

D2.3 CORNET Platform to support OIE (1 of 2)

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**Multiscale Modelling and Characterization to
Optimize the Manufacturing Processes of Organic
Electronics Materials and Devices
(CORNET)**

Grand Agreement: 760949



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Contents

1. Introduction	4
1.1. Objectives of WP	4
1.2. Purpose of the Document	4
2. Development of the OIE Platform.....	5
2.1. Setting Up of the OIE Platform	6
2.1.1. User Groups and access Privileges	6
2.1.2. Homepage	6
2.1.3. Registration area	7
2.1.4. User Profile	8
2.2. Communication Tools.....	10
2.2.1. Connections	10
2.2.2. Messaging and Emailing	10
2.2.3. Discussions.....	11
2.3. Moderation.....	12
2.4. Privacy Policy	13
3. Next Steps	15

1. Introduction

1.1. Objectives of WP

WP2 entails the development of the OIE Database, the OIE Platform and the protocols for the realization of the OIE activities and the adoption of multiscale modelling by end-users in WP3, WP4 and WP5.

1.2. Purpose of the Document

This document includes the Deliverable 2.3 of the WP2, and more specifically information for the development of OIE CORNET Platform. The OIE Platform is a fundamental element of the CORNET Open Innovation Environment (OIE), the main priority of which is to cover the triangle of manufacturing, modelling and experimentation in order to optimize the Organic/Large Area Electronic materials, materials' behavior and nano-devices' (OPVs, PPVs, OLEDs) manufacturing processes by linking the nanostructure features with the macroscopic functionality through multiscale (nano to macro) characterization and modelling, with the scope to achieve widespread adoption of relevant protocols and standards and faster market uptake of innovations.

The OIE Platform constitutes an interactive web-based tool which interconnects entities from the academic, research, industrial and business communities interested in the triangle of manufacturing, modelling and experimentation of Organic/Large Area Electronics (OLAE) and their commercialization. The OIE Platform enables its users to communicate with each other to solve common problems in the OLAE field. They can map their competences and infrastructure and notify the OIE Platform community about their current activities. Additionally, the OIE Platform services will entail Training modules (e.g. webinars, visits) for the increase of innovation capacity of the users. The OIE Platform is, also, an effective tool for Networking and Clustering purposes since it provides the users with updated information on International Fairs (conferences, workshops) connecting them with existing clusters, industrial, academic and research entities, standardization bodies and other OIE schemes.

The OIE CORNET Platform will be interlinked with the OIE CORNET Database which encompasses standardized and traceable protocols and data for OE materials' and devices' characterization, modelling and processing.

2. Development of the OIE Platform

The OIE CORNET Platform website (otherwise called the Platform) is accessible by following the “OIE Platform” link (Fig. 1) at the top navigation menu at the CORNET Project’s website; <https://www.cornet-project.eu/>. The Platform is basically a new website, with a fresh Joomla® Content Management System (CMS) installation, located at <https://www.cornet-project.eu/oie/>. The Platform operates independently from the CORNET Project website as it uses its own back-end mechanism and keeps its data located in a different database.

Moreover an SSL Certificate (COMODO) has been installed in the website’s root domain (<https://www.cornet-project.eu/>) and applies to all the subdomains, meaning that the Platform’s website has been deployed on a Hypertext Transfer Protocol Secure (HTTPS) for secure communication over the network and every information transferred from end-user’s browser to the website and vice versa is fully encrypted. Moreover, a Joomla add-on – Community Builder add-on, has been installed at the backend in order to give the administration team all the needed functionalities for the Platform’s creation and maintenance.

