database platform. Some of them were:

- Malfunctions at the web server,
- Malfunctions at sending system messages to users,
- Malfunctions at some text fields of various web forms,
- Malfunctions at forgot password web page,
- Malfunctions at the link of e-GPP tool,
- Malfunctions at the registration form messages,
- Malfunctions at the products' list page of the PA users account,
- Malfunctions at the SME's and PA's list of users page – Administration View.

2.6.1 Malfunction at the web server

The previous server that is hosting the web platform of GRASPINNO has some problems with the performance, load and stress.

Performance testing is measuring how a system behaves under an increasing load (both numbers of users and data volumes), load testing is verifying that the system can operate at the required response times when subjected to its expected load, and stress testing is finding the failure point(s) in the system when the tested load exceeds that which it can support.

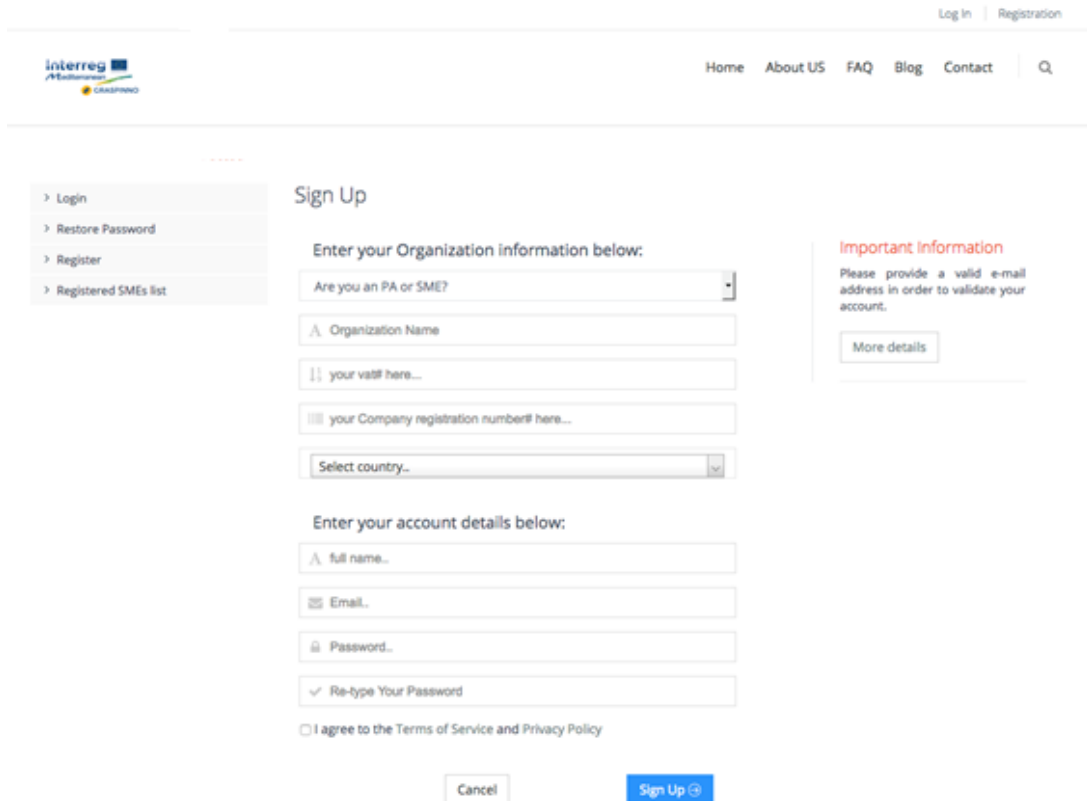
So, the technical team of the GRASPINNO project had to transfer the whole project to new web server on the Civil Engineer Department of the University of Patras.

2.6.2 Malfunctions at sending system messages to users

There were some problems when a system message had to be sent to Administrators, PA users, SMEs users. So, a new mail function used for sending e-mails to the platform's users. The SMTP mail function used for sending e-mails. The SMTP is a standard protocol for sending e-mails and its full name is Simple Mail Transfer Protocol. All the e-mails of the outgoing from the server using the TLS, Transport Layer Security in order to encrypt and secure the e-mail communications of the GRASPINNO platform.

2.6.3 Malfunctions at some text fields of various web forms

There were some text limitations at some text fields at the registration form. So, the technical committee of the project had to extend this character limit.



2.6.4 Malfunctions at forgot password web page

The PA and SMEs couldn't change their password, as there was an error at the forgot password php web page. So, some code changes had to be done.

A Public Authority and a Small & Medium Enterprise can access the platform even though has forgotten its password. By following the url: <http://grasp-egpp.eu/forgot.php> the PA or SME has the ability to reset its password. A new mail function used for sending e-mails to a Public Authority. The SMTP mail function used for sending e-mails. The SMTP is a standard protocol for sending e-mails and its full name is Simple Mail Transfer Protocol. All the e-mails of the outgoing from the server using the TLS, Transport Layer Security in order to encrypt and secure the e-mail communications of the GRASPINNO platform.

2.6.5 Malfunctions at the link of e-GPP tool

There was a problem with the web server port that e-GPP tool was working. So, the server port (port:8081) had to be changed in order the e-GPP tool to start being operational again.

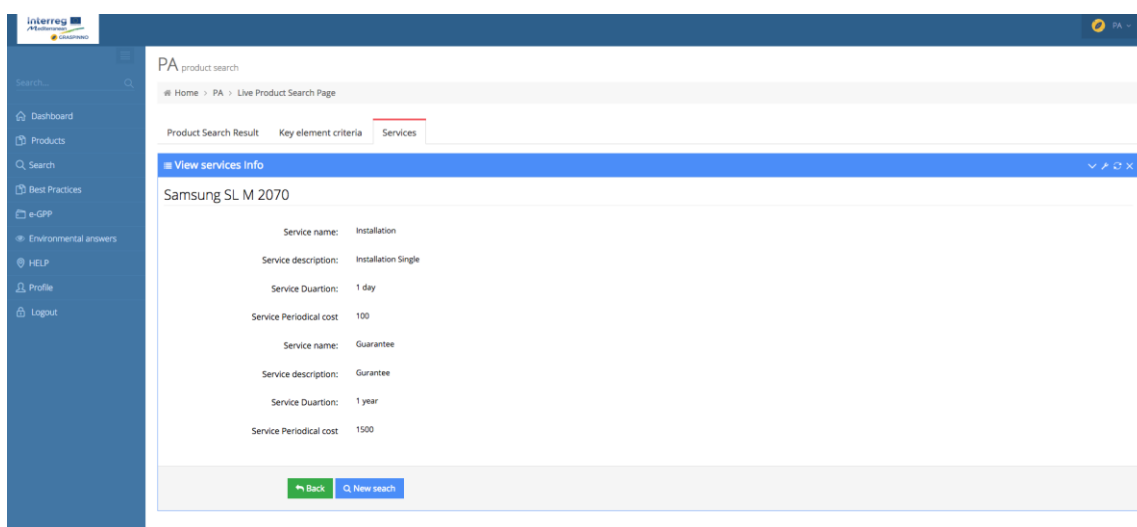
2.6.6 Malfunctions at the registration form messages

