



Enabling Science through European Electron Microscopy

Dissemination and Communication Plan

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Draft

Revision history log

Version number	Date of release	Author	Summary of changes
V0.1	12/04/2019	Paul Bersans (Euronovia)	First draft
V0.2	29/04/2019	Paul Bersans (Euronovia)	Second draft
V1.1	30/04/2019	Peter van Aken (MPG – Coordinator)	Proofreading and submission of the document
V2.1	20/07/2022	Camélia Benhida (Euronovia)	Update of all information until M42 and addition of the monitoring of KPIs at M42
V2.2	10/08/2022	Lucie Guilloteau (Euronovia)	General review and feedback
V2.3	22/08/2022	Aude Garsès (Euronovia)	General review and feedback
V2.4	08/09/2022	Camélia Benhida (Euronovia)	Second draft
V2.5	23/09/2022	Peter A. van Aken (MPG – Coordinator)	Review and approval
V2.6	30/09/2022	Aude Garsès (Euronovia)	Final version
V3.1	29/03/2023	Daniel BALIKA (Euronovia)	Third draft including update of all information until M52 and addition of the monitoring of KPIs at M52
V3.2	04/04/2023	Lucie Guilloteau (Euronovia)	General review and feedback
V3.3	11/04/2023	Aude Garsès (Euronovia)	General review and feedback
V3.4	12/04/2023	Peter A. van Aken (MPG – Coordinator)	Review and approval

Introduction

The ESTEEM3 consortium is fully aware that a communication, dissemination, and exploitation plan is extremely important to maximise the impact of the TA scheme and to create awareness of the project results. ESTEEM3 is integrating several activities to enhance the dissemination and exploitation of results, and to develop sustainability for the continuation of the project activities after EU funding ends. The strategy for dissemination and exploitation of results is illustrated in the figure 1 below.

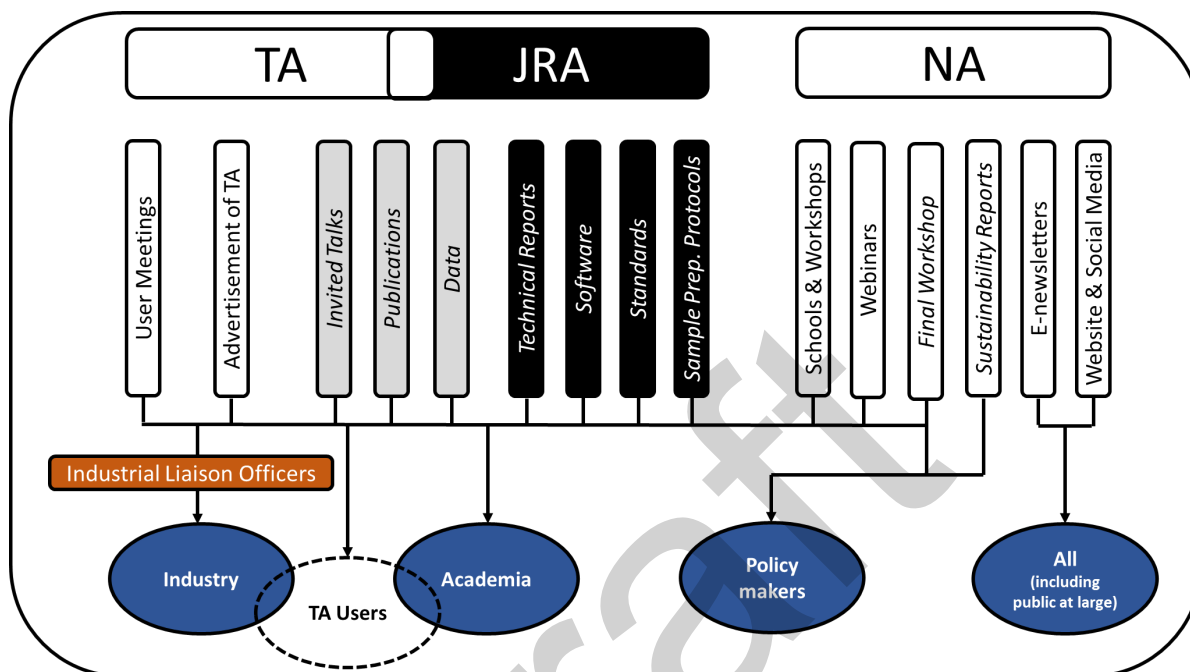


Figure 1. The overall dissemination, exploitation, and communication strategy.

Dissemination actions are given in italics, communication activities in normal text. Different actions target several audiences. Dissemination and communication towards industry will be facilitated by the Industrial Liaison Officers (ILOs).

Purpose of the Exploitation and Dissemination actions

In accordance with EU objectives for dissemination of research projects, each ESTEEM3 dissemination action will aim to:

- show how European collaboration has achieved more than would have otherwise been possible, notably in achieving scientific excellence, contributing to competitiveness, and solving societal challenges;
- show how the outcomes are relevant to our everyday lives, by creating jobs, introducing novel technologies, or making our lives more comfortable in other ways;
- make better use of the results, by making sure they are taken-up by industry and the scientific community to ensure follow-up, and also by decision-makers to influence policy-making.

Document Maintenance

This document is being reviewed and updated at M52 so two months before the end of the project. This document contains a revision history log. When changes occur, the document's revision history

log will reflect an updated version number, the date of the new version, the author making the changes, and a summary of the changes.

Responsibilities

EURONOVIA is the leading beneficiary in charge of writing this deliverable. However, the content of the deliverable was discussed and agreed with all project members, and then approved by MPG (as project coordinator and WP3 leader).

Internal dissemination and communication management

All project participants are updated permanently about the project advances and reports. Important documentation are stored on the internal, access-based platform hosted on the ESTEEM3 website.

Dissemination and Exploitation Strategy

Dissemination and Exploitation objectives

Dissemination and Exploitation issues are dealt with in Work Package 3, which objectives are to:

- identify the potential different routes for innovation and exploitation of the project results, as well as the protection of intellectual property rights;
- disseminate the information about the ESTEEM3 project to a wide range of relevant stakeholders and to the public at large through various dissemination activities;
- plan the post-project exploitation of the project's results by the partners so as to maximize the project's impact on the participating organizations and on the European industrial sector.

Dissemination target audience

Dissemination groups

ESTEEM3 will address the widest audience as possible, with specific messages and channel of communications for each type of audience.

Mapping closely the audience is essential in choosing the most efficient ways to communicate. Within the audience, we can define several groups that have an interest or are going to be affected by the ESTEEM3 project. These groups are classified in three categories, taking into account their level of interest and their level of power.

The primary group is the main group within the target audience. The major part of the dissemination actions will be targeted to this group. This is where we can expect the maximum impact in terms of potential collaborations and use of ESTEEM3 installations. Only by mapping the needs and interests of this group, ESTEEM3 can produce messages that will be understood and widespread in the most efficient form.

The primary group will be composed of:

- The academic community that benefits or could benefit from TEM characterization and analysis, in particular in materials science, physics, chemistry, biology, or geology.

- Companies faced with specific materials issues that could be solved with TEM characterization and analysis

The **secondary group** is composed of actors affected by the success of the project, although not identified as primary target group. It will include:

- Policy makers in partners countries or regions
- Researchers and engineers of TEM and TEM components manufacturing companies

The **tertiary group** consists of the general public and other actors that can find interest in the project. More particularly, the tertiary group will include:

- University students
- Partners’ local stakeholders

Targeted audience

Academic and non-academic research community	<p>This group targets all research communities interested in the ESTEEM3 project’s developments, results, and innovation. Scientific contributions of ESTEEM3 are particularly interesting for researchers that need to characterize (nano)materials.</p>
Industrial sector	<p>A major objective of ESTEEM3 is to address and trigger the active involvement of companies in the Transnational Access scheme.</p> <p>An initial list of companies that have recent or ongoing collaborations has been set up in D3.2.</p> <p>In addition, an External Advisory Board was set-up with the aim to maintain a strong business focus in the project. Three members of the EAB belong to the industrial sector and provide valuable feedback on the project, introduce challenging requirements to be considered, and have a major impact on the project’s development.</p>
Government bodies, professional associations, and policy makers	<p>This is a wide group encompassing innovation regional authorities, professional associations, and public administrations at regional and national level.</p> <p>ESTEEM3 will establish links with the Alliance for Materials (A4M) as well as to the large European Materials Research Society (EMRS), European Society for Composite Materials (ESCM), European Association for the Study of Materials (EASM), International Federation of Societies for Microscopy (IFSM), International Council for Scientific Unions (ICSU) and the Federation of European Materials Societies (FEMS)</p>
EU technology clusters	<p>ESTEEM3 shares common goals with the European Materials Characterisation Council (EMCC) to develop and improve characterisation tools to bring the development of nanomaterials and advanced materials in Europe into end products more successfully.</p> <p>ESTEEM3 will seek close interactions with other clusters, in particular the European Materials Modelling Council (EMMC), European Pilot Production Network (EPPN), the NanoSafety Cluster (NSC), the EuMaT – European Technology</p>

