



Grant Agreement No. 727348

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SOCRATCES

Project title:

SOLar Calcium-looping integRation for Thermo-Chemical Energy Storage.

**DELIVERABLE D9.3
SOCRATCES WEBSITE**

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1. INTRODUCTION.

The deliverable 9.3 is a public document of the SOCRATCES project prepared as part of Work package 9 “Dissemination and exploitation of results” and it is within Task 9.2 Production of dissemination and communication materials and means.

The objective of WP9 is to maximise the impact of project results and support the exploitation of the project outputs by consolidating the project visibility among stakeholders.

The dissemination and communication strategy included in the website comprises different types of information and results to reach different target groups. Dissemination and communication activities to carry out in general are:

-Creation of a visual corporative identity -comprising logo, font and colour palette- to be included in any communication.

-Participation in conferences, seminars, exhibitions and meetings.

-Development of physical dissemination materials: leaflets and catalogues.

-Press releases, radio and TV presence.

-Development of online materials: **web site**, social networking.

A project dedicated website is one of the main important selected channels for this dissemination and communication strategy. The website will be updated throughout the entire lifetime of the project. The website is available in English and can be accessed at www.socratces.eu.

Main target groups are the European Commission, the scientific community and R&D industrial company departments, energy and major diversified companies, venture Capital and general public and stakeholders.

Academic and technical audience will have the opportunity to benefit from the reports and research data published. The Public Library section will allow readers to download all project documentation for expert and non-expert audiences. In addition, journalists will find information sources in the News section, such as press releases.

As a secondary objective, the SOCRATCES website will allow partners to share technical and administrative information to enable a smooth communication and knowledge sharing among them in order to improve the project performance and efficiency.

The website has been developed using WordPress CMS which is an open source tool, and includes a premium management software including a visual composer premium plugin. WordPress is a popular and practical tool for web content management among minor companies and major enterprises. It has been chosen due to its functionality, security and for being easy to use.

At an SEO level a study of key words and an SEO on page will be implemented in order to improve the site as much as possible. As a previous step, an analysis of the main competitors regarding keywords will be executed. Besides, an SEO auditory with SEMRUSH will be performed.

The website will be subject to standard impact assessment practices through Google Analytics, Tag manager system, counting unique visitors, repeater visitors, time spent by visitors and other tools. These indicators will be used to enforce changes when required.

2. WEBSITE HOME.

This section is a basic project overview and has been designed to highlight the importance of the project, including objectives, expectations and consortium composition.

It has been designed to appeal visitors and make the project easy to understand for non-expert public.

The general menu is on the website top area, and it includes the six main sections of the project website: The project, Partners, News, Resources, Contact and Member Area.

The screenshot displays the SOCRATCES website layout. At the top, the SOCRATCES logo is on the left, and navigation links for 'THE PROJECT', 'PARTNERS', 'NEWS', 'RESOURCES', 'CONTACT', and 'PARTNERS AREA' are on the right. The main banner features a background image of stacked stones with the text: 'ENABLING HIGHLY COMPETITIVE AND SUSTAINABLE CONCENTRATED SOLAR PLANTS (CSP)'. Below this, a sub-header reads: 'OPEN A NEW PATHWAY FOR NEXT GENERATION ENERGY STORAGE IN CSP TOWER PLANTS, TECHNOLOGICALLY FEASIBLE, ECONOMICALLY VIABLE AND SUSTAINABLE'. The 'SOCRATCES CONCEPTUAL SCHEME' section contains a flowchart of the energy storage process, including steps like 'Solar radiation', 'Heat exchanger', 'Thermal storage', and 'Power cycle', with a 'READ MORE' button below it. A dark blue banner with a sunburst effect contains the text: 'IMPROVEMENT IN THE RELIABILITY AND CSP PLANTS LIFETIME WHILE DECREASING OPERATION AND MAINTENANCE COSTS, HENCE CREATING NEW BUSINESS OPPORTUNITIES'. The 'EXPECTED RESULTS DURING THE SOCRATCES PROJECT' section lists four key outcomes with corresponding icons: 1) Prototype demonstration of capacity for energy storage (database icon), 2) Successful calcination at prototype scale by means of flash calcination technology (hexagons icon), 3) Successful carbonator design with possibility for the scale-up: integration of high temperature carbonator (>750°C) and Stirling engine for power production (lightning bolt icon), and 4) Successful solids conveying and control system management (network icon). The 'SOCRATCES CONSORTIUM' section features a map of Europe with logos for participating organizations from Spain (CSIC, AITIA, SIGAZUL), France (V2i), UK (Calix), Italy (CNR), and Germany (ATTC). Text to the right describes the consortium as an integral and multidisciplinary approach involving thermal systems, electronics engineering, solar energy control, physics, chemistry, power generation, materials, reactors, LCA, etc. It states that the consortium comprises all the involved fields and assures the fulfilment of the full value chain within the project with R&D groups and companies. Each one of them has a different role and their commercial and industrial experience will facilitate and enhance the exploitation of the results. In addition, Associations and Stakeholders offer the opportunity for wide dissemination of the project and will link the consortia with the relevant industries in Europe.

