



Deliverable 13.12:
**Update on the website of the School of Radioactive
Waste Management**

Work Package 13

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Executive Summary

The main goal of European Joint Programme on Radioactive Waste Management (EURAD) Work Package (WP) 13 – Training & Mobility – is to establish and maintain the ‘School of Radioactive Waste Management (RWM)’. The School of RWM acts as the executive body for all EURAD-related training and mobility actions. In order to structure and centralize all information regarding the School of RWM and its activities, a dedicated webpage was launched to serve as a hub for all of the School’s activities: <https://euradschool.eu/>.

This report describes the aim, the use of the School of RWM’s website, the content it holds and an analysis of its usage since launch.

For the year 2021 an analysis of the users acquisition, the number of events, user demographics and technology used was made. Firstly, 1789 new users were registered. Secondly, 19117 events were registered. Of those events about 33% were screen and page views. Thirdly, the website has global reach, with most new users coming from within Europe and the United States. Finally, almost 82% of new users uses a desktop pc or laptop to visit the School’s website.

Analyzing the website’s performance provides valuable insight in its strengths and weaknesses, which will help to optimize it in the future. Over time, it will also allow to make comparisons between specific periods in the EURAD project (e.g. 2021 vs 2022).

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Glossary

| | |
|--------|--|
| EURAD | European Joint Programme on Radioactive Waste Management |
| PREDIS | Pre-disposal management of Radioactive Waste |
| RE | Research Entities |
| RWM | Radioactive Waste Management |
| TSO | Technical Support Organization |
| WMO | Waste Management Organization |
| WP | Work Package |
| URL | Uniform Resource Locator |
| Baidu | Chinese web search engine |

1. Introduction

The main goal of European Joint Programme on Radioactive Waste Management (EURAD) Work Package (WP) 13 – Training & Mobility – is to establish and maintain the ‘School of Radioactive Waste Management (RWM)’. The School of RWM acts as the executive body for all EURAD-related training and mobility actions. In order to structure and centralize all information regarding the School of RWM and its activities, WP13 launched a dedicated webpage to serve as a hub for all of the School’s activities: <https://euradschool.eu/>. To strengthen the connection to the rest of EURAD, but also to increase its visibility, the website is linked to the general EURAD website <https://www.ejp-eurad.eu/>.

The School of RWM’s webpage contains information on all the School’s activities, namely: (i) the organization of training courses, (ii) hosting the EURAD Mobility Programme, (iii) support for the EURAD PhD community, and (iv) the hosting of webinars and other online activities. In addition to these main pillars, the website also contains information on WP13 activities and publications, a link to and information about the EURAD Roadmap, and a discussion forum which was launched in July of 2021 and is open to all members of the EURAD community, the PREDIS project and beyond.

This report describes the use of the School of RWM’s website, the content it holds and an analysis of its usage since launch. These data provide insight in which parts of the website are frequently visited and which parts could use improvement and better visibility.

2. Setup of the School of Radioactive Waste Management’s website

The School of RWM website collects all information on EURAD WP13’s activities, as well as an overview of relevant training initiatives in the field of RWM outside of EURAD (e.g. CHANCE, PREDIS, OECD-NEA, ...). This way, the School of RWM aims to have this website as a central hub for all information related to training initiatives in RWM. This section will discuss how the website is set up and which information is available through it.

2.1 Homepage

The homepage is structured and design to be similar to the general EURAD webpage (<https://www.ejp-eurad.eu/>) to ensure an overarching EURAD identity. The School of RWM’s homepage contains the following items:

- Dropdown menus for each of its main activities
- News items
- Information on the EURAD Roadmap
- Sections of the main pillars of the School of RWM
 - Courses
 - Mobility
 - Webinars
 - PhDs
- A link to the EURAD discussion forum
- A link to an overview of WP13 publications

The homepage allows for quick and intuitive navigation across the School of RWM’s website. Finally, it contains a form to bring end-users in contact with EURAD WP13 if they have specific questions on EURAD’s training and mobility programme.

2.2 ‘About’-tab

Via the ‘About’ dropdown menu in the upper right corner, end-users can find information on EURAD WP13, the School of RWM, knowledge management within EURAD, and publications by EURAD WP13 (Figure 1).