After a successful registration submission, there was a system output message that was hard to understand. Some textual improvements were made.

2.6.7 Malfunctions at the products' list page of the PA users account

At the view of a product, the tab "Services" was empty, even though there were services' data associated with the product.

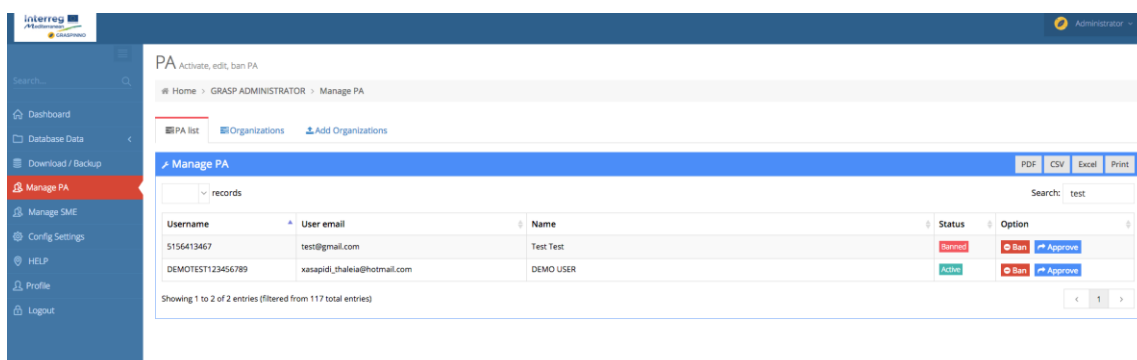
Some coding fixing had to be done in order the view of a product to be full functional.



2.6.8 Malfunctions at the SME's and PA's list of users page – Administration View

There was a bug at the SME's and PA's list of users' page at the administration panel, as the administrator couldn't ban a user. This was happened to both lists, SME's list of users page ("Manage SME") and PA's list of users page ("Manage PA").

Some bug fixes had taken place in order these pages to be functional.



Interreg Mediterranean GRASPINNO Administrator

SME Activate, edit, related SME data

Home > GRASP ADMINISTRATOR > Manage SME

SME list SME business Add sme bussines

Manage SME PDF CSV Excel Print

records Search:

Username	User email	Name	Status	Option
00581520558	luigi.trollini@istruzione.it	Luigi Trollini	Active	Ban Approve
01882080763	info@beemob.it	Daniele	Active	Ban Approve
046235501	eda@netinvest.gr	Eleri Ntaliani	Active	Ban Approve
066636510	amach327@gmail.COM	ANASTASIA ZACHAROPOULOU	Pending	Ban Approve
101067883	lkohilas@gmail.com	ELEFTHRIOS KOCHERILAS	Active	Ban Approve
103341730	sh@monosi.net.gr	Stella Hadjipanagi	Active	Ban Approve
1111111111	energy4you@tess.gr	energy4you	Active	Ban Approve
123123123123	dandumi@gmail.com	RAIS SME	Active	Ban Approve
123456	matsoukaskon@gmail.com	testame2	Banned	Ban Approve
1234567890123	salih.alispahic@zrk.ba	SAB Demo	Active	Ban Approve

Showing 1 to 10 of 100 entries

2.7 Improvements

There are a lot of improvements at the web view of every group of users. The GRASPINNO platform has 3 groups of users:

- Administrators,
- PA users (Public Authorities' users)
- SMEs users (Small and Medium Enterprises' users)

2.7.1 Improvements at Administrators web view

The administrator can access the administrators' web panel by following the url: <http://grasp-egpp.eu/admin/login.php>.

Interreg Mediterranean GRASPINNO Administrator

Welcome Administrator

Home > Dashboard

Dashboard Database Data Download / Backup Manage PA Manage SME Config Settings HELP Profile Logout

FAQ / HELP GRASP - ADMIN HELP / FAQ

Products GRASP - ADMIN PRODUCT LIST

Add Products GRASP - ADMIN ADD PRODUCTS

Category GRASP - ADMIN MANAGE CATEGORY

Key Element GRASP - ADMIN KEY ELEMENT

Type GRASP - ADMIN MANAGE TYPE

Manage PA GRASP - ADMIN MANAGE PA

Manage SME GRASP - ADMIN MANAGE SME

Profile GRASP - ADMIN MY PROFILE

Logout GRASP - ADMIN LOGOUT

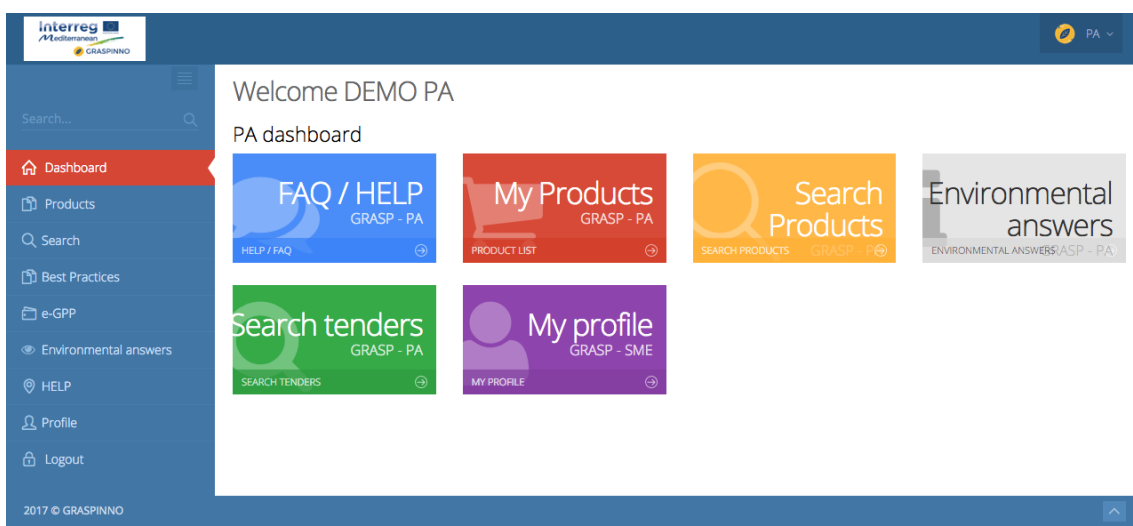
2.7.1.1 The Improvements of the Web Administration Panel

