



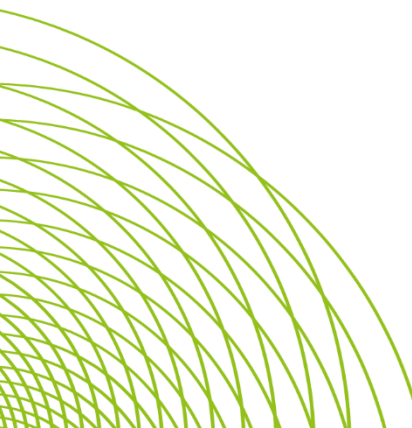
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# NEPHEWS

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Project Acronym	NEPHEWS
Full title	NEutrons and Photons Elevating Worldwide Science
Project ID	101131414
Lead beneficiary	EuXFEL

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## I. Introduction

This document will outline the dissemination and exploitation plan of the NEPHEWS project during the project period. It will highlight the communication's role within these activities, as well as summarize the strategic approach.

To recapitulate, NEPHEWS is an international collaboration within the light source community that fosters:

- a) the way to access leading research infrastructures (RI) in Europe.
- b) tailored training for young researchers; and c) personalized twinning with experienced users of the RIs.

Foreseen benefits of NEPHEWS include:

- a) advancement of European science for the benefit of global society.
- b) support and fast-track access through trans-national access for excellent scientists.
- c) development of early-stage researchers.
- d) widening of user communities.

The following text details the three pillars – communication, dissemination, and exploitation - towards sharing of the impact with the relevant communities. These concepts were already introduced in the project proposal, and this document only seeks to reiterate them and enhance the understanding of the specifics.

## II. Impact

Results and impact as predicted in the proposal, and the possible measurable key performance indicators (KPIs) and channels.

- Delivering over 38 290 hours of TNA.
- More coherent and successful user communities.
- Enhanced training opportunities.
- Unlocking the potential of the Widening countries (underrepresented and non-facility countries).

The predicted impact outcomes:

- More diverse and distributed user communities leading to increase in user community size.
- New cultures and scientific problems to be addressed by the user communities and the facilities.
- Better scientific outputs of the RIs with increase in publications and citations.
- Wider EU RI landscape synergies through knowledge transfer in areas such as IT development, data handling, user experience and equipment development.

Target Group	Message/Output	Delivery	Monitoring
<b>Academia</b> <i>Early-stage researchers (ESRs)</i>	<ul style="list-style-type: none"> <li>• Provide Curiosity-driven Trans-National Access (TNA) to the excellent SR, FEL and N RI of Europe</li> <li>• Lower the barriers to access for new and non-expert users by providing education and training</li> <li>• Provide twinning for scientific sustainability by bringing experienced users together with new users for scientific and knowledge exchange</li> </ul>	<ul style="list-style-type: none"> <li>• Leaflets</li> <li>• Rollups</li> <li>• Website</li> <li>• Dedicated campaigns in the widening region / 8 shortlisted countries</li> <li>• Posters</li> <li>• ESUO&amp;ENSA Champions Team</li> </ul>	<ul style="list-style-type: none"> <li>• User metrics methodologies: Mapping and Sizing of Scientific Communities, User Statistics.</li> <li>• Integration of expertise and methods from differing disciplines in pursuit of NEPHEWS objectives</li> <li>• Research data management and management of other research outputs: in line with FAIR.</li> <li>• Open science practices in NEPHEWS</li> <li>• Gender dimensions and inclusivity within NEPHEWS</li> </ul>
<b>Academia</b> <i>Students</i>	Provide twinning for scientific sustainability by bringing experienced users together with	<ul style="list-style-type: none"> <li>• Leaflets</li> <li>• Rollups</li> <li>• Website</li> </ul>	<ul style="list-style-type: none"> <li>• User metrics methodologies: Mapping and Sizing of Scientific Communities, User Statistics.</li> </ul>