Figure 1 The 'About' dropdown menu on the homepage of the School of Radioactive Waste Management's website.

2.3 'Courses'-tab

This dropdown menu allows the end-user to quickly navigate to all information on available courses, both past and upcoming. The menu provides the end-user with two options: EURAD courses and external courses. The former leads the end-user to a list of all courses organized in the frame of EURAD, whereas the latter provides a list of courses by partners outside of EURAD. These partners can range from (national) research institutes to the European Commission-funded PREDIS project to international organizations such as OECD-NEA.

Both lists of courses show the courses from 'today' on. So by default, only upcoming courses are shown. However, filters are available that allow the end-user to filter on:

- Date
- 'Event category'
 - EURAD training course
 - EURAD webinar
 - Partner training course
 - PhD event
- Sub type
 - Class-room based training (face-to-face)
 - Distance learning
 - Event
 - Webinar
- Day (day of the week)
- Organisers
- Country

When selecting a course from the list, the end-user will be able to access all relevant information pertaining to a specific course, including:

- Title
- Summary, including objectives and learning outcomes
- Date
- Time & Duration
- Sub type (see above)
- Language
- Website (for registration or attending if online)
- Organiser

- Contact person
- Contact information
- Target audience
- Link to EURAD Roadmap Theme
- Key words
- Educational level
- Registration deadline
- Venue

2.4 ‘Mobility’-tab

End-users can use the ‘Mobility’-tab to easily browse all available information concerning the EURAD Mobility Programme. This tab links to four main pages: (i) previous mobility actions, (ii) application guidelines, (iii) application portal, (iv) European infrastructures (e.g. underground research laboratories, hot cells, computer labs).

The ‘Previous mobility actions’ page contains a table which contains information on all mobility actions supported by the EURAD Mobility Programme. The table itself contains the following data (Figure 2):

- Start date of mobility actions
- End date of mobility actions
- Title
- Beneficiary of the mobility programme

| Start date | End date | Title | Beneficiary |
|------------|------------|--|--------------|
| 09/08/2021 | 13/08/2021 | A visit to TNO laboratory to learn electrochemistry technique | Yanting QIAN |
| 17/08/2020 | 31/08/2020 | Multiscale simulation of ion diffusion in unsaturated nanoscale porous media | Yuankai YANG |

Figure 2. Table listing all mobility actions supported by the EURAD Mobility Programme, accessible via <https://euradschool.eu/previous-mobility-actions/>.

The table also has a search bar, which allows the end-user to quickly look for a specific mobility action. Via clicking the title of the mobility action, the end-user will be redirected to a page containing more details on each individual mobility action. Besides the information provided in the table, it also contains:

- The location where the mobility action was performed
- An executive summary from the mobility report
- EURAD WPs involved in the mobility action
- A link to the full mobility report

The ‘Application guidelines’ page contains all the necessary information for end-users to successfully submit an application for the EURAD Mobility Programme:

- The purpose of the Mobility Programme
- Who should apply

- Which costs are covered
- How to apply
- Lump sums
- Deadlines
- Submission and evaluation
- Obligations of the beneficiary of the EURAD mobility grant
- Link to the mission report template

The 'Application portal' is linked to the Mobility Programme application and evaluation platform which is set up in Evalato. Here, applicants can submit their applications, EURAD WP13 can initiate the evaluation process and notify the applicants of the outcome.

The fourth and final page linked to the Mobility Programme is the 'Infrastructures' page. This page contains a table where end-users can find information on available infrastructures related to RWM in Europe. The main aim of this list is to help set up mobility actions for PhD students, post-docs and junior professionals in EURAD. This list gives an overview of infrastructures and institutes where they can go for hands-on training, exchange visits, technical visits, internships, etc.. The following details are provided:

- Name of the available infrastructure
- Host organization
- Type of infrastructure (e.g. research lab, underground facility)
- Contact person
- Type of organization
- Country

When an end-user clicks the name of an infrastructure, he will be directed to a page containing additional information on what the infrastructure is used for and what type of research is performed there. Furthermore, it also contains a link to the official website of the infrastructure.