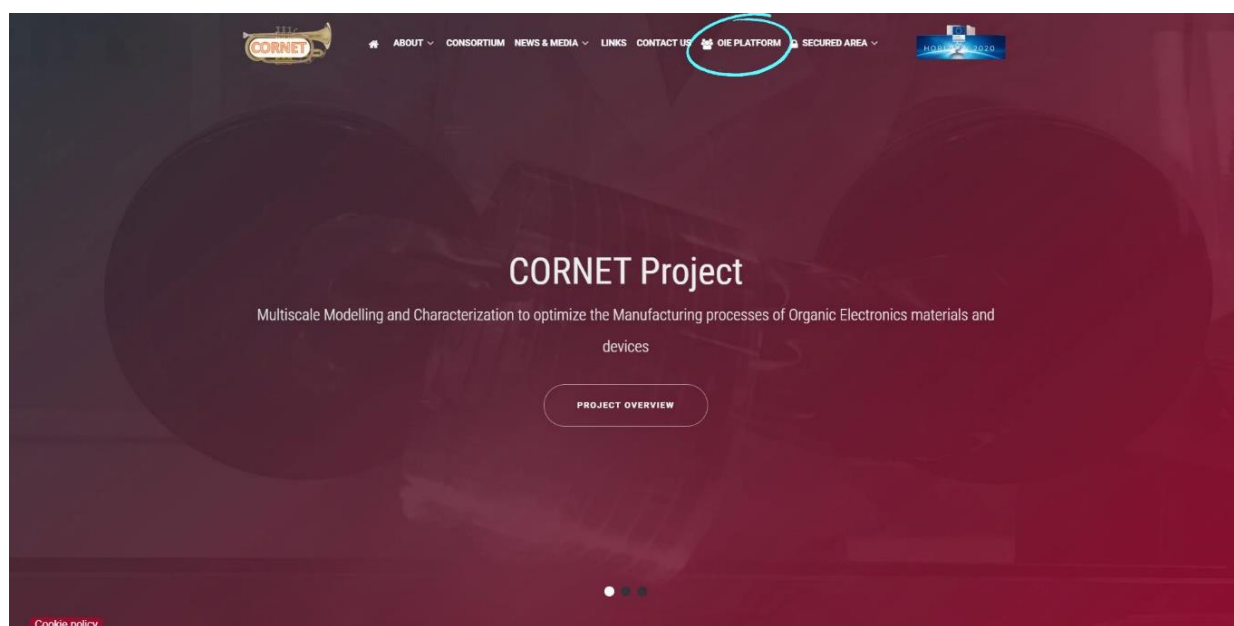


Figure. 1: Link to the OIE Platform website located at the CORNET main website top menu

2.1. Setting Up of the OIE Platform

The top priority during the setting-up of the Platform was triple: a) to facilitate the user's browsing, b) to support the build-up of both the user's personal and organizational profile in such a form that their competences and expertise would be fully understood and c) to enable the user to interact successfully with other users.

The structure of the Platform is divided to three parts; the main website area - **Homepage**, the **Registration Area** and the **User's Profile Area**. The possible user groups that can visit and use the Platform's website are the following: Public visitors, Registered users, Administrators and Moderators.

2.1.1. User Groups and access Privileges

Public Visitors: This group contains users that are not registered to the website and can access certain areas of the website opened to public. At the moment only About OIE and News areas are open to public.

Registered Users: This group contains the registered users that can access all the areas of the Platform's website.

Administrators: This group contains the website administration team - Aristotle University of Thessaloniki, Greece (same as the CORNET's main website administration team), that has access to the website's backend and is responsible for the website management and administration (pages content, users moderation, etc.).

Moderators: This group is basically similar to Registered users' group, but with advanced permissions and some extra options, like the ability to moderate users, approve user's registration and uploaded user's content, etc. At the moment this group is the same as the Administration group.

2.1.2. Homepage

The Platform's Homepage is a user friendly and intuitive environment, similar to the Project's website regarding the template and the interface. The visitor is able to navigate into different sections using the top menu and get a brief introduction on the role of the Platform. It contains an image carousel component that facilitates the user to a quick sign up or login to the community and will be populated in the future with other images (carousel items) linking to different areas depending on the needs. For the optimum experience, the user should enable cookies in the browser by clicking on the corresponding button that appears at the bottom of the webpage. The user can also be informed on the Cookie and Privacy policy that determines the terms of collection and usage of the personal data gathered by the Platform when using its services (see 2.4.).