The main improvements of the Web Administration Panel are the following:

- GRASPINNO database was cleaned from all kind of dummy data. The cleaning was held on the following levels:
 - Products,
 - Features,
 - Categories,
 - Subcategories,
 - Types,
 - Green criteria,
 - Services,
 - SME users,
 - PA users
- There are some changes – improvements on the template of the pages like:
 - Footer pages,
 - Header pages
 - Avatars,
 - Logos,
 - Icons,
 - Images,
 - Favicon.

2.7.2 Improvements at Public authority (PA) users web view

The Public Authority users can access the GRASPINNO platform by following the url: <http://grasp-egpp.eu/login.php>.



2.7.2.1 The improvements of the PA administration panel

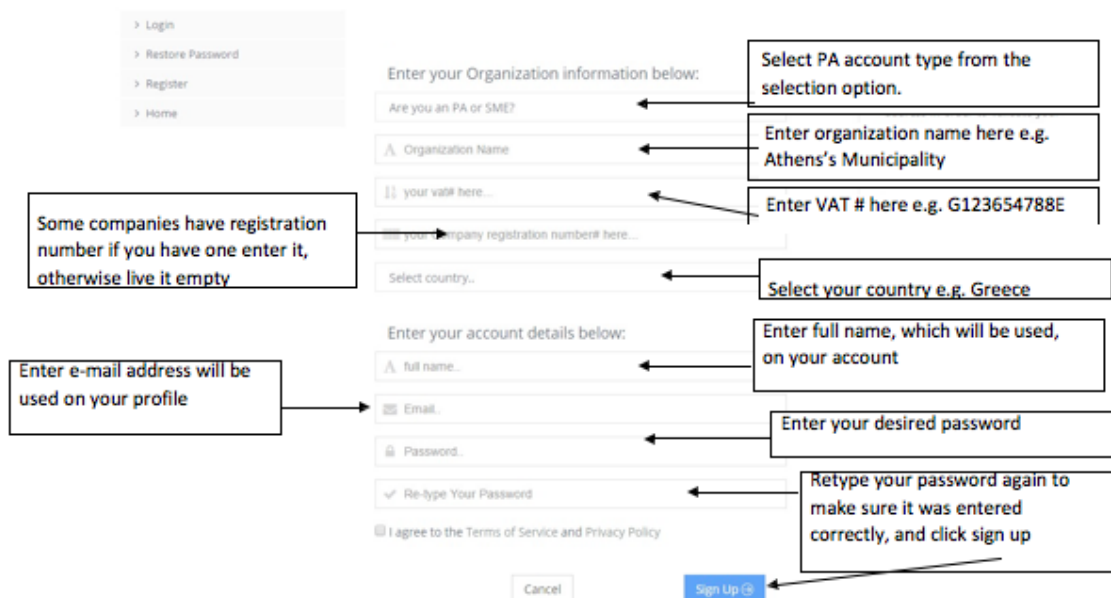
The main improvements of the Web Administration Panel are the following:

- There are changes - improvements on the template of the pages like:

- Footer pages,
- Header pages
- Avatars,
- Logos,
- Icons,
- Images,
- Favicon.
- Improvements at the registration form (see following chapter),
- Improvements at the restore password form (see following chapter),
- Improvements at the product list page (see following chapter).

2.7.2.2 Improvements at the Registration – sign up for a GRASPINNO PA account

Every user can register to the GRASPINNO platform as PA user following the url:
<http://grasp-egpp.eu/register.php>



The screenshot shows the registration form with the following sections and annotations:

- Navigation Menu:** Login, Restore Password, Register, Home.
- Organization Information Section:**
 - Annotation: "Select PA account type from the selection option." points to the "Are you an PA or SME?" dropdown.
 - Annotation: "Enter organization name here e.g. Athens's Municipality" points to the "Organization Name" text field.
 - Annotation: "Enter VAT # here e.g. G123654788E" points to the "your vat# here..." text field.
 - Annotation: "Enter your company registration number# here..." points to the "your company registration number# here..." text field.
 - Annotation: "Select your country e.g. Greece" points to the "Select country.." dropdown.
- Account Details Section:**
 - Annotation: "Enter full name, which will be used, on your account" points to the "full name.." text field.
 - Annotation: "Enter your desired password" points to the "Password.." text field.
 - Annotation: "Re-type your password again to make sure it was entered correctly, and click sign up" points to the "Re-type Your Password" text field.
- Other Annotations:**
 - "Some companies have registration number if you have one enter it, otherwise live it empty" points to the "your company registration number# here..." field.
 - "Enter e-mail address will be used on your profile" points to the "Email.." text field.
- Form Elements:** "I agree to the Terms of Service and Privacy Policy" checkbox, "Cancel" button, and "Sign Up" button.