2.5 'PhDs'-tab

Via the 'PhDs'-tab, end-users can access information on PhD students in EURAD, but the PhD students themselves can also access information on interesting events and internship vacancies. The following pages are available via this dropdown menu: (i) overview of PhDs, (ii) their publications, (iii) PhD events, and (iv) PhD vacancies.

The first page from the dropdown menu, 'Overview of PhDs', provides the end-user with a summary table of all PhD students working in EURAD (and who agreed to have their information published online) (Figure 3). In this table, the following information is provided:

- PhD student's name
- Start date of the PhD project
- Foreseen end date of the PhD project
- Title
- Affiliated university
- Name of the university professor supervising the thesis

In this table, the 'Title' is clickable and leads to a subpage, which contains additional information: the EURAD WPs involved and a short summary of the PhD research project. Finally, the table contains a search bar, which allows end-users to quickly search for specific information (e.g. all students affiliated with a certain university).

| PhD Student | Start date | End date | Title | University | Promoter |
|--------------|------------|------------|---|--|-----------------|
| SHAMA Ahmed | 01/11/2017 | 30/11/2021 | Uncertainty quantification of spent nuclear fuel isotopic compositions | Ecole Polytechnique Fédérale de Lausanne | Andreas Pautz |
| QIAN Yanting | 01/11/2019 | 31/10/2023 | Coupled adsorption and electron transfer interface reactions governing the retention of redox-sensitive Se and Tc on Fe(II)/Fe(III) bearing clay minerals | Paul Scherrer Institut | Sergey Churakov |

Figure 3 View of the overview table of all PhD students working in EURAD. This table is accessible via <https://euradschool.eu/overview-of-phds/>.

Under ‘Publications’, a table is published which summarizes all scientific publications in peer-reviewed journals made by EURAD PhD students (i.e. the PhD students is first author). By clicking on a specific publication, the end-user is referred to a subpage that holds the abstract and a link to the full paper.

The ‘PhD Events’ webpage contains a calendar with both upcoming and past events that are of interest to the PhD community. These could be conferences or specific events that are organized for PhD students, such as the first EURAD PhD Event or the 1st EURAD Annual Event, in which EURAD PhD students were actively involved.

The final page in the ‘PhDs’-tab is the ‘PhD vacancies’. Here EURAD partners can advertise their open PhD positions in the field of RWM. Specifically the following information can be found there:

- Title of the project
- Institute involved
- Mentor
- Name of supervising professor at the university
- Country

By clicking the title, a short summary of the topic is available as well as information on how to apply. This page is therefore aimed mainly at aspiring PhD students, rather than current PhD students.

2.6 ‘Webinars’-tab

This dropdown menu allows the end-user to quickly navigate to all information on available RWM webinars, both past and upcoming. The term ‘webinars’ here refers to all online events of which the recording is made available such as Lunch&Learn sessions and workshops. The menu has two options: upcoming webinars and the webinar archive. The former provides the end-user with an overview of all webinars planned in the future, be it organized by EURAD or partner organizations, whereas the latter provides a list of past webinars.

The ‘Upcoming webinars’ page only displays upcoming webinars. However, filters are available that allow the end-user to filter, similar to the training courses, on:

- Date
- ‘Event category’
 - EURAD training course
 - EURAD webinar
 - Partner training course
 - PhD event
- Sub type
 - Class-room based training (face-to-face)

- Distance learning
- Event
- Webinar
- Day (day of the week)
- Organisers
- Country

When selecting a webinar from the list, the end-user will be able to access all relevant information pertaining to a specific course, including:

- Title
- Summary, including objectives and learning outcomes
- Date
- Time & Duration
- Sub type (see above)
- Language
- Website (for registration or attending if online)
- Organiser
 - Contact person
 - Contact information
- Target audience
- Link to EURAD Roadmap Theme
- Key words
- Educational level
- Registration deadline
- Venue

Similar options are available in the 'Webinar archive' list, which contains all past webinars. The main difference with the upcoming webinars is that webinars in this list also contain a list to its recording when available. This way, information shared through this webinar is easily available to the end-users, even after the webinar is finished.

3. Website analytics

This section provides an analysis performed via Google Analytics for the year 2021. This aim is to repeat this analysis every 6 or 12 months and compare the performance to the previous periods. For this first analysis, an overview of the most important metrics is provided, including: the number of new users, number of sessions, the number of page views, etc.