At the upper part of the website a navigation menu is placed (Fig. 2), with all the needed guidance on the platform. Currently the menu consists of six entries;

- a) A **Home** button that allows the user to be automatically redirected to the Platform's homepage (public access)
- b) An **About OIE** button that briefly informs the user about the purpose and the capabilities of the Platform (public access)
- c) An **OIE Platform** dropdown menu that lists the current registered users and organizations on the Platform with search options available (at the moment is accessed only by registered users but a customized version will be opened to public in the future)
- d) A **News** button that redirects the user to a list of news posted by the administration team.
- e) An **OIE Users** dropdown menu that provides the user with the ability to create a new account or login (public access) and additionally show the user's profile page and logout link (after the registered user is logged in).

- f) A **Back to CORNET Website** link is located at the upper right corner redirecting the user to the homepage of the CORNET's main website.

It is important to mention that, for the time being, the OIE users and OIE organizations' entries under the OIE Platform dropdown menu are accessible only by registered users. When these two, start being populated, the CORNET consortium will decide on the access policy and the information that will be visible to public.

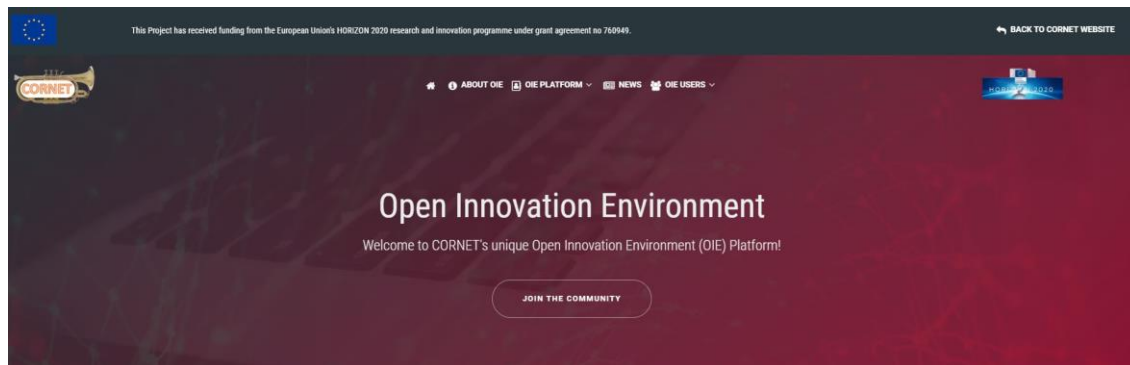


Figure. 2: Platform's homepage with the top navigation menu

2.1.3. Registration area

The registration area is the place where the user is redirected when a new account is created and is mainly consisted at the moment with The User registration and the Organization Registration tabs (Fig. 3).

2.1.3.1. User Registration

In the corresponding field of the registration section, the user must provide some personal information which is necessary for the successful completion of the registration. The star indication is placed next to the mandatory information that the user must provide. The eye indication points out whether the entries are visible on the profile viewing or not. A Challenge-Response test "CAPTCHA" is also applied for extra security. As a last step, the user must also accept the CORNET's Privacy policy (see 2.4 for more info) which determines the terms of collection and usage of the personal data gathered by the Platform. Once the registration process is over, an automated confirmation e-mail is sent to the user confirming the registered email address and the moderator must verify the approval of the user registration, in order to finalize the whole procedure. At the moment, the type of the emails sent (to the users and the administration/moderation groups) are plain text and will be converted to html content emails at the near future.