	Platform for Advanced Engineering Materials and Technologies , and the Nanofutures initiative ..
EU projects working in similar domain	<p>Several projects funded by the European Commission offer transnational access for characterisation of materials. Connecting with the partners of these projects might result in fruitful exchanges and advancement of knowledge. Moreover, in some cases, ESTEEM3 partners participate in these projects. This offers the opportunity to establish quick links among the European research community.</p> <p>For example, EUSMI provides an interdisciplinary infrastructure for soft matter research. NFFA sets out a platform to carry out comprehensive projects for multidisciplinary research at the nanoscale extending from synthesis to nanocharacterization to theory and numerical simulation. The Photon and Neutron Open Science Cloud (PaNOSC) is a European project for making FAIR data a reality in 6 European Research Infrastructures (RIs), developing and providing services for scientific data and connecting these to the European Open Science Cloud (EOSC). ENRIITC is the European Network of Research Infrastructures and Industry for Collaboration. ESTEEM3 developed collaborations with the following H2020 projects :</p> <ul style="list-style-type: none"> • EXCITE - Electron and X-ray microscopy Community for structural and chemical Imaging Techniques for Earth materials, • TEESMAT -Powering innovative solutions for batteries • eBEAM- Electron Beams Enhancing Analytical Microscopy • Q-SORT- The Quantum Sorter
TEM manufacturing companies	TEM manufacturers and TEM component manufacturers are also obvious stakeholders of the project. Therefore, this targeted audience was constantly updated and reached throughout the lifetime of the project in relation to the results and deliverables of the project.

The message

There are many ways to communicate on the project activities and results. Please see below some messages that could be promoted through the dissemination activities:

- Advertise the ESTEEM3 project itself (general scope, coverage, goals, and milestones and plans to reach them)
- Advertise the ESTEEM3 Transnational Access scheme
- Advertise ESTEEM3 freely available outputs such as software and protocols for sample preparation
- Advertise ESTEEM3 results and publications

Dissemination and communication activities

The following table gives an overview of the dissemination actions to be carried-out in ESTEEM3.

ESTEEM3 – Dissemination and Communication Plan

Audience	Need	Measure or action	Type of action	Time of delivery	Key Performance Indicator
Project members	Clear rules for confidentiality and ownership of results	Consortium Agreement	Protection	Before the beginning of the project	N/A
	IP protection	Patents	Exploitation	When possible	Filed applications
	Information on progress and reporting procedures	Intranet platform, management handbook	Communication	M4 and annual updates	N/A
	Feedback from the TA users	User meetings and user surveys	Communication	M24, M48	Number of answers to users' surveys
TA users	Information on TA offer and rules	E-Mailing	Communication	M1 and annual updates	Number of TA users
		Website		M4 and continuous updates	
		Brochures		M6	
		User meetings		M24 and M52	
		Conferences		When possible	
	Experimental data	Transfer of collected data	Dissemination	Throughout duration of project	Number of finalised TA projects
Scientific community	Project overview and outcomes	E-newsletter	Dissemination	Throughout duration of project	Number of newsletters and subscribers Number of technical reports
		Technical reports			
		Software			
		Sample prep. protocols			
	Access to ESTEEM3 publications	List of ESTEEM3 publications with reference	Dissemination	Within 6 months after publication	Total citations of ESTEEM3 publications
	Training on TEM techniques	Webinars	Communication	Throughout duration of project	Number of events organised
Schools					
Workshops					
Industry (end users)	Project overview, Key contacts	Industrial Liaison Officers	Dissemination	From beginning	Number of dedicated actions towards industry
		Website		M4	
		E-newsletter		Every 6 months	
		Webinars		Throughout duration of project	
		Schools			
		Workshops			
Electron microscopy manufacturers and suppliers	Project overview, key contacts, understanding of technology gaps, possibilities for involvement in the medium-term	Involvement of TEM manufacturers and suppliers in foresight studies (NA1)	Exploitation	M52	Number of recipients of the White Paper
Policy makers	Project overview, strategic decision baseline, potential impact	Sustainability report	Dissemination	M54	Number of recipients of the report
		Final workshop			
Public at large	General education	Website	Dissemination	M4	Number of visits to the website
	Impact on future daily life	E-newsletter		Every 6 months	Number of recipients of ESTEEM3 posts
		Social media		Throughout the project	LinkedIn / Twitter

Table 1. Dissemination and Communication activities overview

Indicative GANTT chart of ESTEEM3 dissemination activities

The planning and execution of the activities require a good scheduling closely aligned with key project deliverables.

The dissemination activities are to be performed according to the following logical schedule:

1) Initial awareness phase (month 0-3): this especially includes establishment of the project website, analysis of relevant information resources in terms of identification of dissemination opportunities and creation of basic dissemination tools including graphical identity of the project (i.e. project logo, templates for project documents and for project presentations).

2) Targeted dissemination phase (month 3-42): the consortium will enrich the website, publish a project brochure, issue the first press releases, and attend selected events. The TA offer will be presented to the target audiences.

3) Presentation of results (month 42-54): this represents the period close the end of the project when ESTEEM3 reaches its most significant outputs. This phase will be focused on informing the target audience for potential exploitation of results.

The tentative GANTT chart below gives an indication of the scheduling of the dissemination activities. This schedule may change as the project goes along, to ensure that sufficient results or news are disseminated at each step.

	Year 1				Year 2				Year 3				Year 4				Year 5		After project			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q2	Q3	Q4
COMMUNICATION ON PROJECT ACTIVITIES																						
Public website		■																				
Education hub available on the ESTEEM3 website		■																				
Dissemination in social media (LinkedIn and Twitter)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				
E-newsletters		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■						
ESTEEM3 brochures		■	■	■																		
ESTEEM3 video			■	■																		
DISSEMINATION OF PROJECT RESULTS																						
Publications and invited talks		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Open access technical reports (deliverables)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Open access standards, software, and sample preparation protocols		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Sustainability routes															■	■						
EVENTS																						
ESTEEM3 workshops and schools		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				
ESTEEM3 webinars		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				
Presentation of ESTEEM3 at selected conferences		■	■	■							■	■			■	■	■	■				
Conference session dedicated to 'TEM in industry' at EMC 2020																						
Conference session dedicated to 'Research infrastructures' at ICRI 2022															■	■						
Booth at MCM 2022															■	■						
Booth at MC 2023																						
ESTEEM3 User meeting											■	■										
ESTEEM3 final workshop																						

Achieved



Upcoming



Postponed to 2024 due to COVID-19

Description of activities

Dissemination material

The visual identity of ESTEEM3 includes the logo (see below), and style guide in different formats (in line with the H2020 visual guidelines). At Month 3, a standard **PowerPoint presentation** as well as various **Word templates** gathering key messages and one-page project description have been created. These templates have been sent to partners for EU and local project communication.



Figure 2. ESTEEM3 PowerPoint template

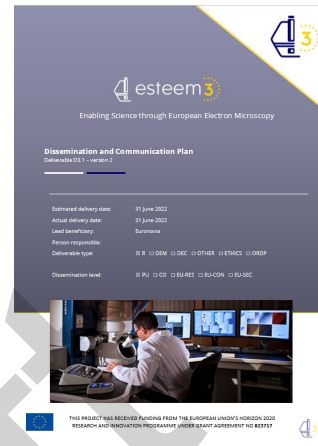


Figure 3. ESTEEM3 Word template

Short design guidelines for using all communication and dissemination tools have been developed and delivered to the whole consortium. This document gives details and rules on how to use the different elements of the visual identity of the project.

ESTEEM3 logo



The ESTEEM3 pictograph shows a representation of a Transmission Electron Microscope inserted in an E (for ESTEEM). The middle lines across represent the sample holder and remind the € sign, probably the greatest achievement of the EU so far. The white bar inside the microscope represents the electron beam.

esteem is written without capital letter to remind the e^- of the electron. Thirteen stars encircle the “3”. Each star represents one of the TA providers.

Colours are blue and yellow to remind the European flag.

[ESTEEM3 website](https://www.esteem3.eu/)

The ESTEEM3 project website (<https://www.esteem3.eu/>) is of crucial importance to enhance the visibility of ESTEEM3 as it serves as the main communication tool for the wide dissemination of the project deliverables and outcomes. This portal provides content to the scientific communities, policy makers, professionals, academics and researchers, market actors, and general public. The website includes information on the project scope, objectives and activities, partners and information on the dissemination activities and documents.

As the ESTEEM3 website is the main communication tool for the project, where all the dissemination materials will be timely published, it is dynamic, frequently updated and the content will be expanded constantly during the project lifetime.