The data analysed was gathered according to the current General Data Protection Regulation guidelines. Therefore, no personal data was gathered or used in this report.

3.1 Acquisition

Data on acquisition provides information on the number of users and how they found the School of RWM's website. In 2021, the website logged:

- 1789 new users
- 1619 sessions (i.e. sessions that lasted more than 10 seconds)

Table 1 provides an overview of the top 10 sources of these new users. It is worth noting that 98% of all new users and all active sessions are directed to the School's website from these 10 sources. This table also shows that the average involvement is 43 seconds, which is relatively long. It is worth noting that users that find the website via a source linked to EURAD tend to stay involved the longest. These sources are:

- LinkedIn: 1'37"
- Projectplace (EURAD document management system): 1'19"
- PREDIS project website: 1'06"
- EURAD general website: 53"

Note that new users who find the page via Baidu (33) all spend less than 10 seconds on the website, lowering the average time of involvement.

Table 1 Overview of top 10 sources of new users for the School of Radioactive Waste Management in 2021.

| Source | Number of new users | Number of sessions (longer than 10") | Average duration of involvement |
|-------------------------------------|------------------------|--------------------------------------|---------------------------------|
| Direct | 1084 | 863 | 40" |
| Google | 344 | 315 | 44" |
| EJP-EURAD.eu (referral) | 132 | 239 | 53" |
| linkedin.com (referral) | 102 | 82 | 35" |
| Baidu | 33 | 0 | 0 |
| predis-h2020.eu (referral) | 22 | 45 | 1'06" |
| Bing | 17 | 18 | 34" |
| Inkd.in (referral) | 8 | 5 | 1'37" |
| service.projectplace.com (referral) | 8 | 15 | 1'19" |
| t.co | 5 | 3 | 6" |
| | 98% of total new users | 98% of total sessions | Average: 43" |

There were also notable peaks in the number of new users throughout the year. By cross-checking these dates with activity on the website and other EURAD-related events, it became clear that these peaks coincide with one of the following:

- Lunch & Learn session (webinar)
- Announcement of Lunch & Learn session (webinar)
- Announcement of mobility programme deadline

This is useful information, as it indicates that new users tend to come to the website when updates are made or announcements are published and shared via other media. This shows the importance of advertising updates in other EURAD media, such as:

- The general EURAD website,
- EURAD LinkedIn page
- EURAD Twitter

Please note that the EURAD Twitter account has resulted in very few new users, but it is still a good medium to share information on EURAD and the School of RWM's activities.

3.2 Events

The number of events is the number of interactions performed by users on the website, including page views, clicks, etc.. The most relevant events are the number of page and screen views (Table 2). In total, there were 19117 events, of which 6330 where page views (~33% of total events).

Table 2 Overview of the top 5 most viewed and screened pages of the School of Radioactive Waste Management's website.

| Page | # screen and page views |
|---------------------------------------|--------------------------------|
| Homepage | 950 |
| Upcoming items | 805 |
| EURAD partners infrastructures | 376 |
| Application guidelines | 348 |
| Overview of PhDs | 237 |

Table 2 shows that the four main pillars of the School of RWM (i.e. training courses, the Mobility Programme, Panorama (birds-eye view of all relevant knowledge related to RWM), and support of the PhD community) are all represented in the top 5 of most viewed pages:

- Upcoming items: training courses and webinars
- EURAD partner infrastructures: mobility
- Applications guidelines: mobility
- Overview of PhDs: support PhD community

3.3 Demographics

Demographic data helps understand where users are coming from. Data show that new users come from all continents (excluding Antarctica) (Figure 4).