	new users for scientific and knowledge exchange	<ul style="list-style-type: none"> <li>• Dedicated campaigns in the widening region / 8 shortlisted countries</li> <li>• Posters</li> </ul>	<ul style="list-style-type: none"> <li>• Integration of expertise and methods from differing disciplines in pursuit of NEPHEWS objectives</li> <li>• Research data management and management of other research outputs: in line with FAIR</li> <li>• Open science practices in NEPHEWS.</li> <li>• Gender dimensions and inclusivity within NEPHEWS</li> </ul>
<b>Academia Supervisors</b>	Lower the barriers to access for new and non-expert users by providing education and training	<ul style="list-style-type: none"> <li>• Leaflets</li> <li>• Rollups</li> <li>• Website</li> <li>• Posters</li> <li>• Dedicated campaigns in the widening region / 8 shortlisted countries</li> </ul>	<ul style="list-style-type: none"> <li>• User metrics methodologies: Mapping and Sizing of Scientific Communities, User Statistics.</li> <li>• Integration of expertise and methods from differing disciplines in pursuit of NEPHEWS objectives</li> <li>• Research data management and management of other research outputs: in line with FAIR</li> <li>• Open science practices in NEPHEWS</li> <li>• Gender dimensions and inclusivity within NEPHEWS</li> </ul>
<b>Academia Outreach to Africa</b>	<ul style="list-style-type: none"> <li>• Lower the barriers to access for new and non-expert users by providing education and training</li> <li>• Provide twinning for scientific sustainability by bringing experienced users together with new users for scientific and knowledge exchange</li> </ul>	<ul style="list-style-type: none"> <li>• Leaflets</li> <li>• 4x InfoDays/Workshops in Africa</li> <li>• Website</li> </ul>	<ul style="list-style-type: none"> <li>• User metrics methodologies: Mapping and Sizing of Scientific Communities, User Statistics.</li> <li>• Integration of expertise and methods from differing disciplines in pursuit of NEPHEWS objectives</li> <li>• Research data management and management of other research outputs: in line with FAIR</li> <li>• Open science practices in NEPHEWS</li> <li>• Gender dimensions and inclusivity within NEPHEWS</li> </ul>
<b>Policymakers National</b>	<ul style="list-style-type: none"> <li>• Advocate for sustainable national access mechanisms by setting up a political dialogue with the national research funding agencies</li> </ul>	<ul style="list-style-type: none"> <li>• Direct reporting within individual networks</li> <li>• Website</li> </ul>	Guidelines and Principles of the European Charter for Access to Research Infrastructures

	<p>and providing user metrics to illustrate the benefit to national science impact</p> <ul style="list-style-type: none"> <li>• Exploitation for policy impact</li> <li>• International and national research and research and innovation actions</li> </ul>	<ul style="list-style-type: none"> <li>• Leaflets</li> </ul>	
<p><b>Polymakers</b> <i>EU/ International</i></p>	<ul style="list-style-type: none"> <li>• Advocate for sustainable national access mechanisms by setting up a political dialogue with the national research funding agencies and providing user metrics to illustrate the benefit to national science impact</li> <li>• Exploitation for policy impact</li> <li>• International and national research and research and innovation actions</li> </ul>	<ul style="list-style-type: none"> <li>• Direct reporting within individual networks</li> <li>• Website</li> <li>• Leaflets</li> <li>• Horizon magazine</li> </ul>	<p>Guidelines and Principles of the European Charter for Access to Research Infrastructures</p>
<p><b>General Public</b> <i>Outreach &amp; early education</i></p>	<ul style="list-style-type: none"> <li>• Awareness of scientific impact on society</li> <li>• Awareness of careers in science</li> </ul>	<ul style="list-style-type: none"> <li>• Website</li> <li>• Dedicated local outreach activities in early education</li> </ul>	<p>Gender dimensions and inclusivity within NEPHEWS.</p>
<p><b>Internal communication</b></p>	<ul style="list-style-type: none"> <li>• Facility representation</li> <li>• Career for involved scientists</li> </ul>	<ul style="list-style-type: none"> <li>• Website</li> <li>• Consortium itself</li> <li>• ESUO&amp;ENSA Champions Team</li> </ul>	

## III. Communication

NEPHEWS recognizes the vital importance of efficient internal communication that precedes and complements external communication activities. This is to efficiently manage the scope of the NEPHEWS consortium, whose impact is significant also thanks to its size.