The image displays the user registration interface. On the left, a vertical orange sidebar contains a login section with fields for 'Username or email' and 'Password', a 'Remember Me' checkbox, a 'LOG IN' button, and a 'Forgot Login?' link with a 'Sign up' button below it. The main area has a light blue background with a repeating 'CORNET' logo pattern. It features a 'Join us!' banner with the text 'Welcome to OIE Community - Please fill in the following details in order to create your profile.' Below the banner are two tabs: 'User Registration' (active) and 'Organization Registration'. The 'User Registration' form includes a 'Profile image' dropdown menu set to 'No image', and three input fields for 'First Name', 'Last Name', and 'Username'. Each of these three fields is marked with a star icon and an eye icon, indicating they are mandatory and their visibility can be toggled.

Figure. 3: User Registration area

2.1.3.2. Organization Registration

In the corresponding tab of the registration section, the user can provide information of the user's affiliation in a non-mandatory way. This is achieved by filling in several dropdown menus and multiple-choice fields which describe fully the organization's profile, as regards the triangle of manufacturing, modelling and characterization. More specifically, the user can provide information on the type of the organization, its competences, the materials and devices of interest, the equipment and processes acquired, the characterization and modelling methods they use, the market and applications their activity has an impact on. These data can be added later by the user when editing the user profile and all fields are not mandatory to be filled in. By mapping in a thorough way the organization's characteristics, the user's profile is clearly established, thus, enabling the community to solve common problems and create joint ventures in the OLAE field.

For the time being, responsible for the control of possible double registrations of an organization will be the administrator/moderator. In future Platform's versions a more sophisticated way of Organizations Registration filtering and management will be implied.

Moreover the possibility of registering a list of participating Research Projects (with extra information fields) in the same way as the Organization Registration, can be implied at the existing Registration area.

2.1.4. User Profile


After the login procedure, the user is redirected to its user profile homepage (Fig. 4). The user interface is consisted mainly of a side menu and the middle UI area. The side menu area (Fig. 4a) contains the user menu, the OIE Discussion menu, the Moderation menu (for Platform moderators) and a panel which shows the online users logged at that specific moment. Via the user menu, the user is able to edit her/his profile, send private messages to other users, etc. The OIE Discussion menu contains some options that can be used to view the posts in discussions/blogs, sorted by category (see 2.2.3.).

The middle UI area has a top section (Fig. 4b), with options for updating the users' personal and organization's profile, viewing and managing users' connections, messaging, etc. In the middle there is a section (Fig. 4c) containing information about the user profile and registered organization (competences, activities, infrastructure etc.).

At the lower middle area (Fig. 4d), the user can post a discussion (basically it works in the same way as a blog), which redirects the user to a 'Create Discussion' page (see 2.2.3.).

a

Hi, PLATFORM MODERATOR

 **LOG OUT**

Moderator Menu

- Moderate User Approvals
- Moderate Reports
- Moderate Images
- Moderate Bots

User menu

- User Profile
- User Profile Edit
- Send Private Messages
- Logout

OIE Discussion Menu

Latest posts in Discussions








- Characterization
- Manufacturing
- Modelling
- Project Calls
- Conferences, Workshops, Webinars, etc.
- News
- Job positions

Users Online

PLATFORM MODERATOR

b

Edit • Connections •

2.2. Communication Tools

Since the users' interaction is at the core of the Platform, several communication tools have been developed to enable a personalized communication between the users.

2.2.1. Connections

Firstly, the user can connect with another registered user of interest by requesting a connection (Request Connection button). This can be achieved by visiting the selected user profile and choosing to connect by clicking the corresponding available button. In that way, the user creates her/his own network and can later communicate/exchange information easily. Via the Profile interface, each user can manage her/his own connections and can write comments relevant to each connection (Fig. 5). Connections do not need moderation at the moment in order to be established.