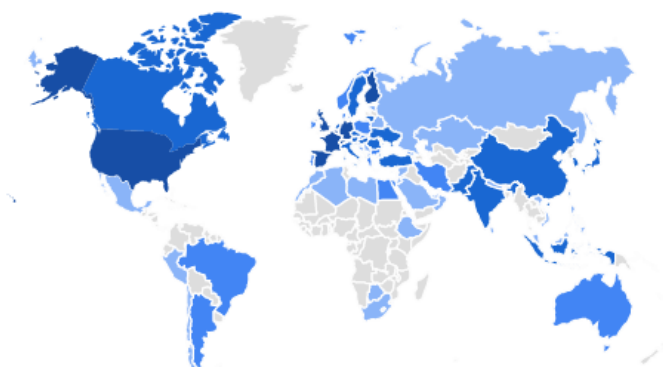


Figure 4 Overview of countries from which new users interacted with the School of Radioactive Waste Management's website in 2021.

Closer examination shows that the top 10 countries from which the site has been visited accounts for about 66% of the new users. This top 10 is shown in table 3. Although most new users originate from Europe, it is worth noting that most new users come from the United States of America. This could be explained by a peak in US users in September 2021 and October 2021, which coincides with the webinar on 'The U.S. Nuclear Waste Management and Disposal Strategy: Status and Possible Futures'.

It is also worth noting that the demographic data can be misleading. If new users use a virtual private network to browse the internet, they can be registered as coming from country A, while they actually reside in country B. Therefore, these results should be used cautiously.

Table 3 Top 10 of countries from which new users visited the website of the School of Radioactive Waste Management in 2021. This top 10 of countries represents about 66% of all new users.

| Country | # new users | % of new users |
|-----------------|-------------|----------------|
| United States | 307 | 17 |
| France | 189 | 11 |
| Germany | 177 | 10 |
| United Kingdom | 122 | 7 |
| Spain | 107 | 6 |
| Belgium | 82 | 5 |
| Finland | 83 | 5 |
| Czech Republic | 66 | 4 |
| The Netherlands | 53 | 3 |

3.4 Technology

In this section, a short overview is given on the devices used by new users to visit the School of RWM's website. This is useful information when optimizing the website. Three types of devices are considered: desktop (including laptops), mobile and tablet (Table 4).

Table 4 Overview of devices used by new users of the School of Radioactive Waste Management's website in 2021.

| Device | # new users | % |
|----------------|--------------------|----------|
| Desktop | 1461 | 81,7 |
| Mobile | 320 | 17,9 |
| Tablet | 8 | 0,4 |

Table 4 clearly shows that the majority of new users use a desktop to access the website, with only a total of 18,3% using a mobile device (i.e. smartphone) and/or tablet. It is clear that it should, in the first place, be optimized for being viewed on a desktop. Coincidentally, that is how the website is currently configured.

4. Final Remarks

This report describes the aim, the use of the School of RWM's website, the content it holds and an analysis of its usage since launch. The School of RWM website collects all information on EURAD WP13's activities: organization of training courses, hosting of webinars, hosting a Mobility Programme and supporting the PhD Community. The website was launched on December 20th of 2020.

An analysis of the users acquisition, the number of events, user demographics and technology used was made. In 2021, 1789 new users were registered. Most of these found the website either directly (by clicking a URL that was shared with them), via Google, via other EURAD-related media (general website, Projectplace, LinkedIn) or via the PREDIS project website. This indicates that people have multiple options to find the website, which all contribute greatly to the number of new users. Secondly, 19117 events were registered on the website in 2021. 6330, or about 33%, of those were screen and page views. The most viewed pages are related to all activities of WP13. This shows that end-users search for information on all of the School's activities, although some pages could benefit from more visibility (e.g. the webinar archive, list of PhD students). This can be done by communicating more via the media channels mentioned earlier. Thirdly, the website has global reach, with the greatest population coming from Europe and the United States. As stated before, these data can be biased if users rely on virtual private networks that are located outside their country of residence. Finally, almost 82% of new users uses a desktop pc or laptop to visit the School's website. This information is important when optimizing the website, which is currently optimized for being viewed on a desktop. If this changes in the future, the way the website is viewed should be updated to view the most prominent device.

Analyzing the performance of the website of the School of RWM provides valuable insight in its strengths and weaknesses. It will help to optimize it in the future. Ways to optimize include: a closer link with the PREDIS project and its training activities, greater offer of online recordings (e.g. of EURAD/PREDIS workshops), more direct links to IAEA and OECD-NEA resources, etc.. Over time, it will also allow to make comparisons between specific periods in the EURAD project (e.g. 2021 vs 2022).