There are some major improvements at the GRASPINNO registration form. Some of them are described below:

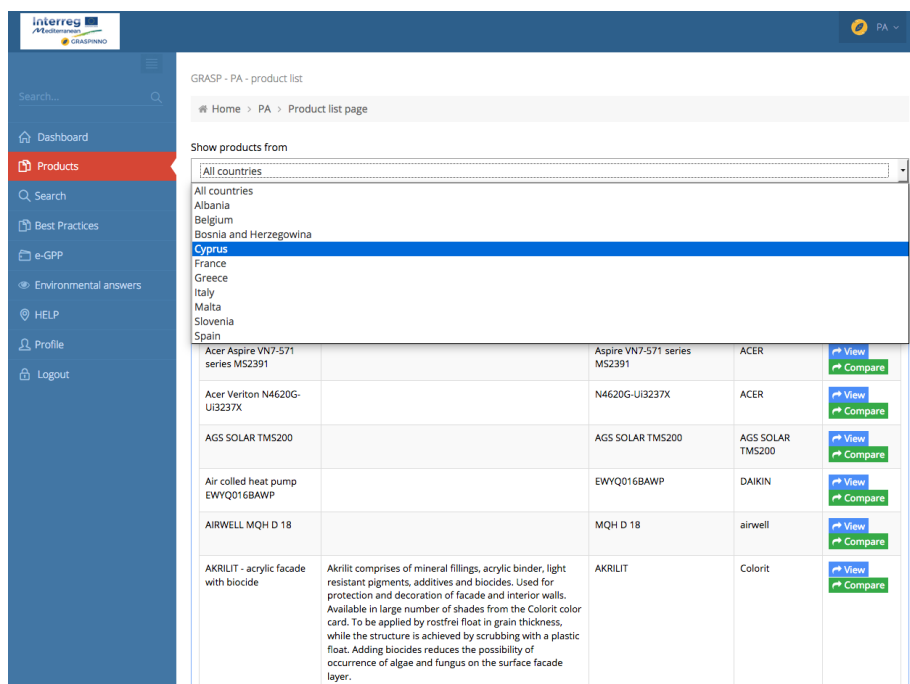
- A new mail function used for sending e-mails to a Public Authority. The SMTP mail function used for sending e-mails. The SMTP is a standard protocol for sending e-mails and its full name is Simple Mail Transfer Protocol. All the e-mails of the outgoing from the server using the TLS, Transport Layer Security in order to encrypt and secure the e-mail communications of the GRASPINNO platform.
- The limit of the characters of the textfields of the registration form was extended.
- There are also some improvements at the submenu of the registration form. New link has been added, the list of the already registered Small & Medium

Enterprises. The link to the home page has been removed, for better web user experience.

2.7.2.3 Improvement at the Restore password page

A Public Authority can access the platform even though has forgotten its password. By following the url: <http://grasp-egpp.eu/forgot.php> the PA has the ability to reset its password. A new mail function used for sending e-mails to a Public Authority. The SMTP mail function used for sending e-mails. The SMTP is a standard protocol for sending e-mails and its full name is Simple Mail Transfer Protocol. All the e-mails of the outgoing from the server using the TLS, Transport Layer Security in order to encrypt and secure the e-mail communications of the GRASPINNO platform.

2.7.2.4 Improvements at the Product list page



The Product list page was improved by adding a new feature to the page. A PA user can filter products per country. The system, actually, has the ability to filter the products of the GRASPINNO database according to the country of the SME, which has inserted specific products to the GRASPINNO database. For example, a PA user wants to see which products have been inserted to the GRASPINNO database by SMEs of Malta. The user selects from the dropdown list Malta country and the system appears a table with products only from Malta.

GRASP - PA - product list

Home > PA > Product list page

Show products from
Malta

Products

Manage Products PDF CSV Excel Print

records Search:

NAME	Description	Model #	Brand name	Options
Vacupor Insert NT		Vacupor Insert NT	Porextherm	View Compare
Vacupor NT		Vacupor NT	Porextherm	View Compare
Vacupor NT-B2-S		Vacupor NT-B2-S	Porextherm	View Compare
Vacupor PS-B2-S		Vacupor PS-B2-S	Porextherm	View Compare
Vacupor RP-B2-S		Vacupor RP-B2-S	Porextherm	View Compare
Vacupor TS-B2-S		Vacupor TS-B2-S	Porextherm	View Compare
Vacupor XPS-B2-S		Vacupor XPS-B2-S	Porextherm	View Compare
VACUSPEED - System		VACUSPEED - System	Porextherm	View Compare
WDS Flexipor		WDS Flexipor	Porextherm	View Compare
WDS MultiFlex ST/ HT		WDS MultiFlex ST/ HT	Porextherm	View Compare

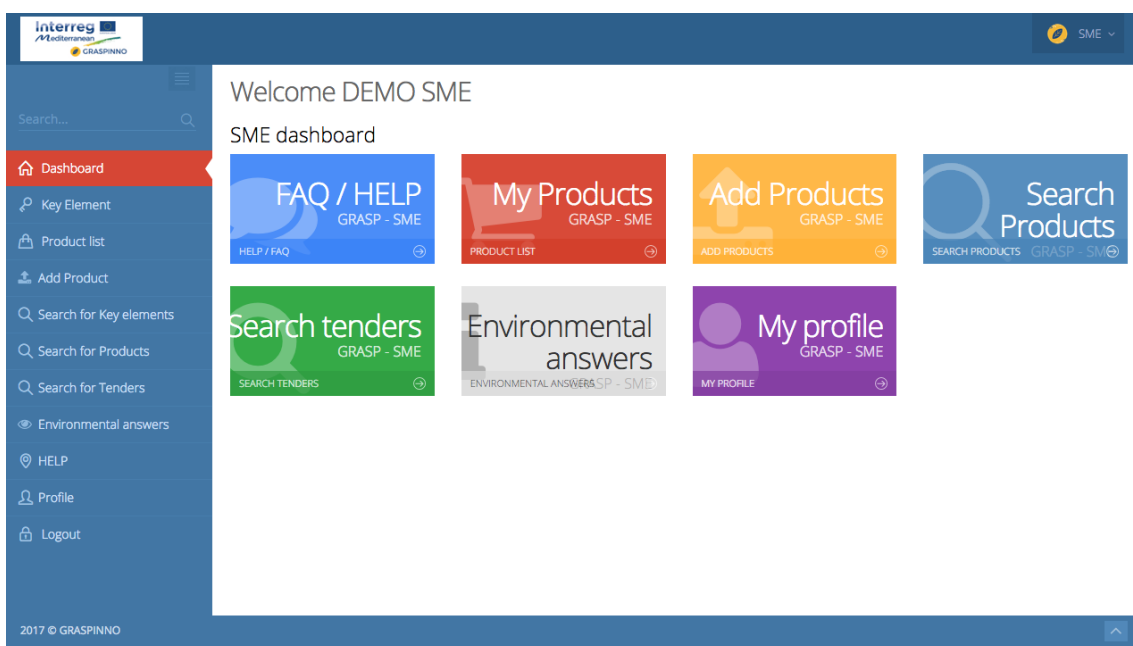
Showing 1 to 10 of 10 entries

2.7.2.5 Improvements at the PA's manual

There was a new updated version of the PA's manual. The new manual can be downloaded via the webpage "FAQ/HELP" (http://grasp-egpp.eu/pa_help.php) and by following the link (http://grasp-egpp.eu/pdf/PA_manual.pdf).