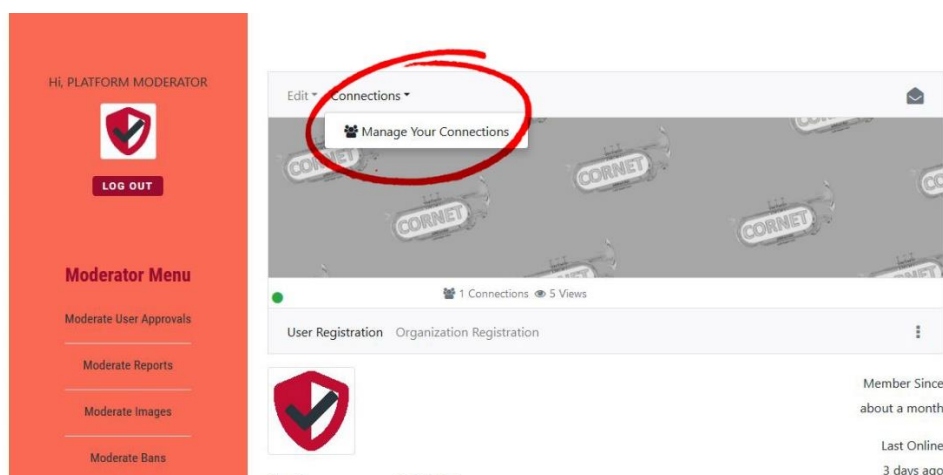


Figure. 5: 'Manage your connections' link via the User Profile Interface

2.2.2. Messaging and Emailing

Via the profile page, users can communicate with each other by sending direct messages ('Send Private Message') or by emails ('Send Email to User'). The first option is also accessible by the User side menu corresponding button. By sending an e-mail, the receiver is automatically notified in a plain text e-mail (the sender's email is info@cornet-project.eu) which includes the sender's message and her/his e-mail address, so as to proceed with further two-way communication. The 'Send Private Message' option, is an instant messaging functionality for sending private messages between registered Platform users (Fig. 6).

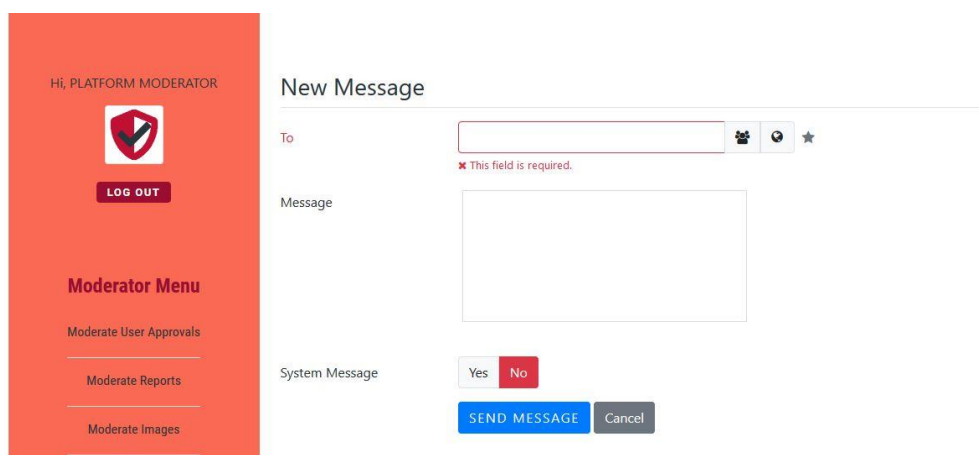


Figure. 6: Messaging Interface


The private messages received by each user can be accessed by clicking the envelope icon at the User's profile page. The user gets notified when a new message has arrived by a number on top of the envelope's icon that shows the number of the income unread messages. By selecting to view a message the user is redirected to an interface that can also be used for replying to the sender. All the above functionalities concerning messaging are available only by the Platform's website User interface, while the emailing option basically works like classic emailing between two users. The plain text emailing form will soon be replaced by an html version, like all the other notification emails received by the users. At the moment, moderation is not applied either to instant messaging or emailing functions.