The **website** is available online since 1st of April 2019 (Month 4) at the following link: <https://www.esteem3.eu/>.

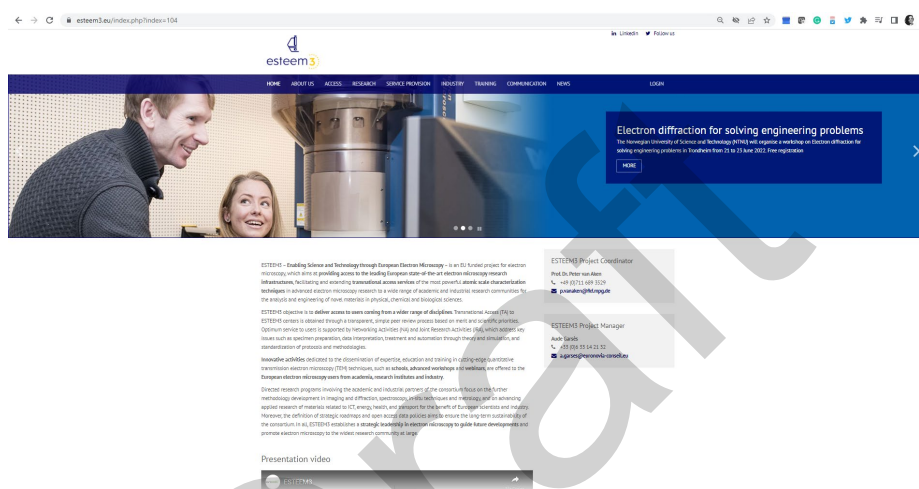


Figure 4. ESTEEM3 website

New sections of the website had been put online one after the other in the previous months. For now, the final version includes the following features:

- The **home page** includes the ESTEEM3 logo, the latest news, a presentation video of the project in a nutshell and a mention of the European funding;
- An **“About us”** section includes an overview of the ESTEEM initiative, the presentation of the consortium, the integration and sustainability activities proposed within the project and a contact page to reach the coordinator or the project manager;
- An **“Access”** section dedicated to ESTEEM3 future users with a short presentation on how Transnational Access works (with a TA charter, a map showing the origin of ESTEEM3 Transnational Access users and the selection procedure), a link to the submission platform, and a presentation of each of the 15 installations. The TA is currently closed;
- A **“Research”** *section including a description of the three Joint Research Activities as well as a list of ESTEEM3 publications;
- An **“Outcomes”** section, where ESTEEM3 outputs such as sample preparation protocols, software for data analysis, technical reports, and all the deliverables are available in open access to the TEM community and all interested stakeholders;
- An **“Industry”** section including a specific page for Transnational Access for the Industry, a timeline, some success stories, and a contact page to engage more industries to join the project;

- A **“Training”** section including links to the upcoming training events, sponsored training events, lectures, and online training material such as webinars;
- A **“Communication”** section including all ESTEEM3 communication material like brochures, newsletters, videos, and partner projects;
- A **“News”** section including latest events, workshops, scientific publications, prizes, Transnational Access success stories, interviews from the partners and job positions;
- An **“Intranet”** section for consortium members to share key documents about the project.
- A **map** showing the origin of ESTEEM3 Transnational Access users being constantly updated.

The importance and impact of the website can be analysed by Google Analytics, a web analytics tool that shows how people reached the website and how they have navigated through it. From the launch of the ESTEEM3 website on the 1 May 2019 until the 31st March 2023, the website received approximately 21 117 **visitors** and 76 784 **visits**.

Every month **activity and site path reports** are sent to the coordinator, MPG, for information and for monitoring. Reports are related to the last past month and the month-to-month variation since the beginning of the project.

If we exclude the official project website, the newsletter tool, and the official social network pages (LinkedIn, Twitter), the **5 web pages** that generate the most traffic to the official project website are mostly via the **official partners’ websites**. In this case, in ascending order:

1. fkf.mpg.de, the official website of the coordinator MPG;
2. Eurmic soc.org, the official website of the European Microscopy Society;
3. <http://emg.msm.cam.ac.uk/>, the official website of one of the partners, UCAM;
4. fz-juelich.de, the official website of one of the partners, JUELICH;
5. euronovia.eu, the official website of one of the partners, EURONOVIA.

The top **5 search engines** that generate the most traffic to the official project website are, in ascending order:

1. Google: Google Search is a search engine provided by Google and the most common used search engine in the world.
2. Bing: Microsoft Bing is a web search engine owned and operated by Microsoft.
3. Baidu: Baidu is one of the most popular search engines and one of the largest internet companies in the world. Also, it is often referred to as the Chinese Google.
4. Ecosia: Ecosia is a search engine based in Berlin, Germany and it considers itself a social business, claiming to be CO₂-negative, and supports full financial transparency and protects the privacy of its users
5. DuckDuckGo: DuckDuckGo is an internet search engine that emphasizes protecting searchers' privacy and avoiding the filter bubble of personalized search results.

The website received an excellent worldwide coverage, with visitors spread over all continents (141 countries mapped), demonstrating a worldwide interest towards ESTEEM3. Most of the users of the ESTEEM3 website are located in Europe, particularly in Germany, France, United Kingdom, Spain, Italy, Netherlands and Poland. Nevertheless, we can notice that three other major international country have a significant number of users: the United States of America, China, and India.

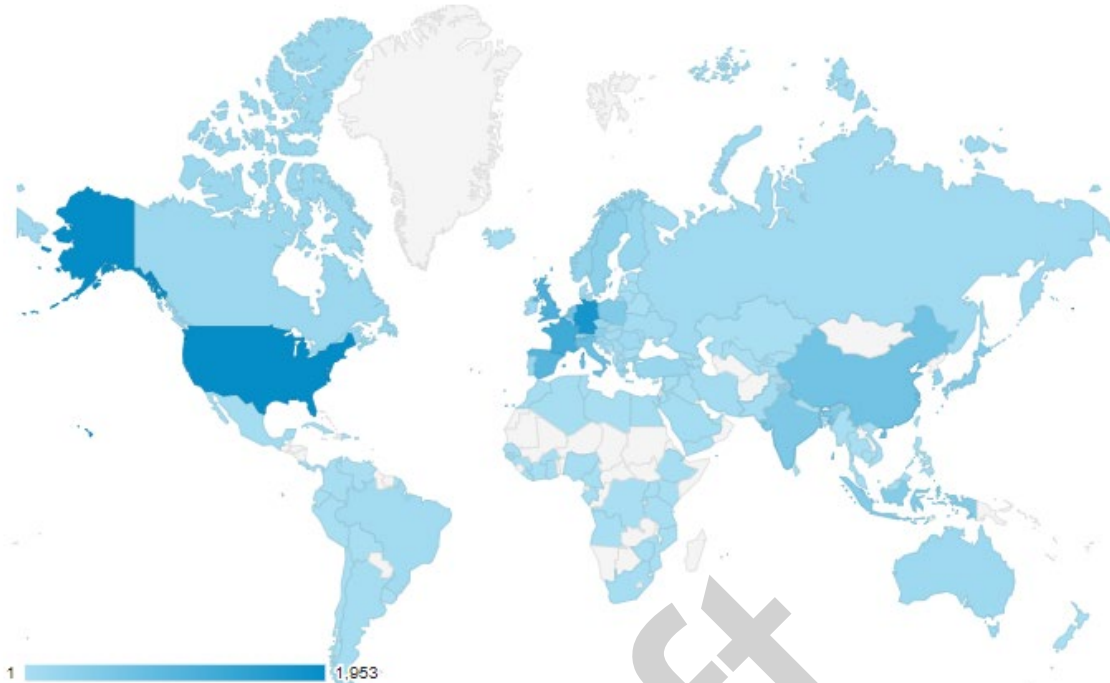


Figure 5. Countries of website's visitors

Hereafter, the top 10 countries of origin of the website visitors are in ascending order:

1. United States with 2 692 users that represent 12,62% of the users;
2. Germany with 2 327 users that represent 10,91% of the users;
3. France with 1 590 users that represent 7,45% of the users;
4. United Kingdom with 1 364 users that represent 6,39% of the users;
5. Spain with 1 212 users that represent 5,68% of the users;
6. Italy with 946 users that represent 4,43% of the users;
7. China with 832 users that represent 3,90% of the users;
8. Netherlands with 755 users that represent 3,51% of the users;
9. India with 738 users that represent 3,46% of the users;
10. Poland with 584 users that represent 2,74% of the users.

Finally, as part of the website, the section **News** is filled regularly to provide information on project updates. This helps to link to the ESTEEM3 website and intends to increase the website visits but also keeps the website up to date.