2.7.3 Improvements at the Small & Medium Enterprises (SME) users web view

The Small & Medium Enterprises users can access the GRASPINNO platform by following the url: <http://grasp-egpp.eu/login.php>.



2.7.3.1 The improvements of the SME administration panel

The main improvements of the Web Administration Panel are the following:

- There are changes – improvements on the template of the pages like:
 - Footer pages,
 - Header pages
 - Avatars,
 - Logos,
 - Icons,
 - Images,
 - Favicon.
- New page added (see following chapter),
- Improvements at the registration form (see following chapter),
- Improvements at the restore password form (see following chapter).

2.7.3.2 Registered SMEs list – new page

The upgraded of the GRAPINNO web platform has new a feature. There is a web page (http://grasp-egpp.eu/sme_list.php) that represents the already registered Small & Medium Enterprises (name, country, website) to the GRASPINNO web platform. This web page is used in order to motivate other SMEs to get registered to the GRASPINNO web platform. It is also useful for Public Authorities to have a list of SMEs from different countries.

The users see the whole list, export this list to pdf, csv or excel format or print it. Additionally, all users have an advanced search box to search for specific enterprise.

> Login
> Restore Password
> Register
> Registered SMEs list

PDF CSV Excel Print
Search:
 records

Name	Country	website
CCI of Terrassa		
CCI of Terrassa		
CCIN of Castellon		
CCIN of Castellon		
Chamber Of Terrasa		
DATAGRID		
DEMO SME		
Eleni Ntaliani		
EMPRESA CASTELLON 1		
EMPRESA CASTELLON 10		

Showing 1 to 10 of 49 entries
< 1 2 3 4 5 >

2.7.3.3 Improvements at the registration – sign up for a GRASPINNO SME account

Every user can register to the GRASPINNO platform as SME user following the url:
<http://grasp-egpp.eu/register.php>

> Login
> Restore Password
> Register
> Home

Enter your Organization information below:

Are you an PA or SME?

Organization Name

your vat# here...

your Company registration number# here...

Select country..

Enter your account details below:

full name...

Email...

Password...

Re-type Your Password

☐ I agree to the Terms of Service and Privacy Policy

Cancel

Select SME account type from the selection option.

Enter Company name here e.g. Athens's IT Service

Enter VAT # here e.g. G123654788E

Select your country e.g. Greece

Enter full name which will be used on your account

Enter your desired password

Retype your password again to make sure it was entered correctly, and click sign up

Some companies have registration number if you have one enter it, otherwise live it empty

Enter e-mail address will be used on your profile

There are some improvements at the GRASPINNO registration form. Some of them are described below:

- A new mail function used for sending e-mails to a Public Authority. The SMTP mail function used for sending e-mails. The SMTP is a standard protocol for sending e-mails and its full name is Simple Mail Transfer Protocol. All the e-mails of the outgoing from the server using the TLS, Transport Layer Security

in order to encrypt and secure the e-mail communications of the GRASPINNO platform.

- The limit of the characters of the textfields of the registration form was extended.
- There are also some improvements at the submenu of the registration form, like the link for the home page was removed for user experience reasons and a link was added for a list of the already registered Small & Medium Enterprises.

2.7.3.4 Improvements at the Restore password page

A Small & Medium Enterprise can access the platform even though has forgotten its password. By following the url: <http://grasp-egpp.eu/forgot.php> the SME can reset its password. A new mail function used for sending e-mails to a Small & Medium Enterprise. The SMTP mail function used for sending e-mails. The SMTP is a standard protocol for sending e-mails and its full name is Simple Mail Transfer Protocol. All the e-mails of the outgoing from the server using the TLS, Transport Layer Security to encrypt and secure the e-mail communications of the GRASPINNO platform.

2.7.3.5 Improvements at the SME's manual

There was a new updated version of the SME's manual. The new manual can be downloaded via the webpage "FAQ/HELP" (http://grasp-egpp.eu/sme_help.php) and by following the link (http://grasp-egpp.eu/pdf/SME_manual.pdf).

2.7.3.6 Improvements at the Add Product page

There were some corrections at the placeholders and the textfields' labels at the "Add product" page.

Profile
 Logout

Product Brand name
 enter product brand name here...

Product model number
 enter product model number here...

Product full description
 enter product most common/known - technical specs and green characteristics ...

Product units measurement
 Pieces

Availability
 enter product unit here...

Product Price
 enter product price here...

Visible to other SME
 No

Cancel Continue

3 eGPP Tool Testing

3.1 General description-Methodology

The testing process was applied both to the stand-alone modules of the service, and also to the integrated e-GPP system (toolkit). Aim of the testing procedures, was to assess the level at which the system operation is complete and reliable. The process for the execution of the tests, took place during the Laboratory Testing, conducted by GRASPINNO technical team.

The main aim was to:

- check the reliability and technical completeness of the e-GPP tool's functions, and
- evaluate the test results, which are related to the system's performance about its user friendliness and the clarity and adequacy of the provided information.

The testing of the e-GPP tool, during Laboratory Testing, is based on the conducting of a predefined number of trials on the structural modules of the system software, in a laboratory environment, the recording of the findings and finally, the analysis of the test results.

eGPP tool's testing includes tests for the system's overall performance. The main elements of this specific testing process were the following:

- Test Cases (TCs)**, which describe the tests that must be carried out in one or more (unit or complex) modules and/or subsystems. Every single Test Case includes data such as: date of testing, tester's name, software module tested, connection with other Test Cases, brief description of the test, data used for the execution of the test, the expected output, etc.

- **Test Case Execution Logs**, where the results from the execution of the TCs (success, fail along with a brief description of the error and a recording to the Error Defect Log form) are recorded.
- **Error/Defect Logs**, where the tester records a detailed description of each error occurred during the tests and the status of its confrontation (e.g. pending, solved, dismissed, etc.).