Figure 1: Screenshot of the SOCRATCES website

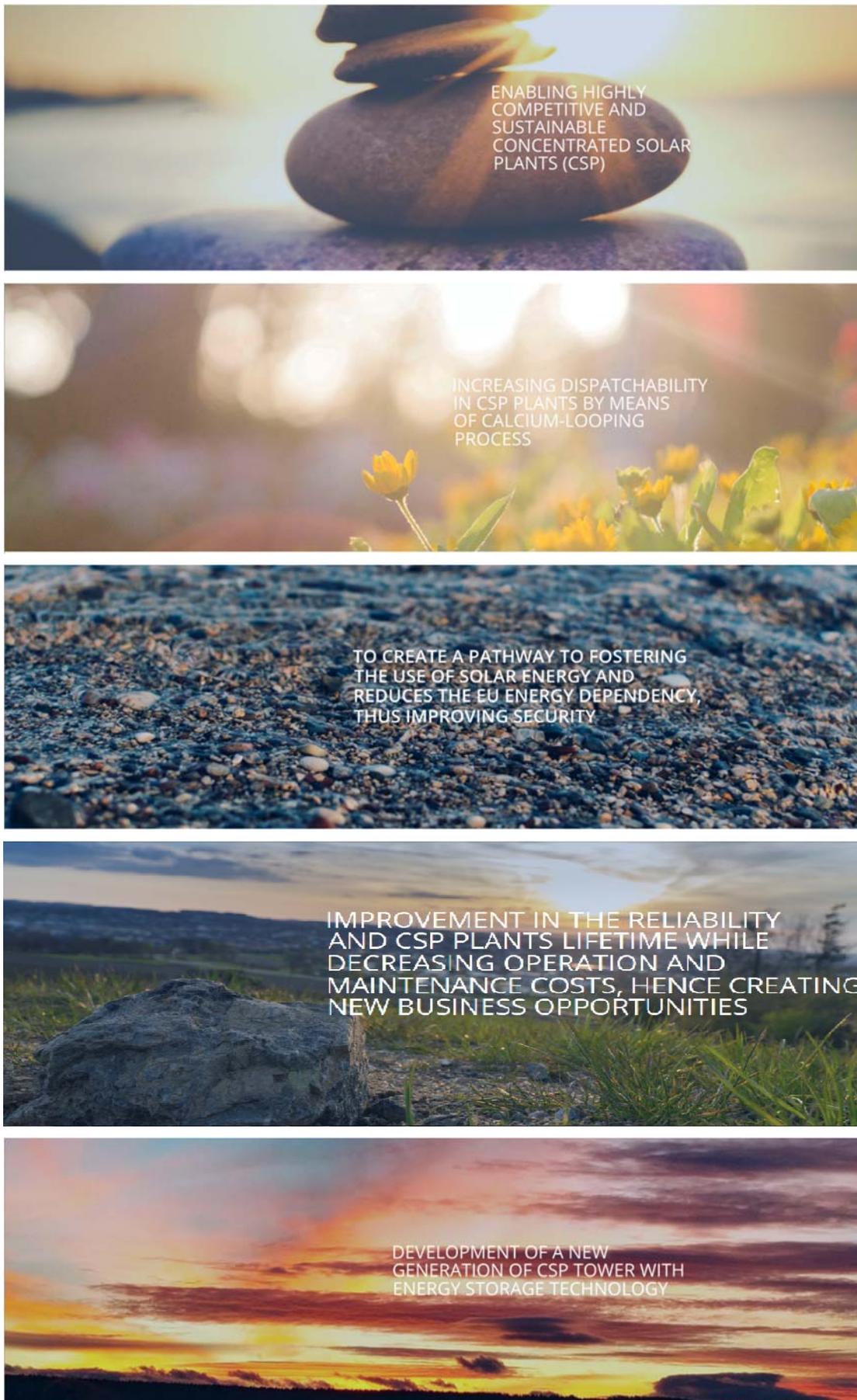


Figure 2: Slides of the SOCRATCES home web page

3. PROJECT.

This section includes general information about the project and executive summary along with expectations. The approach and methodology to be followed during the project life will be displayed as well in this area.



Energy storage is one of the the greatest challenges for a short-term deeper penetration of Concentrating Solar Power (CSP) plants, which are usually characterized by the intermittency of power production. **The Ca-Looping (CaL) process based upon the reversible carbonation/calcination of CaO is one of the most promising technologies for thermochemical energy storage (TCES).** The wide availability of natural limestone (almost pure CaCO₃) and its low price (<10€/ton) are key factors for the feasibility of the CaL process.

SOCRATCES is aimed at demonstrating the feasibility of the CSP-CaL integration by erecting a pilot-scale plant that uses cheap, abundant and non-toxic materials as well as mature technologies used in the industry, such as fluidized bed reactor, cyclones or gas-solid heat exchangers.

SOCRATCES global objective is to develop a prototype that will reduce the core risks of scaling up the technology and solve challenges; further understanding and optimise the operating efficiencies that could be obtained; with the longer-term goal of enabling highly competitive and sustainable CSP plants.

Figure 3: Screenshot of THE PROJECT web section

In summary, energy storage is one of the greatest challenges for a short-term deeper penetration of Concentrating Solar Power (CSP) plants, which are usually characterized by the intermittency of power production. **The Ca-Looping (CaL) process based upon the reversible carbonation/calcination of CaO is one of the most promising technologies for thermochemical energy storage (TCES).** The wide availability of natural limestone (almost pure CaCO₃) and its low price (<10€/ton) are key factors for the feasibility of the CaL process.