News are published twice per week approximatively due to an increase of publications in the last reporting period due to the increase of activities in terms of dissemination and communication. During the project, each partner had contributed several times to this area by describing the progress of their activities, the project results, and the benefit they gain out of their involvement.

The first news was published on the website on 1st January 2019. Until the first week of April 2023, there has been **141 news**.

However, to reach the 200 targets, the publication pace will be accelerated, which will be achieved by the dissemination of the final results in the last months of the project.

Communication on Transnational Access

Regarding the communication and dissemination actions related to reach potential users of ESTEEM3 research infrastructures (RI), EURO manages already quite a big stakeholder database that have been built on past projects, including all previous access users. The concrete actions are based on:

- A mailing strategy, sending around the latest information of the access call to the mailing list and all other stakeholders.
- Participation to conferences and distribution of brochures
- All partners are asked to publish the call internally in their networks, on their website, via their social networks, at internal and national events.

A Single Entry Point (SEP) on the ESTEEM3 project web site allows accessing the overall list of facilities, technologies, as well as services available, and submitting a comprehensive proposal. In other words, the request for accessing these RIs as a whole (independently of the installation) is addressed online to the access team in the form of a short proposal. Rules and the application procedure are described on the SEP, where the application form is provided too.

At Month 52, 438 out of 464 proposals were accepted, resulting in a success rate of 95%. This demonstrates a high level of interest regarding the important number of projects submitted, but also in the quality of the projects submitted in view of the extremely high success rate.

After the experiments have been performed, users are required to fill an online report in order to evaluate their satisfaction. Here is the link to this report to be completed, that you can also find on our website:

<https://docs.google.com/forms/d/e/1FAIpQLSfJkmIMlLa1auVH4jw75Jpy9vB16AuvkgsbKPQqCoRNZX-q8w/viewform>.

The form is composed by 9 questions and those questions refer to the process before, during and after the TA project. The survey includes questions about the following topics: how the TA user learned about ESTEEM3, rating the selection procedure, the quality of installations and the scientific support.

At month 52 we had 230 reporting forms that were completed by TA users. Therefore, it means that 1 of 2 TA users had sent their report (49%). As this figure is low, the partners put in place a procedure to follow up directly with users who had not responded to recover the completed reporting forms.

Brochures

The **first ESTEEM3 brochure** is a document (8 pages) that was created during the first six months of the project. This document contains general and straight-to-the-point information on the project, such as simple and key information about Transnational Access, Joint Research Activities as well as Networking Activities.

The main objective was to provide ESTEEM3 audiences with an attractive and written project, a clear overview, and a summary of the main project objectives and characteristics. This brochure was designed to reach potential new TA users, experts, but also interested non-specialists.

Moreover, an electronic format of the brochures is available for download on the website at the following link:

https://www.esteem3.eu/lw_resource/datapool/systemfiles/cbox/549/live/lw_datei/esteem3.pdf

At Month 6, **700 copies of the first ESTEEM3 brochure were sent** to each partner to distribute for their own communication, potential TA users (at selected conferences), important stakeholders and the European Commission.

As the project benefitted of an extension, an updated version of the first brochure was produced at Month 44 and a further **150 brochures** were printed to be distributed in the 16th Multinational Congress on Microscopy (MCM) conference in September 2022 and all other promotional events (ICRI 2022 side event, MC2023) .



Figure 6. ESTEEM3 Presentation brochure

A final brochure will be created at Month 52 and will be distributed during the Final event held on May 31st 2023. The aim of this brochure is to promote the main achievements and results of the ESTEEM3 project. The brochure will be printed for the final event and the digital version will be actively disseminated online at the end and after the project lifetime.

Roll-ups

Three roll ups were produced at the start of the project for general presentation of the project. These roll ups have been used for general presentations at conferences delivering straight-to-the-point information on the project, such as general information about Transnational Access, Joint Research Activities and Networking Activities.



Figure 7. ESTEEM3 roll ups

E-newsletter

The **newsletter** is an effective way to increase the dissemination of the news on the project and to maximize the impact and number of readers.

ESTEEM3 newsletters are available on the project website and aims to inform all interested stakeholders of the progress of the project during the project lifetime (twice a year). In addition, a list of potential recipients to whom the newsletter will be sent by e-mail will be created with the help of all partners and regularly updated.



Figure 8. ESTEEM3 Newsletter #7 Edition

News have been included so far in **7 Newsletters** since the beginning of the project and all editions can be accessible below and are downloadable on the website at the following link: <https://www.esteem3.eu/Newsletters>. Hereafter, all the editions of the ESTEEM3 newsletters are available:

1. ESTEEM3 Newsletter - First edition - September 2019
2. ESTEEM3 Newsletter - Second edition - April 2020
3. ESTEEM3 Newsletter - Third edition - October 2020
4. ESTEEM3 Newsletter - Fourth edition - June 2021
5. ESTEEM3 Newsletter - Fifth edition - November 2021
6. ESTEEM3 Newsletter - Sixth edition - June 2022
7. ESTEEM3 Newsletter - Seventh edition - December 2022

The 8th edition of the newsletter will be published in June. This edition of the newsletter will be the last ESTEEM3 newsletter. It will highlight the achievements of the project. More precisely, it will include the following elements (non-exhaustive list) :

- A summary of the most significant accomplishments and milestones reached during the project's lifespan, such as publications, new techniques, and collaborations.
- A few success stories showcasing the practical applications of the ESTEEM3 project and the impact it has had on various scientific fields.
- Interviews of key researchers involved in the project, with a focus on their roles and contributions.
- A recap of significant events, workshops, or conferences the project has been a part of including a feedback of the project's final event
- Engaging visual elements such as images, infographics, or videos that highlight key aspects of the project and its outcomes.

To distribute the ESTEEM3 project newsletter, we are using Sendinblue, a digital platform tool, which is an adequate tool to estimate the number of interested stakeholders and see how many of the registered ones open the newsletter.

As for now, the number of **subscribers** to the ESTEEM3 project newsletter has been constantly increasing since the beginning of the project (see table above).

Finally, there is an average of **43% of the registered individuals** that open the newsletter, which is a good score considering the large number of people registered.

Social media

A **LinkedIn** and a **Twitter** page has been created to widespread on the social network the latest news and achievements about the project:

- The **ESTEEM3 group** on LinkedIn is the European portal for industrial and academic researchers, who need access to the latest generation TEM.
URL: <https://www.linkedin.com/company/35638157/admin>
- The **ESTEEM3 page** (@Esteem3Project) on Twitter is the European portal for industrial and academic researchers, who need access to the latest generation of TEM instrumentation, methodology or tools.
URL: <https://twitter.com/Esteem3Project>

Examples of LinkedIn and Twitter posts featuring the project:

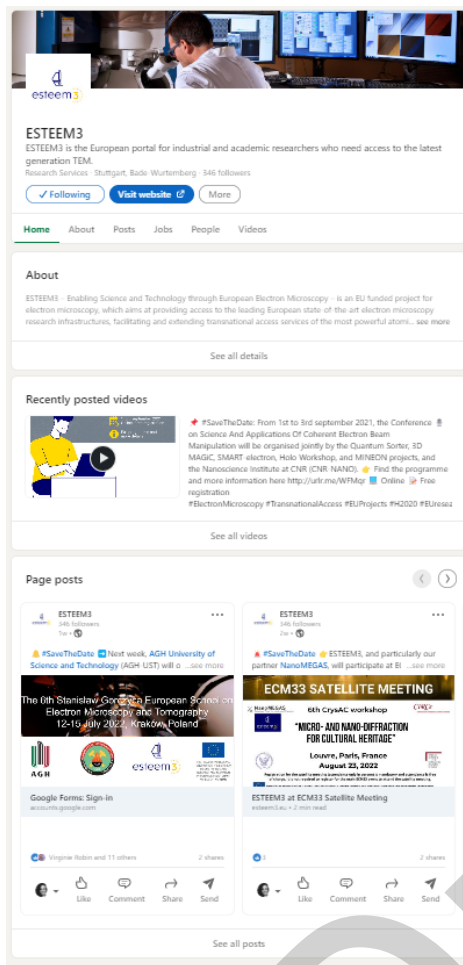


Figure 9. ESTEEM3 LinkedIn account

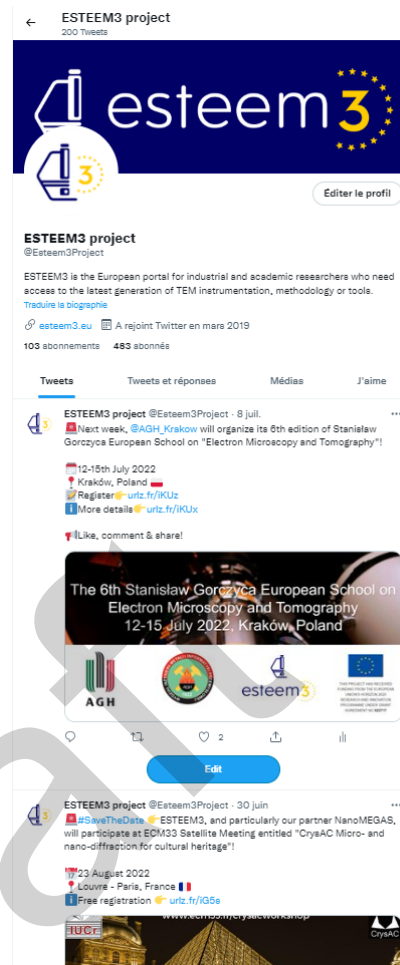


Figure 10. ESTEEM3 Twitter account

For now, with **523 followers** on Twitter and **473 members** on LinkedIn, the objective to reach at least 400 by the end of the project is already achieved on Twitter and LinkedIn.