The tests were iterative. This means that when a complete testing round was finished, the errors that had been occurred were corrected and the tests were conducted again, until there were no errors or defects or until the malfunctions identified were considered conclusive and definite.

3.2 Tester profile

The term 'tester' refers to the GRASPINNO Technical Team's members that will conduct the Tool Testing. The profile of a typical tester must include, at least, the following characteristics:

- Acquaintance with WEB technologies, in general, and WEB forms, in particular.
- Acquaintance with the general idea and the objectives of the GRASPINNO project and of the e-GPP system tool.
- Fluency in English.

3.3 Running eGPP tool tests

The tester(s), who is conducting the eGPP tool's testing procedures, must follow these specific steps:

- Application of the activities or tests that are described in the Test Cases (presented in the following subsection 3.4 "eGPP tool's Test Cases").
- Recording of the test results in the Test Case Execution Logs, and in case of errors, in the Error / Defect Logs.

3.4 eGPP tool's Test Cases

In this subsection, we array the Test Cases applied during the GRASPINNO eGPP tool's testing process.

TEST CASE 1	
n.	TC1
Title	Login
Tester	
Date	04/04/2017
Use environment	Ms Windows Vista using Firefox v36.01 Snow Leopard using Chrome 2015

Interdependence with other TCs	
Brief description	
Access to the e-GPP tool. Prior requirements The user is registered to the e-GPP tool.	
INPUT	
<ul style="list-style-type: none"> The user selects the "Login" button. The user is requested to provide her/his credentials (username/password). If the credentials are correct, the user enters the e-GPP tool. 	
Validation <ul style="list-style-type: none"> If the field "username" and "password" is correctly inserted then LOGIN is successful. If not screen shows message that prompts the user to re-enter credentials. 	
OUTPUT	
<ul style="list-style-type: none"> In case of a successful identification: Main Page of the service. In case of an unsuccessful identification: Login page, appearing an appropriate message. 	

TEST CASE 2	
n.	TC2
Title	Logout
Tester	
Date	04/04/2017
Use environment	Ms Windows Vista using Firefox v36.01 Snow Leopard using Chrome 2015
Interdependence with other TCs	
Brief description	
Exit from the e-GPP tool <ul style="list-style-type: none"> The user selects the "Logout" button. Prior requirements: The user is logged in the e-GPP tool.	
INPUT	
<ul style="list-style-type: none"> The user selects the "Logout" button. 	
OUTPUT	
<ul style="list-style-type: none"> The user exits from the e-GPP tool. 	

TEST CASE 3	
n.	TC3
Title	Search green specs
Tester	
Date	04/04/2017
Use environment	Ms Windows Vista using Firefox v36.01 Snow Leopard using Chrome 2015
Interdependence with other TCs	
Brief description	
Presentation of a green specs list based on specific criteria set by the user.	
Prior requirements The user is logged in the e-GPP tool.	
INPUT	
<ul style="list-style-type: none"> The user selects the "library" button and enters in the specific section. The user uses the search form and clicks the search button. 	
OUTPUT	
<ul style="list-style-type: none"> A list of search results appears. 	

TEST CASE 4	
n.	TC4
Title	Filter green specs
Tester	
Date	04/04/2017
Use environment	Ms Windows Vista using Firefox v36.01 Snow Leopard using Chrome 2015
Interdependence with other TCs	
Brief description	
Presentation of a green specs list based on specific filters set by the user.	
Prior requirements The user must perform search.	
INPUT	

- The user selects the "library" button and enters in the specific section.
- The user uses the search form, selects the desired filters and clicks the search button.

OUTPUT

- A list of filtered search results is displayed.

TEST CASE 5

n.	TC5
Title	Creation of a TIP
Tester	
Date	04/04/2017
Use environment	Ms Windows Vista using Firefox v36.01 Snow Leopard using Chrome 2015
Interdependence with other TCs	
Brief description	
<p>Creation of a TIP, where the user should be able to perform the following actions:</p> <ul style="list-style-type: none"> • Add green specs for the procured products/services. • Add description to the various green specs. In order to perform this, the user should be able to use retrieved data from the tool's library of documents or from complying products/services. • Associate various criteria to green specs. • Add values to these criteria. <p>Define if the criteria are mandatory or not.</p> <p>Prior requirements</p> <p>The user must be logged in the e-GPP tool.</p>	
INPUT	
<ul style="list-style-type: none"> • The user selects the "Create new TIP" tab and enters in the respective section. • The user fills in the requested information in order to create a TIP and then saves the entered data by clicking on the respective button ("Save" button). 	
OUTPUT	
A new TIP is created.	

TEST CASE 6

n.	TC6
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Title	Manage a TIP
Date	05/04/2017
Use environment	Ms Windows Vista using Firefox v36.01 Snow Leopard using Chrome 2015
Interdependence with other TCs	
Brief description	
<p>Management of a TIP. The user should be able to:</p> <ul style="list-style-type: none"> • Edit an already created TIP. • Export a created TIP. • Delete a TIP. <p>Prior requirements</p> <p>-The user must be logged in the e-GPP tool.</p>	
INPUT	
<ul style="list-style-type: none"> • The user selects the "View TIPs" tab and enters in the respective section. • The user can manage (i.e. edit, delete, view, etc.) each TIP. 	
OUTPUT	
<ul style="list-style-type: none"> • A managed TIP (i.e. edited, deleted, exported). 	

TEST CASE 7	
n.	TC7
Title	View TIPs
Tester	
Date	05/04/2017
Use environment	Ms Windows Vista using Firefox v36.01 Snow Leopard using Chrome 2015
Interdependence with other TCs	
Brief description	
View of TIPs created by or associated with the user.	
Prior requirements	
The user must be logged in the e-GPP tool.	
INPUT	
<ul style="list-style-type: none"> The user selects the "View TIPs" tab and enters in the respective section. 	
OUTPUT	
<ul style="list-style-type: none"> A list of the associated TIPs is displayed to the user. 	

TEST CASE 8	
n.	TC8
Title	Navigation in the e-GPP tool
Tester	
Date	05/04/2017
Use environment	Ms Windows Vista using Firefox v36.01 Snow Leopard using Chrome 2015
Interdependence with other TCs	
Brief description	
The user should be able to navigate through the tool's available links (i.e. help, about, contact).	
Prior requirements	
- The user must be logged in the e-GPP tool.	
INPUT	

- The user selects any of the tabs (help, about, contact, etc.) from the navigation bar in order to enter in the respective section.