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4. PARTNERS.

Within this section, the project consortium is described partner by partner, including links to their websites by clicking on their logos (Figure 4).

The consortium is constituted by fourteen European partners, comprised of universities and industrial companies interested in developing and deep on this promising technology and having in mind as a strategy objective to increase the energy world efficiency and to create new pathways to make easier people lives.

The screenshot displays the 'SOCRATCES CONSORTIUM' section of a website. At the top, the SOCRATCES logo is on the left, and navigation links (HOME, ABOUT, NEWS, CONTACT, PARTNERS) are on the right. Below the header is a decorative banner with the text 'SOCRATCES CONSORTIUM'. The main content area lists 15 partner organizations, each with a logo and a brief description in English. The partners are: UNIVERSITY OF SEVILLE, SPAIN; CALIX KUBOTEK LTD LIMITED, WINNEBAGO; ATRIA SMART ENERGY SOLUTIONS, SPAIN; CENTRE OF RESEARCH AND TECHNOLOGY HELLAS, GREECE; TTZ BREITENHAVEN, GERMANY; AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS, SPAIN; POLITECNICO DI TORINO, ITALY; BIOAZUL, SPAIN; UNIVERSITY OF ZARAGOZA, SPAIN; ARISTOTLES UNIVERSITY OF THESSALONIKI, GREECE; VERTECH GROUP, FRANCE; CONSIGLIO NAZIONALE DELLE RICERCHE, ITALY; SOCIEDADE PORTUGUESA DE INOVAÇÃO, C.E.F.I., S.A., PORTUGAL; and ISITEC GMBH, GERMANY. At the bottom of the page, there is a footer with the SOCRATCES logo, the text 'ABOUT US', 'FOLLOW US', and a Twitter icon with the handle '@socratces'. The footer also includes the European Union flag and the text 'European Union Horizon 2020 Research and Innovation Programme'.