[News and press articles](#)

Communication to the general public such as press articles will be actively promoted on the website and social media (with all its interactive material).

As part of the website, the section News is filled regularly in order to provide information on project updates. This helps to link to the ESTEEM3 website and intends to increase the website visits, but also keeps the website up to date.

News are published once per month approximatively with an increase of publications in the last reporting period due to the increase of activities in terms of dissemination and communication. During the project, each partner will contribute several times to this area by describing the progress of their activities, the project results, and the benefit they gain out of their involvement.

The first news was published on the website on 1st January 2019. So far, there has been **139 news**. However, to reach the 200 targets, the publication pace must be accelerated, and will be achieved by the increase of activities and results in the next upcoming months.

So far, there has been an **article published** in the specialized magazine – **EU Research Magazine**. We have waited for the end of the project for this action to be more fruitful with deeper results. The autumn edition of the magazine is available in open access at the following link: https://issuu.com/euresearcher/docs/digital_magazine_eur32_1_/54



This publication has a large impact given the journal's reputation: 50 000 persons have subscribed to the EU Research Magazine. These subscribers are coming from 33 different countries have read this edition of the magazine. These subscribers come from the **public sector, scientific community and private sector** (13%, 51% and 36% respectively). Also, the magazine amounts a total of 35 000 followers on social media platforms of the magazine.

Also, since 2019, and annually, an article on the ESTEEM3 project is published in the European Microscopy Society (EMS) Yearbook. The society has 52 corporate members (ECMA) and 37 individual members with 28 member countries and all editions are available in open access at the following link: <https://www.euremicsoc.org/en/organisation/ems-documentation/yearbook/>

So far now, we participated in 4 editions in 2019, 2020 and 2021. Below are the online versions of the Yearbook with all the information related to the mention of ESTEEM3:

- EMS Yearbook 2022 : currently under edition
- EMS Yearbook 2021, “ESTEEM3: ENABLING SCIENCE AND TECHNOLOGY THROUGH EUROPEAN ELECTRON MICROSCOPY“, page 52, URL: <https://www.euremicsoc.org/medias/files/EMS2021.pdf>
- EMS Yearbook 2020, “ESTEEM3: ENABLING SCIENCE AND TECHNOLOGY THROUGH EUROPEAN ELECTRON MICROSCOPY“, page 62, URL: <https://www.euremicsoc.org/medias/files/EMS2020.pdf>

- EMS Yearbook 2019, “ENABLING SCIENCE AND TECHNOLOGY THROUGH EUROPEAN ELECTRON MICROSCOPY”, page 31, URL: <https://www.euremicsoc.org/medias/files/00-EMS%202019-16-2.pdf>

Two press releases have been published by MPG and TU Graz during the RP1. A final video will be produced to promote the final results instead of a final press release.

Events, conferences, and training activities

Events and conferences

ESTEEM3 was presented and had the opportunity to communicate and disseminate key information about the project in 5 main conferences and events. This includes ESTEEM3 booths at conferences and ESTEEM3 organisation of a side event.



Booth at the E-MRS IUMRS ICEM 2019 SPRING MEETING, May 2019, Nice, France



Booth at EUROMAT, September 2019, Stockholm, Sweden



Side event at ICRI 2022, October Brno, Czech Republic “Long-term sustainability of small and mid-scale distributed RI projects”



Booth at the ESTEEM3 at MCM 2022, September, Brno, Czech Republic



Booth at the Microscopy Conference, March 2023, Darmstadt

Also, the ESTEEM3 project consortium has participated in 221 scientific and industrial international events, either with oral or poster presentations, or by organising an exhibition booth to feature the project. As for example,

- MRS Spring meeting, April 2019, Phoenix, USA;
- Prof. Dr. Peter A. van Aken to Imperial College in London and to Research Infrastructures for Electron Microscopy in Europe workshop during MC2021 event (Co-organised by CNRS-Toulouse, U-Oxford and CNR (Trieste)),
- Prof. Dr. Rafal Dunin-Borkowski was invited to present a keynote talk at the National Research Council Canada, Nanotechnology Research Center annual microscopy workshop (virtual) on October 19, 2021.
- Prof. Dr. Rafal Dunin-Borkowski also presented a keynote talk at the Microscopy Australia Annual Workshop (virtual) on October 21, 2021.
- CAT made a remote presentation of live STEM analysis to about 100 young students attending the “Carlo Alberto Dalla Chiesa” secondary school (13 years old) in Catania on October 12, 2021. On December 16, 2021, CAT presented their activities in the theatre of the Paolo Vasta, a secondary school in Acireale, Italy. Presentations were shown aimed to stimulate in the youngest the awareness on the role of women in science and to disseminate specific research lines. The role of the ESTEEM3 was also described and a quiz of knowledge organized.
- ESTEEM3 participated in the ECM33 Satellite Meeting held on 23 August 2022, in Paris.
- *Microscopy & Microanalysis 2022* organized by Microscopy Society of America in Portland (USA) / The leading partner was CNRS - 02/08/2022 / Number of people reached : 500
- *16th Multinational Congress on Microscopy* organized in Brno by EMS / Oral presentation / The leading partner was TUGraz - 04-09.09.2022 / Number of people reached : 1000

Workshops and schools

Fourteen workshops and schools have already been organised and one is scheduled, as follows. Due to the COVID-19 context, the planning for ESTEEM3 schools and workshops was updated and promoted on the website.

2019

- NanoMEGAS – Protochips workshop (Amiens – additional meeting not indicated in the Grant Agreement). URL: https://www.esteem3.eu/news?backRef=210&news=NanoMEGAS_Protochips_workshop_in_Amiens
- EMAT workshop on transmission electron microscopy (Antwerp). URL: https://www.esteem3.eu/news?backRef=210&news=EMAT_Workshop_on_Transmission_Electron_Microscopy
- Conventional and counting EELS spectroscopy school (Catania). URL: https://www.esteem3.eu/news?backRef=210&news=Beyond_Nano_Catania_Conventional_and_Counting_EELS_spectroscopy_school

2020

- ESTEEM spectroscopy school (Graz). URL: https://www.esteem3.eu/news?backRef=210&news=ESTEEM3_Spectroscopy_School_FELMI_Graz

- Advanced in situ electron microscopy of ICT structures (Gothenburg). URL: https://www.esteem3.eu/news?backRef=210&news=Webinar_Considerations_for_in_situ_mechanical_electrical_and_optical_measurements_of_ICT_materials_in_electron_microscopes

2022

- QEM: review and new advanced TEM techniques (Toulouse). URL: https://www.esteem3.eu/news?backRef=210&news=Update_Quantitative_Electron_Microscopy_2021_School_of_TEM_Quantitative_Techniques
- Electron diffraction for solving engineering problems (Trondheim). URL: https://www.esteem3.eu/news?backRef=210&news=Electron_diffraction_for_solving_engineering_problems_Department_of_Physics_NTNU
- The 6th Stanisław Gorczyca European school (Krakow). URL: https://www.esteem3.eu/news?backRef=210&news=Electron_Microscopy_and_Tomography_AGH_University_of_Science_and_Technology_AGH_UST
- TEM-UCA transmission electron microscopy of nanomaterials (Cadiz). URL: https://www.esteem3.eu/news?backRef=210&news=Transmission_Electron_Microscopy_of_Nanomaterials_University_of_Cadiz_UCA
- Workshop on advanced TEM specimen preparation (Stuttgart). URL: https://www.esteem3.eu/news?backRef=210&news=Advanced_TEM_Specimen_Preparation_Stuttgart_Center_for_Electron_Microscopy_StEM

2023

- Innovation strategy workshop (Remotely). URL : https://www.esteem3.eu/news?backRef=210&news=Innovation_Strategy_Workshop
- School on in-situ TEM (Juelich) – 22-24/03/2023. URL : https://www.esteem3.eu/news?backRef=86&news=Workshop_on_TEM_Characterization_Techniques_Focusing_on_In_Situ_and_EELS_ER_C_FZ_Juelich_Germany
- European workshop on quantitative STEM imaging (Ljubljana) – 14-18/05/2023. URL : https://www.esteem3.eu/news?backRef=86&news=AdSTEM3_European_School_on_4D_STEM_Imaging_organized_by_Jozef_Stefan_Institute
- Advanced imaging, spectroscopy and in situ TEM of materials for nano and quantum devices / Chalmers University of Technology, Gothenburg, Sweden / 8-10/05/2023

Moreover, **70 educational and training events**, including presentations to industrial users were organised. The initial target of 20 events was largely exceeded. This demonstrates that the action has been successfully carried out as it exceeds the **excellent** threshold.