2.2.3. Discussions

Furthermore, as it has already been stated, one of the communication tools is the Discussions/Blog creation. Using this service, the users can actually create a discussion/blog, which will be visible at their profile (user opened discussions), as well to all interested users when visiting the discussions posts areas. The user can also define the category of each discussion by selecting between the following available topics created at the moment: Characterization, Manufacturing, Modelling, Project Calls, Conferences, Workshops, Webinars, etc., News, Job Positions, etc. These categories can be updated in the future or modified with new extra topics according to the Platform's future needs. In this way each user can post her/his question-problem or announcement and populate each category with corresponding data, thus creating information material for other interested visitors. The option for replying to someone's post is also available. At the 'Create Discussion' Interface the user can select the category of the discussion, as already stated, the title of the post and the main discussion content (Fig. 7). At the moment, all discussions are available only for registered users.

After creating a discussion, the user is notified that her/his blog is saved and awaiting approval. The Platform moderator/administrator can approve or reject the post, after reviewing it for proper content, etc. . If the post is approved, then it can be visible at the corresponding area of posts and at the user's page by visiting the created discussions option.

Hi, PLATFORM MODERATOR



LOG OUT

Moderator Menu

- Moderate User Approvals
- Moderate Reports
- Moderate Images
- Moderate Bans

User menu

- User Profile

Create Discussion

Published

Category

Access

Title

Discussion

Owner

Figure. 7: Discussions creation interface. Published, Access and Owner options are available only to moderators.

All the approved posts can be viewed by users by visiting the OIE Discussions menu (see 2.1.4.). The posts are organized in different areas, regarding the topic/category. The option of viewing the latest posts of all categories is also available. At the future some technical changes can take place in this area, in order to organize and view all the posts/discussions in a better way.

2.3. Moderation

As stated at 2.1.1., one of the basic user groups using the CORNET OIE Platform website is the moderators group. A moderator is basically a registered user with advanced permissions. Except of all the functionalities available to all registered users, the moderator has some extra options/actions. These are visible by the Moderator Profile page, that includes an extra Menu – Moderation menu (see 2.1.4.). The moderator group is a very valuable group for the Platform's website, and it is important to be populated with the right people/users (at the moment the moderation is the same with the administration team). This group has to be available to help public visitors and registered users and has access to technical and organization/administration information, in order for the Platform to work flawlessly. Because of the nature of moderation activities, moderators must be in constant contact with the administration team and the project partners.

Some of the moderators' responsibilities (that can be changed at the future) include User registration confirmation, double Organization registrations checking, Discussions moderation and approval, replying to users problems and of course posting some useful Discussions at the corresponding area.

2.4. Privacy Policy

In CORNET Project we pay utmost attention on the personal data of the users populating the Platform. Therefore, a thorough Privacy Policy has been developed, which will be updated according to the changes required by the ongoing progress of the Platform environment. The registered users will be informed on time of the related changes. Below please find cited the current CORNET Privacy Policy:

Privacy Policy

As the CORNET online services administration team, we consider the privacy of our visitors extremely important. This privacy policy document describes in detail the types of personal information collected and recorded by the CORNET online services and how we use it.

If you require any more information or have any questions about our privacy policy, please feel free to contact us by email.

The CORNET online services are operated by the CORNET online services administration team. When we say 'we', 'us' or 'CORNET online services administration team' it is because that is who we are, and we own and run the CORNET online services.

Collection and retention of your personal information

We collect information from you when you fill in the OIE CORNET Platform registration form and in the editing of your user profile. If you wish to take advantage of some personalized services we offer, you will need to provide us with certain information about yourself and/or organization. We require this information to understand your needs and provide you with a better service, in particular for the following reasons: internal record keeping, improvement of our services, periodical sending of emails with CORNET news, management of your contact request, etc. and of course to provide you with the ability to access the OIE CORNET Platform's functionalities as a user.

All data is stored in the hosting service's infrastructure and can be accessed by us or the hosting service's administration.

By registering to the OIE Platform the user also agrees that the name of their affiliation can be mentioned by the CORNET consortium/ European Commission representative in the project's public documents.

Security

We are committed to ensuring that your information is secure. In order to prevent unauthorized access or disclosure, we have put in place suitable physical, electronic and managerial procedures to safeguard and secure the information we collect online.