Figure 4: Screenshot of the PARTNERS section

5. NEWS.

Technical publications and news regarding the SOCRATCES project environment and energy-related areas will be posted in this part of the website in order to capture general public attention. This section will be updated continuously during the entire project lifetime.

Seville kick off meeting press release is in this page.

Any event attended by partners that relates directly or indirectly the project will be placed in this section and as well we will post consortium meetings and summaries of events considered important for the general public.

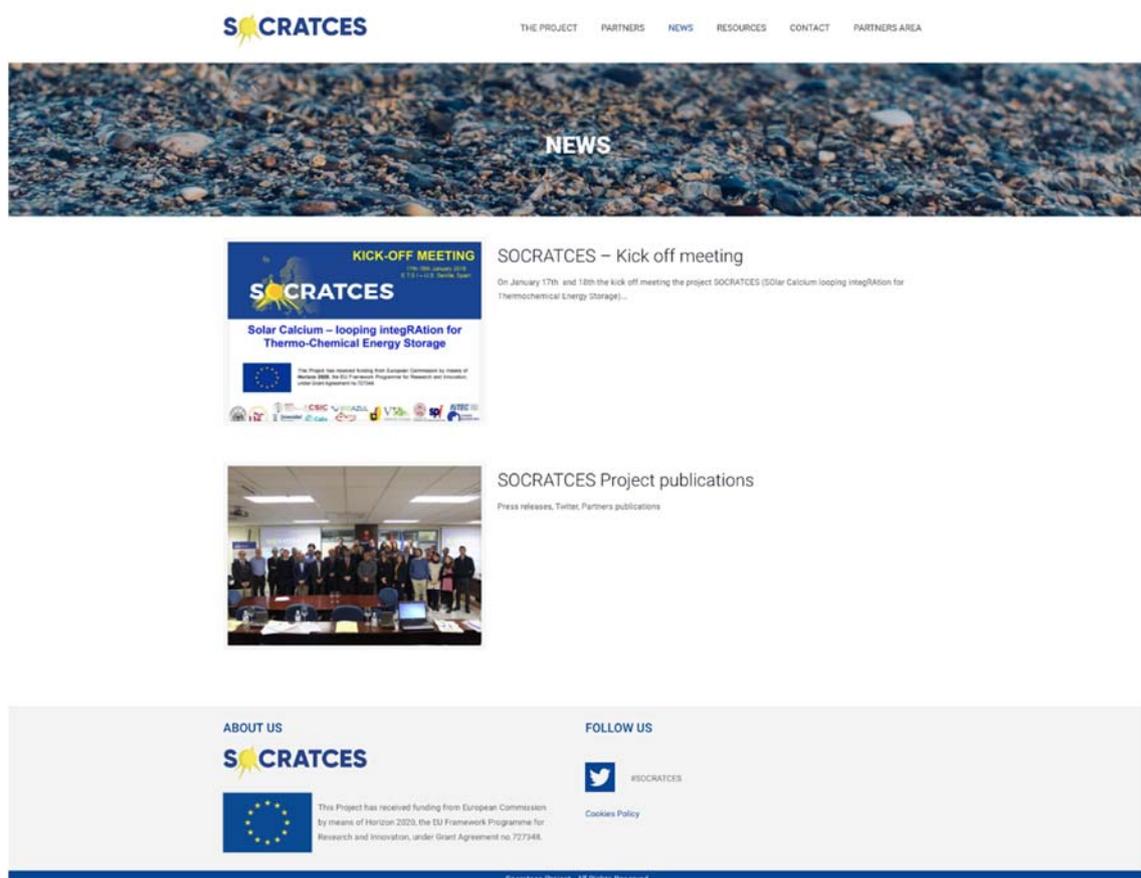


Figure 5: Screenshot of the NEWS section

6. RESOURCES.

6.1 Gallery.

It consists of pictures normally taken during events, internal meetings or project demonstrations. Therefore, different project moments will be represented in this section.