Webinars

Several **webinars** complete the training offer.

As for now, **all** webinars were organised for specific new and emerging TEM and related analytical techniques. Access to the majority of webcasts is available through the ESTEEM3 website together with videos of selected lectures from the ESTEEM3 schools and workshops. Additional webinars will be planned by the end of the project.

The majority of the following webinars are available in replay on the website at the following link: <https://www.esteem3.eu/Webinars>

- Preparations and considerations for in-situ microscopy of ICT structure (CHALMERS): <https://chalmersuniversity.app.box.com/s/wcg5o9h7yjwepbk6obouykal2x1e4ied>

- Open software for TEM image simulation (UANTWERP): https://www.youtube.com/watch?v=G_yqv0Vj3ug
- Computer-assisted electron crystallography (UCA): <https://www.youtube.com/watch?v=xGm60BtA36I>
- 4D STEM with MerlinEM (QD) – Face to face presentation - 07/12/2022

Moreover, 3 **lectures** related to Transmission Electron Microscopy given by ESTEEM3 members to prestigious research centres and universities are available in open access on the website at the following link: <https://www.esteem3.eu/lectures>. Other lectures could be planned by the end of the project.

- “How Sharp are Atomically Sharp Interfaces in Complex Functional Oxide Heterostructures?”, a lecture by ESTEEM3 coordinator Peter A. van Aken from the Stuttgart Center for Electron Microscopy (StEM) at the Max Planck Institute for Solid State Research (Stuttgart, Germany), presented to the Imperial College London on 20th January 2021. More details: <https://www.imperial.ac.uk/events/128871/how-sharp-are-atomically-sharp-interfaces-in-complex-functional-oxide-heterostructures/>.
- “Accurate and fast electron microscopy simulations with the open sourceMULTEM”, a lecture by ESTEEM3 partner Ivan Lobato from the Electron microscopy for materials science (EMAT) at the University of Antwerp (Antwerp, Belgium), presented on 2nd July 2021. Watch the replay here: <https://www.youtube.com/watch?v=wdhcGvQuuFA>.
- Watch the replay here: <https://www.youtube.com/watch?v=wdhcGvQuuFA>.Lecture on EM and Remote STEM experiment / Rome University -Tor Vergata / 09/12/2022

[Project deliverables](#)

All **project deliverables** are public deliverables.

Once they are approved by the European Commission, deliverables are published online under the section “Service Provision” of the ESTEEM3 website at the following link:

<https://www.esteem3.eu/Deliverables>

Deliverables are divided into 4 categories:

- Deliverables related to the Joint Research Activity 1 – Development of advanced TEM techniques and methodologies
- Deliverables related to the Joint Research Activity 2 – TEM solutions for materials problems
- Deliverables related to the Joint Research Activity 3 – Data acquisition and analysis in TEM
- Others

As for now, **36 deliverables** are available in open access for download on the project website.

Open Access policy

[Open access to publications](#)

The access policy will give priority to the Green model. However, when this is not the case for some prestigious journals, the consortium's publication policy is to pay the fees so that the scientific publications are freely available. All partners are encouraged to use the Open Access pilot repository initiated by the European Commission <https://www.openaire.eu/>.

Scientific publications are collected through each internal reporting and Reporting Period. As for now, all scientific publications available in open access are referenced into the Technical Report 1 and 2, but also on the continuous reporting on the Participant Portal.

All publications will be stored in an online repository, which is Zenodo, a dedicated community created for ESTEEM3 on 13 June 2019, and is managed by MPG and Euronovia: <https://zenodo.org/communities/esteem3/>

Zenodo is a general-purpose open-access repository developed under the European OpenAIRE program and operated by CERN. It allows researchers to deposit data sets, research software, reports, and any other research related digital artifacts. For each submission, a persistent digital object identifier (DOI) is minted, which makes the stored items easily citable.

This platform has been chosen due to its strong integration with the OpenAIRE program. Indeed, as soon as a document is integrated into ZENODO, this is rapidly curated by OpenAIRE and put in CORDIS and the project participant portal.

So far, all deliverables, conference proceedings and scientific publications will be deposited on the ZENODO platform. All other communication materials will also be put there if relevant.

520 scientific publications were published since the beginning of the project, including 159 publications from the Transnational Access activity and 314 publications from the Joint Research activities.

Scientific conferences and proceedings

41 conference papers and proceedings were published after a presentation of ESTEEM3 at a Conference, among them:

- 2019 Microscopy Conference
 - Customizing high-temperature superconductivity at La₂CuO₄-based heterostructure interfaces Y. E. Suyolcu, F. Baiutti, Y. Wang, W. Sigle, G. Gregori, G. Cristiani, G. Logvenov, P. A. van Aken, J. Maier
 - Grain Boundaries in Ba(Zr,Ce,Y)O₃ Proton Conductors W. Sigle, D. Zhou, Y. Huang, R. Merkle, P. A. van Aken, J. Maier
 - Propagating Wedge Polaritons Interacting With Patterned Defect Structures in Bi₂Se₃ Nanoplatelets R. Lingstädt, N. Talebi, M. Hentschel, S. Mashhadi Sheikholharam, M. Burghard, H. Giessen, P. A. van Aken
 - HRTEM of Alkali-Halide Clusters Deposited on Graphene using Electrospray Ion-Beam Deposition N. Vats, Y. Wang, S. Sen, S. Siliyazgi, H. Ochner, S. Abb, W. Sigle, S. Rauschenbach, M. Burghard, K. Kern, E. Besley, P. A. van Aken
 - Strain-Driven Metal-to-Insulator Transition in a Geometrically Frustrated Spinel Oxide LiV₂O₄ Y. M. Wu, U. Niemann, Y. Wang, T. J. Pennycook, M. Kim, H. Takagi, P. A. van Aken
- 2020 - IEEE Photonics Conference (IPC)
 - Mid-infrared second harmonic generation in Ge/SiGe coupled quantum wells Jacopo Frigerio, Chiara Ciano, Andrea Ballabio, Daniel Chrastina, Jonas Allerbeck, Joel Kuttruff, Lunjie Zeng, Eva Olsson, Daniele Brida, Giovanni Isella, Michele Virgilio, Michele Ortolani
- 2020 - European Microscopy Congress (EMC)
 - One-pot synthesis of core/shell Cu/FePt nanocatalysts for efficient oxygen reduction reaction: morphology and structure evolutions Xu Chen, Yi Wang, Kersten Hahn, Hao Wang, Peter A. van Aken