Link to other websites

Our website may link to external sites that are not operated by us. Please be aware that we have no control over the content and practices of these sites and cannot accept responsibility or liability for their respective privacy policies.

Log Files

Like many other Websites, <http://www.cornet-project.eu> and <http://www.cornet-project.eu/oie/> make use of log files. These files merely log visitors to the site - usually a standard procedure for hosting companies and a part of hosting services' analytics. The information inside the log files includes internet protocol (IP) addresses, browser type, Internet Service Provider (ISP), date/time stamp, referring/exit pages, and possibly the number of clicks. This information is used to analyze trends, administer the sites, track user's movement around the sites, and gather demographic information. IP addresses, and other such information is not linked to any information that is personally identifiable.

Cookies

A cookie is a small file which asks permission to be placed on your computer's hard drive. Once you agree, the file is added and the cookie helps analyze web traffic or lets you know when you visit a particular site. Cookies allow web applications to respond to you as an individual. The web application can tailor its operations to your needs, likes and dislikes by gathering and remembering information about your preferences.

We use traffic log cookies to identify which pages are being used. This helps us analyze data about web page traffic and improve our online services in order to tailor it to user's needs. We only use this information for statistical analysis purposes and then the data is removed from the system.

Overall, cookies help us provide you with better online services, by enabling us to monitor which pages you find useful and which you do not. A cookie in no way gives us access to your computer or any information about you, other than the data you choose to share with us.

You can choose to accept or decline cookies. Most web browsers automatically accept cookies, but you can usually modify your browser setting to decline cookies if you prefer. This may prevent you from taking full advantage of our online services.

Children's Information

We believe it is important to provide added protection for children online. We encourage parents and guardians to spend time online with their children to observe, participate in and/or monitor and guide their online activity. We do not knowingly collect any personally identifiable information from children under the age of 16. If a parent or guardian believes that we have in our database personally identifiable information of a child under the age of 16, please contact us immediately at info@cornet-project.eu and we will use our best efforts to promptly remove such information from our records.

Controlling your personal information

You are free to refuse our request for your personal information, with the understanding that we may be unable to provide you with some of your desired services.

We will not sell, distribute or lease your personal information to third parties unless we have your permission or are required by law to do so. We may use your personal information to send you promotional information about third parties which we think you may find interesting if you tell us that you wish this to happen.

You may request details of personal information which we hold about you. If you would like a copy of the information held on you please email us.

If you believe that any information we are holding on you is incorrect or incomplete, please write to or email us as soon as possible, at info@cornet-project.eu. We will promptly correct any information found to be incorrect.

You also have the right to ask us to delete the personal information we hold for you.

Online Privacy Policy Only

This privacy policy applies only to our online activities and is valid for users of the CORNET online services regarding information shared and/or collected through them. This policy does not apply to any information collected offline or via channels other than CORNET online services.

Consent

By using the CORNET online services, you hereby consent to our privacy policy and agree to its terms. If you have any questions about how we handle user data and personal information, feel free to contact us. By using the CORNET online services, you reserve the right to modify your personal information or cancel this agreement by a simple email to info@cornet-project.eu at any time.

Update

This Privacy Policy was last updated on: Tuesday, December 24th, 2018.

Should we update, amend or make any changes to our privacy policy, those changes will be posted here."

3. Next Steps

- The technical development of the Platform will be an ongoing process.
- Administration and constant updates of the Joomla CMS and Community addons that are installed at the website's backend.
- The Platform's population by the CORNET partners has already begun, process which will be completed the upcoming months.
- The Discussions/Blogs pages and section will start being populated and technical changes will take place at the viewing/listing of posts for better functionality.
- An extra Forum option for mainly technical queries can be created and moderated.
- Replacement of the plain text notification emails with html version emails.
- The Consortium will decide which areas can be accessed by public visitors and which information can be visible or not by the public.
- Extra Registration options and tabs (eg. Registration of participating research projects) can be added.
- The Platform will be interlinked with the CORNET OIE Database.