Kick off meeting that took place in January at Seville and FEED study London meeting are currently posted in this page of the website.

It contains different kinds of pictures relevant to the project. These pictures will mainly correspond to the project pilot sites, the SOCRATCES technology, etc., just to provide the visitors additional information on the project outcomes. In addition to this, pictures of the project meetings and dissemination events carried out by the partners as well as events or conferences that they attend related to the topic of SOCRATCES.

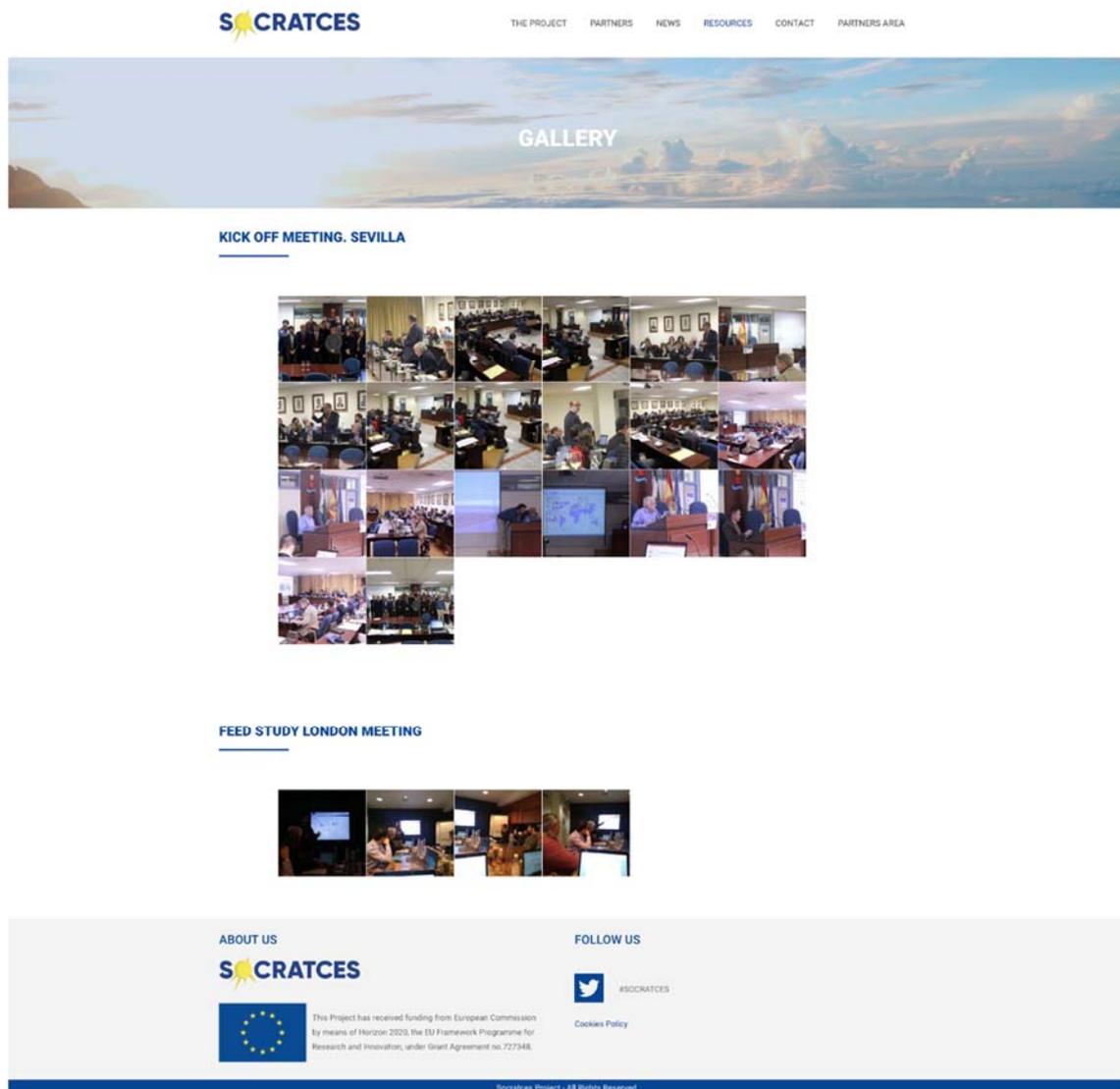


Figure 6: Screenshot GALLERY section

6.2 Public Library.

Downloadable material will be uploaded to this section. Different kinds of materials can be found here:

Specific project dissemination material (like roll-up, posters, leaflets, etc.) can be found here in addition to those project outputs and deliverables with public dissemination level are also available.

Legislation related to the project topics. Official European and national legislation related to the sectors covered by the project is also available here.

Interesting papers and articles on hot topics related to the sectors covered by the project are available here. This also includes those produced specifically by the project partners in order to disseminate **SOCRATCES** as much as possible.

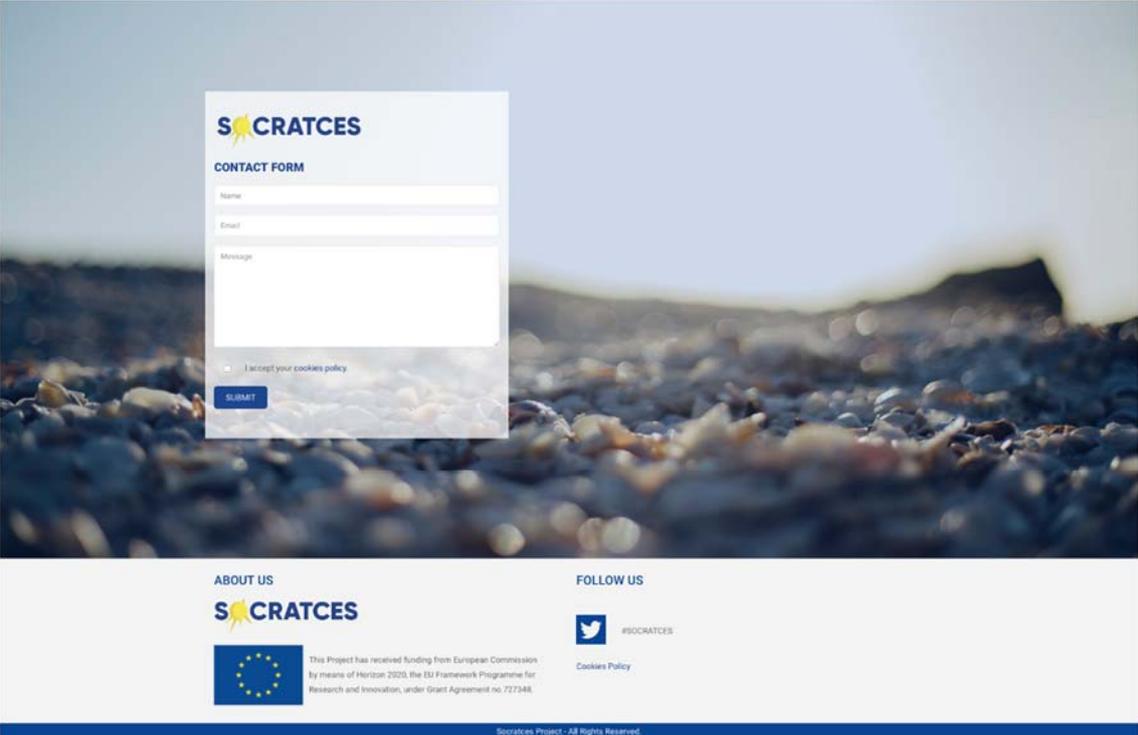
This is the page where the ongoing advance and progress will be shown during the entire project life time.