- Direct Visualization of Strain-Driven Charge Ordering in LiV₂O₄ Yu-Mi Wu, Ulrike Niemann, Yi Wang, Y. Eren Suyolcu, Minu Kim, Hidenori Takagi, Peter A. van Aken
- Near-field Electron Ptychography using a Silicon Nitride diffuser Allars, F. ; Lu, P. ; Kruth, M. ; Dunin-Borkowski, R. ; Rodenburg, J. ; Maiden, A.
- 2021 - Society of Photo-Optical Instrumentation Engineers (SPIE)
 - Progress in atomic layer deposited α -Ga₂O₃ materials and solar-blind detectors F. C.-P. Massabuau, J. W. Roberts, D. Nicol, P. R. Edwards, M. McLelland, G. L. Dallas, D. A. Hunter, E. A. Nicolson, J. C. Jarman, A. Kovács, R. W. Martin, R. A. Oliver, P. R. Chalker
- 2021 - International Symposium for Testing and Failure Analysis (ISTFA)
 - In-Situ Electrical Biasing of Electrically Connected TEM Lamellae with Embedded Nanodevices Maria Brodovoi; Kilian Gruel; Lucas Chapuis; Aurélien Masseboeuf; Cécile Marcelot; Martin Hýtch; Frédéric Lorut; Christophe Gatel
- 2021 - Microscopy Conference
 - Applications of Vaporizer in Atmospheric Gas and Heating TEM; Dan Zhou, Ronald G. Spruit, Hugo Perez Garza, Penghui Lei, Zhengxiong Su, Chenyang Lu, Xiaoben Zhang, Fan Zhang
 - Live scanning ptychography with the LiberTEM software framework; Dieter Weber, Achim Strauch, Alexander Clausen, Arya Bangun, Anastasiia Lesnichaia, Knut Müller-Caspary
 - 3D Electron Diffraction/Micro-ED for Structural Characterization of beam sensitive Loratadine and Linagliptin APIs using Pixelated detectors; Partha Pratim Das, Athanassios S. Galanis, Alejandro Gómez Pérez, Stavros Nicolopoulos
 - Enabling Science Through European Electron Microscopy – ESTEEM: A European Success Story, Peter A. van Aken
- 2022 – Scientific conferences
 - From 2D to 3D Crystals / Leading partner : UANTWERP / 21-23/03/2022
 - Novel methods to quantify the atomic structure in 2D and 3D from STEM data through the combination of statistical parameter estimation and deep learning / Leading partner : UANTWERP / 08-12/05/2022
 - PICO2022 / Leading partner : CEOS / 09/05/2022
 - PICO 2022 / Leading partner : JUELICH / 09-12/05/2022
 - "4th Croatian Congress on Microscopy" / Leading partner : JSI / 18/05/2022
 - MRS Spring 2022 / Leading partner : CNRS / 25/05/2022
 - E-MRS Spring Meeting - Tailoring polar displacements in Sr_{1-x}BaxMnO_{3- δ} epitaxial thin films / Leading partner : UNIZAR / 30/05/2022
 - Electron tomography under realistic conditions" SCANDEM 2022 / Leading partner : UANTWERP / 20-21/06/2022
 - International Zeolite Conference 2022 / Leading partner : UNIZAR / 03/07/2022
 - Gordon conference on plasmonics / Leading partner : CNRS / 10-15/07/2022
 - Microscopy & Microanalysis (M&M 2022) - Nanoparticle Localization Using Gabor Filters / Leading partner : UNIZAR / 31/07/2022
 - Microscopy & Microanalysis 2022 / Leading partner : CNRS / 02/08/2022
 - ELMINA at Serbian Academy of Sciences and Arts and the University of Belgrade / Leading partner : TUGraz / 22-26/08/2022
 - 3D Structure of Nanomaterials under Realistic Conditions "8thEuChemS Chemistry Congress (ECC8)" / Leading partner : UANTWERP / 28-30/08/2022
 - 16th Multinational Congress on Microscopy / Leading partner : TUGraz - 04-09/09/2022

- 3D characterization of nanoparticle transformations - 2nd Frontiers in Electron Microscopy for Physical and Life Sciences / Leading partner : UANTWERP / 27/09/2022-01/10/2022
- NuMat Elsevier / Leading partner : TUGraz / 24-28/10/2022
- 4th ELECMI International Workshop - Engineering polar states in multiferroic Sr1-xBaxMnO3 thin films / Leading partner : UNIZAR / 28/10/2022
- ICTS-ELECMI ICTS-ELECMI (Barcelona) / Leading partner : CNRS / 27-28 October 2022
- Advanced Electron Tomography for Colloidal Self-Assemblies" 2023 MRS Fall Meeting / Leading partner : UANTWERP / 08/11/2022-2/12/2022

Open access to data

ESTEEM3 intends to participate in the Open Research Data pilot. In this respect, a Data Management Plan (DMP) has been submitted within the first 6 months of the project. The DMP will specify the data to be generated or collected, the digital data formats (selected to minimize technological dependencies), the metadata format, the data sharing, and the repository.

Additional Comic strips

Two ESTEEM3 comic strips, one the promotion of TA and one on general access to ESTEEM3 have been promoted on the ESTEEM3 website. The main objective of those comic strips was to provide the audience with an attractive and clear overview of the project and on how transnational access works. Therefore, this content was designed to reach not only experts, but also interested non-specialists.

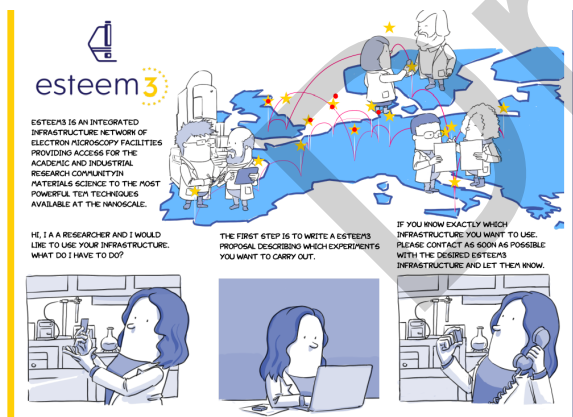


Figure 11. ESTEEM3 Comic Strip on How Transnational Access works?

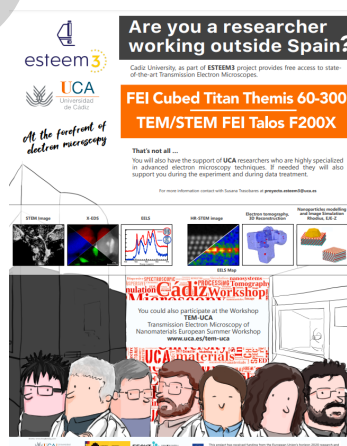


Figure 12. UCA Comic Strip and Transnational Access

Videos

At Month 8, a video on how transnational access works and how to apply for it, have been produced and promoted on the ESTEEM3 website and on YouTube.

Lasting 1 minute, this **first video** is a presentation video made in motion design that aim to explain in a nutshell the objectives, its three main activities, and the Transnational Access (TA) process on how to apply for it.

The video is available for free and accessible from the homepage of the website and at the following URL address: https://youtu.be/A0HMju_R4sw



Figure 13. ESTEEM3 Presentation Video

A final video will be produced to promote the results of the project during the last 6 months of ESTEEM3. The video will be published at month 53 and will be presented at the final conference which will be held on 31st May 2023 in Paris.

At this moment, the ESTEEM3 Management team is creating this Final video which will be a motion design video. The motion design video will be approximately 2 to 3 minutes long. The target audience for the Final video will be a large, non-expert public.

Partner projects

ESTEEM3 has built strong partnerships with other Horizon 2020 projects related to Electron Microscopy to strengthen knowledge transfer and synergies.



EUSMI - European Soft Matter Infrastructure

(<https://eusmi-h2020.eu/>)

The main objective of the EUSMI project is to provide an interdisciplinary infrastructure for soft matter research to support about 300 advanced projects in four years. The strategy is to put the needs of the individual soft matter scientist at the centre of EUSMI activities by providing cutting edge, specialized infrastructures that are not available within single institutions or even at the R&D centres of multinationals. The consortium gathers 23 partners from 12 countries.



Q-SORT - the Quantum Sorter

(<http://www.qsort.eu/>)

The Q-SORT project introduces a concept whereby the Transmission Electron Microscope (TEM) is employed as a so-called Quantum Sorter (hence the project's name), i.e. a device that is able to pick out and display detailed information about electron quantum states. In turn, this provides researchers with new information about the sample being examined.



TEESMAT - the Open innovation Test bed for Electrochemical Energy Storage MATerials

(<https://www.teesmat.eu/>)

The aim of the TEESMAT project is to set-up a platform (or OITB) dedicated to material characterization for Li-ion batteries, Na-ion batteries, Li all-solid batteries, printed Zn / Li batteries, Pb-acid batteries, metal-air batteries, redox flow batteries, supercapacitors, and any kind of other electrochemical energy storage device.

Furthermore, since the beginning of the project, several joint actions with other EU projects have been performed, such as:

- ESTEEM3 was featured in the **Webinar Series organised by RICH2**, the European Network of National Contact Points for Research Infrastructures in Horizon 2020, on Transnational Access to Material Sciences & Analytical Facilities on May 13, 2020. Link: https://www.esteem3.eu/news-archive?backRef=87&news=Webinar_RICH_2_TA_Material_Sciences_Analytical_Facilities
- In December 2020, a **webinar** was organized by **ESTEEM3**, **EUSMI** (Infrastructure for soft matter research) with a contribution of **TEESMAT** (Open Innovation Test Bed for Electrochemical Energy Storage Materials). Link: https://www.esteem3.eu/news-archive?backRef=87&news=Webinar_Transnational_Access_within_the_projects_ESTEEM3_and_EUSMI
- In September 2021, a **webinar** on “Science And Applications Of Coherent Electron Beam Manipulation” was organised jointly by the **Q-SORT**, **3D MAGiC**, **SMART-electron**, **Holo Workshop**, and **MINEON** projects, as well as by the **Nanoscience Institute at CNR** (CNR-NANO). Link: https://www.esteem3.eu/news?backRef=208&news=Conference_on_Science_And_Applications_Of_Coherent_Electron_Beam_Manipulation

Evaluation of results with Key Performance Indicators (KPIs)

During the ESTEEM3 lifecycle, two mechanisms are used to review the progress of the dissemination activities and provide feedback to the project:

1. The update of the dissemination and communication plan (see above)
2. The monitoring of Key Performance Indicators (see below)

Key Performance Indicators (KPIs)

Key Performance Indicators (KPI's), are a measuring factor for the performance and progress of an activity, message, task, etc. towards its expected impact. They will be used to assess the performance of the dissemination activities all along the project duration (see table below) and realign the dissemination plan if necessary, when KPIs are not matched and the expected impact not reached.