OUTPUT

- The content of the corresponding link is displayed.

TEST CASE 9

n.	TC9
Title	Publish a tender
Tester	
Date	06/04/2017
Use environment	Ms Windows Vista using Firefox v36.01 Snow Leopard using Chrome 2015
Interdependence with other TCs	
Brief description	
A created tender is ready to be published by the Public Authority.	
Prior requirements	
The user must be logged in the e-GPP tool.	
INPUT	
<ul style="list-style-type: none"> • The user creates a tender. • The user selects the "Publish a tender" button/tab. 	
OUTPUT	
A link is displayed which redirects to the tender to be published.	

TEST CASE 10

n.	TC10
Title	View tenders
Tester	
Date	10/04/2017

Use environment	Ms Windows Vista using Firefox v36.01 Snow Leopard using Chrome 2015
Interdependence with other TCs	
Brief description	
A user can see all the available tenders.	
Prior requirements	
The user must be logged in the e-GPP tool.	
INPUT	
<ul style="list-style-type: none"> The user selects the "See all tenders" button/tab. 	
OUTPUT	
<ul style="list-style-type: none"> A list of all the available tenders is displayed. 	

TEST CASE 11	
n.	TC11
Title	Upload a document
Tester	
Date	10/04/2017
Use environment	Ms Windows Vista using Firefox v36.01 Snow Leopard using Chrome 2015
Interdependence with other TCs	
Brief description	
A user can upload a document in the tool's Library	
Prior requirements	
The user must be logged in the e-GPP tool.	
INPUT	
<ul style="list-style-type: none"> The user selects the "Upload Document" button/tab. 	
OUTPUT	
<ul style="list-style-type: none"> A form with the required fields of the document appears. When pressing the "Upload" button, the document is added in the tool's Library 	

3.5 Pass/fail criteria

When conducting a Test Case, the results produced may either be a success or a failure. The recording of the results will be made in the Test Case Execution Log form.

The execution of the tests is considered as 'fail', when at least one error or defect is identified and recorded in the Error/Defect Log. For each identified error, a severity level is assigned, according to the following table:

Severity level	Effect on the tested function	Effect on the overall system
1	Incomplete or incorrect feature, problematic implementation.	Incomplete operation. The whole systems or parts of it are not working properly or 'crash'.
2	Non-critical or unimportant omission or insignificant error in system's operation.	Insignificant effect in the system's overall performance.
3	'Decorative' error (e.g. image, word, size, etc.)	Effect only on the usability of the system, not on its functionality.

The acceptable thresholds for the reliable operation of the tool are the following:

- There is no problem of severity level "1".
- There are less than 4 errors of severity level "2".
- There are no more than 8 error of severity level "3".

3.6 Presentation of the testing results

The basic results from the testing process were that 2 errors were detected, which were recorded in the 'Error/Defect Log form. Both these errors were of severity level "1".

The following table presents the findings that resulted from the e-GPP tool's testing. Testing was conducted by GRASPINNO Technical Team. During the execution of the Test Cases, any errors occurred, were indicted to the implementation team in order to be fixed. The execution of the Test Cases was iterative until there were no errors or software bugs. The results of the Test Cases' execution were documented in the Test Case Execution Log form, and for every bug a unique error code was allocated. For each of these codes a respective entry was created in the Error / Defect Log form.

3.6.1 Test Case Execution Log

n. Test Case	Pass / Fail	Specific Testing Feature (in case the feature is not relevant with the whole TC)	n. Error Log (fail)	Acceptance by the Technical team	Comments from the testers, or comments from the Technical Team (if not accepted)
TC1	F	Extremely big project logo in the login page	1	N	The eGPP tool's login page, contains an extremely big project log, which affects the user friendliness of the page's UI
TC1	P	Login		Y	
TC2	P	Logout		Y	
TC3	P	Search green specs		Y	
TC4	P	Filter green specs		Y	
TC5	P	Creation of a TIP		Y	
TC6	P	Manage a TIP		Y	
TC7	P	View TIPs		Y	
TC8	P	Navigation in the e-GPP tool		Y	
TC8	P	Navigation in the e-GPP tool		Y	
TC9	P	Publish a tender		Y	
TC10	P	View tenders		Y	
TC11	F	A document is uploaded with wrong author's name	2	N	When a document is uploaded by a user, the "Source" column, appears wrong name.
TC11	P	A document is uploaded with wrong author's name		Y	

3.6.2 Error / Defect Log

A/A	Issue	Severity Level	Status
1	The eGPP tool's login page, contains an extremely big project log, which affects the user friendliness of the page's UI	1	fixed
2	When a document is uploaded by a user, the "Source" column, appears wrong author's name.	1	fixed

4 LCC Calculation Tool Testing

4.1 General description

This section deals with LCC tool as part of the GRASPINNO platform, supporting the purchaser in calculating life cycle costs and evaluating the most economical offer under consideration of energy relevant criteria. They are provided as excel sheets and can be adapted to specific needs.

The tool is already quite complete because it is focused only on green e-procurement in EE/RES for energy refurbishment of public buildings and the user manual faces deals with a clear description all the identified case at the moment of the drafting of the present document.

The methodology applied is already standardized; anyway, some minor changes are possible. About results, taking life-cycle costs into account in procurement makes clear economic sense. A correct GPP procedure doesn't guarantee the better result in terms of costs without a further evaluation (LCC). Anyway, Life Cycle Costs makes good sense regardless of a public authority's environmental objectives. First, LCC can account GHG as cost; moreover, LCC takes into consideration the costs of resource use, maintenance and disposal which are not reflected in the purchase price. Often this will lead to 'win-win' situations whereby a greener product, work or service is also cheaper overall.

If, at this moment, the methodological framework is fixed and only few integrations are possible, only different uses for its application could give a consistent additional value to this instrument.

4.2 Testing methodology

Testing the LCC tool means to introduce product data in a file excel and verify the cost value, expecting a lower number for the environmental friendly products. The formulas are, more or less the same of the previous GRASP project and the adaptation is represented by a sort of fine tuning for the new cases. It implies that mistakes are minimal. Although in many cases the greener alternative may have a higher purchase price, if we analyze all the costs (throughout the working life of the product), overall the greener alternative may well prove to be cheaper over time.