The screenshot shows the SOCRATCES website's PUBLIC LIBRARY section. At the top, the SOCRATCES logo is on the left, and navigation links for THE PROJECT, PARTNERS, NEWS, RESOURCES, CONTACT, and PARTNERS AREA are on the right. Below the navigation is a banner image of a mountain range at sunset with the text 'PUBLIC LIBRARY' centered. Underneath the banner, there are three sections: 'RESEARCH ARTICLES' with a list of 11 articles, 'OUTCOMES', and 'DELIVERABLES'. At the bottom of the page, there is a footer area with 'ABOUT US' and the SOCRATCES logo, 'FOLLOW US' with a Twitter icon and '#SOCRATCES', and a European Union logo with text stating the project received funding from the European Commission under the Horizon 2020 program. A 'Cookies Policy' link is also present. The footer text 'Socratces Project - All Rights Reserved.' is at the very bottom.

Figure 7: Screenshot PUBLIC LIBRARY section

7. CONTACT.

Website visitors can deep in project content or communicate anything they consider through this page using the contact information displayed on it.



The screenshot displays the SOCRATCES website's contact page. At the top, the SOCRATCES logo is on the left, and a navigation menu with links for 'THE PROJECT', 'PARTNERS', 'NEWS', 'RESOURCES', 'CONTACT', and 'PARTNERS AREA' is on the right. The main content area features a contact form with the following elements:

- SOCRATCES** logo and 'CONTACT FORM' title.
- Input fields for 'Name', 'Email', and 'Message'.
- A checkbox labeled 'I accept your cookies policy'.
- A blue 'SUBMIT' button.

The background of the form is a blurred image of pebbles. Below the form, the footer contains:

- ABOUT US** section with the SOCRATCES logo and a European Union flag. Text: 'This Project has received funding from European Commission by means of Horizon 2020, the EU Framework Programme for Research and Innovation, under Grant Agreement no. 727348.'
- FOLLOW US** section with a Twitter icon, the hashtag '#SOCRATCES', and a link to 'Cookies Policy'.
- A small footer note: 'Socratces Project - All Rights Reserved.'

Figure 8: Screenshot CONTACT section

8. PARTNERS AREA.

SOCRATCES Intranet is an area accessible only by authorized users and it is designed to make easier the communication within the consortium. As a second objective of this platform, it is important to have a secure and private place to share information and documents among partners. The information include in this page is technical and administrative, and definite or can also be working versions of documents and deliverables, meeting minutes and all documents relevant to the project.

Intranet area is password protected. Every partner is allowed for registration in order to obtain login and password. After the registration, access to private materials has to be manually accepted by the Intranet administrator. Additionally, Intranet is secured by dedicated mechanisms, such as unique security encryption key, brute force login protection, unique IP access restrictions, and one-way password encryption.

The first level of the information structure included in this section is already defined. Work leaders will be soon required to suggest how to organise its area in order to develop the documentary file process in a consistent way and besides to reach thus a website space properly used.

9. CORPORATIVE IDENTITY.

This section states the SOCRATCES Project corporative identity.



Figure 9: SOCRATCES logo

Blue:

CMYK: 99 79 5 0

RGB: 24 68 146

WEB: #184492

Yellow:

CMYK: 10 6 90 0

RGB: 252 234 24

WEB: #fcea18

Typography: Gilroy ExtraBold

10. CONCLUSIONS.

Website is the main online tool to communicate information and disseminate results of the project. The website is the easiest way to ensure the visibility of the project for the European Union as well as target audiences, consortium, stakeholders and general public. The SOCRATCES website was designed as an interactive tool for public information and communication among partners and stakeholders. It can be continuously improved and update by coordinator since a content management tool has been used for its development.

This deliverable presents SOCRATCES website to the public and shows expectations for this platform. In Summary, the website role is to inform general public about SOCRATCES Project and its achievements, as well as to attract potential collaborators to the project. The success of our project depends strongly on efficient communication and coordination, and the Website is an essential tool to achieve this goal.

The European Union domain name socratces.eu has been registered for the site and is now open for visitors.