Transnational Access

The following indicators will apply:

- How many TA projects were accepted?
- How many TA projects are finalised?
- How many TA reporting forms were completed by TA users?

Communication

Brochure

The following indicators will apply:

- How many brochures were created?
- How many brochures were printed and distributed?

Website

The following indicators will apply:

- How many visitors and visits on the official website?
- How many news were published on the website?
- How the traffic from web pages links to the ESTEEM3 website? (For the monitoring of this KPI, see website section above)
- How the traffic of the channelling of visitors reaching the site via search engines? (For the monitoring of this KPI, see website section above)
- What are the top countries of website's visitors? (For the monitoring of this KPI, see website section above)

Newsletter

The following indicators will apply:

- How many newsletters have been sent so far?
- How many people have subscribed the ESTEEM3 newsletter?
- What is the average percentage of newsletter opening?

Social Media

The following indicators will be measured on Twitter and LinkedIn:

- How many members in LinkedIn group account?
- How many followers in Twitter group account?

Videos

The following indicators will be measured on the different promotional videos created by the project:

- How many videos have been created so far?
- How many views in total?

Dissemination

Publications

The following indicators will apply:

- How many scientific publications issued from the Joint Research Activities and the Transnational activities?
- How many conference papers and proceedings were published?
- How many deliverables were published?

Events

ESTEEM3 training events will be advertised on the website and in the newsletters. A list of attendees to these events will be kept and used for future dissemination actions. Other information collected will include:

- How many events were organised by ESTEEM3 (schools, workshops, trainings)?
- How many events where ESTEEM3 was presented?
- How many events ESTEEM3 attended (exhibitions, fairs, etc.)?
- How many other educational and training events including presentations to industrial users were organised?
- How many participations of ESTEEM3 in activities organised jointly with other EU initiatives or projects?

Press Releases

- How many press releases?

Media appearances

The following indicators will apply:

- Number and type of media appearance: to monitor the number of impacts in which the project has appeared/been mentioned in any media (i.e. publications, article, new, interview, workshop, etc).
- Number of recipients of the White Paper
- Number of recipients of the report

Monitoring of KPIs at M52 (M1-M52)

The following table gives an overview of the quantitative KPIs from the beginning of the project on 1st January 2019 to 1st April 2023 (M52).

These figures are considered for the overall duration of the project (4,5 years).

Despite the context of Covid-19, we can notice that the indicators measuring the performance of the communication and dissemination actions are good, mostly reaching **Excellent** and **Good** levels. It is anticipated that most of the KPIs should reach the **Excellent/Good** level by the end of the project.

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Actions	Metric	Status of KPI M52	Objective	Excellent	Good	Moderate	Weak	Comments
TRANSNATIONAL ACCESS								
Number of TA projects accepted	Number	441	500	≥ 450	≥ 350	≥ 250	< 150	This is the final figure. The TA is closed, so there will not be any other accepted project. The success rate is at 94% in terms of number of projects, but the number of TA units has been largely exceeded.
Number of TA projects finalised	Number	438	500	≥ 450	≥ 350	≥ 250	< 150	Constantly increasing since TA projects are running until the 30 th of June.
Reporting forms from TA users	Number	233	500	≥ 500	≥ 400	≥ 300	< 150	To mitigate this low figure, all the partners sent reminders by email to project leaders to fulfil this obligation. We received about 50 more reporting forms after the reminder. An additional reminder will be done prior to the 8 th GA.
COMMUNICATION								
Brochure	Number	2	2	≥ 1	1	-	0	2nd Brochure planned for M52
	Prints	850	1200	≥ 1150	≥ 850	≥ 550	< 350	200 additional final brochures will be printed before the end of the project
Website	Visitors (monthly)	884	500	≥ 450	≥ 350	≥ 250	< 150	Excellent
	News posts	139	200	≥ 150	≥ 100	≥ 50	< 25	Publication pace has been accelerated by the increase of activities and results in the last months. The last 3 months of the project will generate additional news.
Newsletter	Subscribers (S)	560	500	≥ 450	≥ 350	≥ 250	< 150	Excellent
	Number	7	8	≥ 8	≥ 6	≥ 3	< 3	1 edition is upcoming (June 2023)
	Openers (%)	43%	40%	≥ 40	≥ 30	≥ 20	< 10	It has been accelerated & achieved by the increase of activities and results in the last months
Newsletter 1	S/O%	160/47%	500/40%					
Newsletter 2	S/O%	483/28%	500/40%					
Newsletter 3	S/O%	300/25%	500/40%					
Newsletter 4	S/O%	529/27%	500/40%					
Newsletter 5	S/O%	529/31%	500/40%					
Newsletter 6	S/O%	532/30%	500/40%					
Newsletter 7	S/O%	560/43%	500/40%					
Twitter	Followers	514	400	≥ 350	≥ 250	≥ 150	< 50	Excellent
LinkedIn	Members	451	400	≥ 350	≥ 250	≥ 150	< 51	Excellent
Videos	Number	1	2	≥ 1	1	-	0	1 final video upcoming at M52 will be presented for the final event
	Views	740	500	≥ 450	≥ 350	≥ 250	< 150	Excellent
DISSEMINATION								
Journal articles (peer-reviewed and open access)	Number	520	500	≥ 450	≥ 350	≥ 250	< 150	Excellent
Public deliverables	Number	36	57	≥ 50	≥ 30	≥ 10	< 5	It will be accelerated & achieved by the submission of a wave of public deliverables in April 2023
Conference papers and proceedings	Number	15	10	≥ 10	≥ 6	≥ 3	< 3	Excellent
Schools, workshops, training	Number	11	11	≥ 10	≥ 6	≥ 3	< 3	2 will be organised by the end of the project (2023)
Number of events attended	Number	8	10	≥ 10	≥ 6	≥ 3	< 3	It will be accelerated & achieved by the increase of activities and results in the next two months
Exhibitions	Number	6	5	≥ 5	≥ 4	≥ 1	< 1	Excellent
Other educational/training events including actions to industrial users	Number	70	20	≥ 20	≥ 17	≥ 10	< 10	Excellent
Participation in activities organised jointly with other EU project(s)	Number	4	5	≥ 5	≥ 4	≥ 1	< 1	Good, the consortium will seek for collaborations for the final event.
Online presence - media articles	Number	5	5	≥ 5	≥ 4	≥ 1	< 1	. Publications in the EMS yearbook as well as EU research magazine.
Press releases	Number	2	2	>2	2	1	0	There are two press releases issued by the partners of the project. Instead of a press release, the consortium decided to create an additional video to present the project's results.

White paper	Number	NA	500	≥ 450	≥ 350	≥ 250	< 150	An innovation strategy white paper will be issued at the end of April.
Sustainability routes	Number	NA	500	≥ 450	≥ 350	≥ 250	< 150	There will be two deliverables which analyse the sustainability of the project. The first deliverable is “D1.3. - Report on a possible legal structure” and the second deliverable is “D1.5 - Report on possible business model for sustainable funding”

Table 3. ESTEEM3 status of KPIs for communication and dissemination at M52

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Upcoming actions

As presented in the previous section related to the KPI evaluation, some actions are still running to reach our KPIs objectives. In this sense, new actions need to be implemented and/or an updated plan can be considered.

The creation of new communication materials

The creation of new communication materials and that were not planned originally should enable to reinforce the dissemination of online information.

- The development of **2 interviews** of the partners
- A final **promotional video** of the project's results
- The **impact factsheet** related to the project potential impact will be included in the final brochure.

Dissemination: Organisation and participation to events

Events to be organised by the project

The target of the organisation of eleven workshops and schools set in the Grant Agreement is in good way of achieving because despite the postponements due to the COVID-19 health crisis, eight workshops and schools are already organised.

Only three more workshops/schools need to be scheduled by the end of the project in June 2023 to reach the initial target:

- European workshop on advanced in-situ electron microscopy of ICT structures and quantum devices by CHA
- European workshop on quantitative STEM imaging by LJU

Finally, the **final event** of the project will be organised by CNRS-LPS Orsay and Euronovia in Paris on May 31st 2023 to promote and disseminate all the project results.

Exploitation of the results

If applicable, the work of identifying and characterising the exploitable results will be launched. We will contact the services of the European Commission's Horizon Results Booster to reinforce our existing exploitation strategy. The service that will be mobilized will be the first one, Module C called "Assisting projects to improve their existing exploitation strategy". All information and analysis will be reported in the final technical report and the last update of this deliverable at the end of the project.