If contracting authorities wish to ascertain, which products are most cost effective for them they need to apply LCC approaches in their procurement decisions. This means comparing not only the initial purchase price of a product, but all future costs as well. A quite complete LCC would include:

- Price
- Usage costs (in our specific case energy consumption or fuel)
- Maintenance costs
- GHG emissions
- Disposal costs (or recycle and reuse)

For the disposal costs, the data are not always available and an estimation of the costs may not be easy. For instance, in presence of material homogeneity, a disposal cost per weight unit can be found but it is harder when the materials are heterogeneous. Moreover, in some cases, like electronic waste, the European directive 2012/19 on Waste Electrical and Electronic Equipment (WEEE) constrains vendors with a quite big store to collect all the old electronic goods brought by citizens in ratio of one to one, or one to zero for devices with larger side less than 25 cm, even if the products haven't been sold by the same vendors. For this typology of product to calculate the disposal cost would be erroneous; in fact, this modality implies a disposal contribution in the purchase price and, thus, calculating the disposal cost would signify consider this cost twice. As in the previous GRASP project the waste treatment cost remains an "open" issues: when the data are available, will be used.

For the LCC tool, there are three main uses that help the user to make specific evaluations of different products. First, the user can easily see the absolute value of the LCC of the green product. This can be seen whether there are two products or a single product. Second, the user can evaluate the difference between the cost of keeping an existing product versus substituting it with a new product. In this case, price doesn't need to be considered because it is a comparison of two products from different time periods with different performances whose prices depend on the circumstantial and temporary nature of the market. In such cases, examining price is not useful. Third, the user can evaluate the LCC of two similar products with comparable performance. This allows for a more informed decision to be made and is the main purpose of this tool. This use shows easily the differences between a lowest price evaluation and a Life Cycle Cost evaluation.

4.3 Testing results

The LCC tool is based on the same scenarios prepared and tested in GRASP. No substantial differences are present even if the user manual provides new cases for energy refurbishment of the public buildings. Deviation concerning the results are possible but they will be available at the closure of the tenders and can be considered plausible. In other words, if the results at the closure of the tender contain cases in which the chosen product has a higher Life Cycle Cost means that the specifications of same tender are not sustainable under an economic point view even if the GPP procedures are correct. A similar logical conclusion will be present in case of higher GHG emissions for the chosen product: the specifications of same tender are not sustainable under an environmental point view even if the GPP procedures are correct.

Unexpected results, with the current version of the tool, can be corrected only in following tenders having the same characteristics; moreover, their presence doesn't mean that the tool is wrong but only that the tender hasn't been set up well.

4.4 LCC tool's malfunctions

Real malfunctions aren't present but there are some limitations that must be noted. One of these is that this tool can only compare two products at a time. This may prove tedious if comparing multiple products, but it maintains its simplicity. If we take the example of retrofitting buildings, this tool could be used to compare the different windows that might be used, then the type of walls that would be constructed, and in this way, would split the different aspects of the renovation into different areas and thus into different comparisons. This may become less suitable if, in a general refurbishment of a building, there are many different areas of a project without homogeneous products to test. In this case, to do a simpler but less precise calculation is preferable: the whole retrofitting may be considered as a single product with its own energy and maintenance specifications. Doing an analysis of this type would give an overall perspective of the project without comparing each individual product/work. Considering all the negative and positive aspects for this issue, it cannot be considered a malfunction.

Other limit could be represented by the scarce usability of the tool; a digital template could help the user to reach the result. Another limit for the tool, maybe the most important, is the temporal aspect. When the result is evident and negative in terms of LCC, the tender is already finished and the Public Administration cannot do anything to correct the tender specifications. The result is obviously useful to set up tenders correctly in the future but a bad result in economic terms (higher value of LCC) cannot be corrected before that it appears, causing an economic loss for the Public Body.

Considering the many possible uses of this tool, it seems clear that the benefits outweigh the limitations. This tool is helpful in the cited situations and can be used in a vast variety of circumstances.

4.5 Solutions

About the scarce usability of the tool, the solution could be a sort of tree path to simplify the user's choices through a digital template.

To solve the temporal delay for the availability and the immediate exploitation of the results should be useful to introduce another functionality. The idea is to connect the LCC tool to the energy audit to address immediately towards the interventions with the lowest LCC. Terre di Siena Lab, together with the Unione delle Camere di Commercio del Veneto, is assessing the availability of an open source energy audit software to integrate the choice with the lowest LCC. In this case, the LCC analysis would allow to address and set up the tender towards the most sustainable economic choice for the Public Body without the risk of an economic loss.

A so structured solution could solve the problem of usability and, at the same time, helping the public officer to assess the tender and set up the specifications to optimize the result already in the first tender. Moreover, it would simplify the analysis and the comparison of specific products, saving time and reducing the work of the technician.

4.6 LCC calculation tool's improvements

The cases studied with GRASP have been integrated with other EE/RES products for buildings. An interesting EE tool is the voltage transformer that reduces and stabilizes the potential difference in the electrical network allowing a reduction of the energy consumption around 15%. The user's manual reports a LCC assessment, exploiting data of a feasibility study on a public building of the Province of Perugia and using an adapted version of the tool.

Other improvements/applications of LCC in the EE of building are the use of thermostats or other instruments to control the temperature. In these cases, the use of the LCC tool is very similar to already analyzed products like boilers. The attainment of the established temperature reduces the number of working hours. When the yearly working hours of the boiler are known, an estimation of the reduction of the hours in which the boiler is turn on is enough to calculate the energy saving and, thus, LCC and CO₂ emissions.

Another additional application is air conditioning plants; it is like any other electrical and electronic equipment. The difference consists in use the value of electrical consumption that is positioned on the product label instead of the declared value of real power. It represents the real consumption per hour both for the heating and cooling of the building. The yearly energy consumption is obtained multiplying this value by the estimated number of working hours.

Finally, a further and more heavy (in progress) improvement has already been presented in the subsection "4.5 Solutions" on the integration of the tool with the energy audit. After the end of the testing phase, a new working version of the LCC tool should be ready for the use in the transferring and capitalization phase. It should allow to set up the tender correctly for avoiding possible economic losses.