- Foreseen external communication channels, already outlined in the proposal:
- Consortium itself
- Horizon magazine
- Leaflets
- Rollups
- ESUO & ENSA Champions team
- Website
- Flyers/posters
- InfoDays
- Dedicated campaigns
- Policymaker direct reporting

Group	Need	Message	Actions
Scientific community /ESRs in widening countries/regions	Remove perception barriers	Openness	A range of channels will be used as described in the WP3, nonetheless, the true push will come from one to one contact and moderator activities.
Policymakers	Highlight importance and create intrinsic involvement	Urgency	Get involved with local representatives, policymakers, embassies, and government-academia organs to promote the twinning and training and use of facilities within the consortia.
Scientific community in experienced countries/regions	Inspire intrinsic involvement and promote qualified application for the call	Legacy	Experienced community needs to understand and recognize the value of participating in the twinning and training – this will be achieved by individual recognition, targeted one to one communication and intrafacility support of the activities.
Youth/early education outreach	Create awareness	Inspiration	Similarly, to activities towards General Public, awareness will be created by direct and indirect methods and tools used as described in subtask x.1.
General public	Promote awareness of importance of science	Relatability	For early education purposes, local cartoon character collaborations would promote involvement and relatability across children especially, but also for general public. (examples: Die Sendung mit der Maus, Krtček, etc.)

### Champions team – ESUO/ENSA national representative network

The ESUO/ENSA team is the first model community created for NEPHEWS. What is important is that they recognize the activities as embedded in their daily jobs, not much of an activity on top – this will ensure regularity and motivation.

The Champions will be the frontliners that share the information with relevant communities; assist with negotiations with ESRs’ supervisors if needed; encourage itnerhub connection; and report on any tactical obstacles.

## IV. Dissemination

- Delivering over 38 290 hours of TNA

Benefits for the ESRs and their network are evident. Nonetheless, it is essential to acknowledge that the results of TNA are to be disseminated to the facilities themselves – to highlight the value of such access mode and the wider user community. This should be done on a running basis throughout the project, via direct contact and the NEPHEWS consortium.

- More coherent and successful user communities

This impact needs to be communicated on the level of the facilities, universities, as well as nationally. The result dissemination will be evident during conferences, and in the statistics of the individual facilities when it comes to beamtime applications and awarded projects.

- Enhanced training opportunities

Dissemination through success stories to the stakeholders such as ESRs and universities.

- Unlocking the potential of the Widening countries (underrepresented and non-facility countries)

It is foreseen the impact will be evident statistically on the facility level. This is predicted to seep into the quality and quantity of scientific publications, wider databases, and stronger trends in science education.

The predicted impact outcomes:

- More diverse and distributed user communities leading to increase in user community size

NEPHEWS is a project that fosters global impact through individual engagement. Therefore, word-of-mouth dissemination is a valid mode of making the impact available to other stakeholders. This includes conferences, workshops, summer schools, etc.

- New cultures and scientific problems to be addressed by the user communities and the facilities

All data set up for public dissemination (as per GA) will be made available through the website for public access. This will allow the community to interact much more readily and in a targeted way.

- Better scientific outputs of the RIs with increase in publications and citations

This impact is to be disseminated during conferences, one-to-one meetings of NEPHEWS consortium members with policymakers, and success stories online.

- Wider EU RI landscape synergies through knowledge transfer in areas such as IT development, data handling, user experience and equipment development

Statistics will be particularly interesting for policymakers on the national and EU level. This will be disseminated via personal contacts as well as conferences.



## V. Exploitation

- Delivering 38 290 hours of TNA

Stakeholders such as universities, facilities, and society at large will benefit from research data shared via open-access articles.

- More coherent and successful user communities

ESRs and facilities can use the newly enhanced communities for quicker advancements in science through targeted collaborations.

- Enhanced training opportunities

Novel training programmes or software to be used by final stakeholders such as universities or industry.

- Unlocking the potential of the Widening countries (underrepresented and non-facility countries)

The effect of NEPHEWS is foreseen to be visible to the general public through early education outreach and the promotion of science as a career path. Further recommendations and roadmaps for policymakers are considered.

The predicted impact outcomes:

- More diverse and distributed user communities leading to increase in user community size

Wider scope of use of light sources in non-physical science fields.

- New cultures and scientific problems to be addressed by the user communities and the facilities

Challenge-driven science forums will be tackled by a structured NEPHEWS community.

- Better scientific outputs of the RIs with increase in publications and citations

Facilities reaching ambitious targets, hence advancing the developments and collaborations.

- Wider EU RI landscape synergies through knowledge transfer in areas such as IT development, data handling, user experience and equipment development

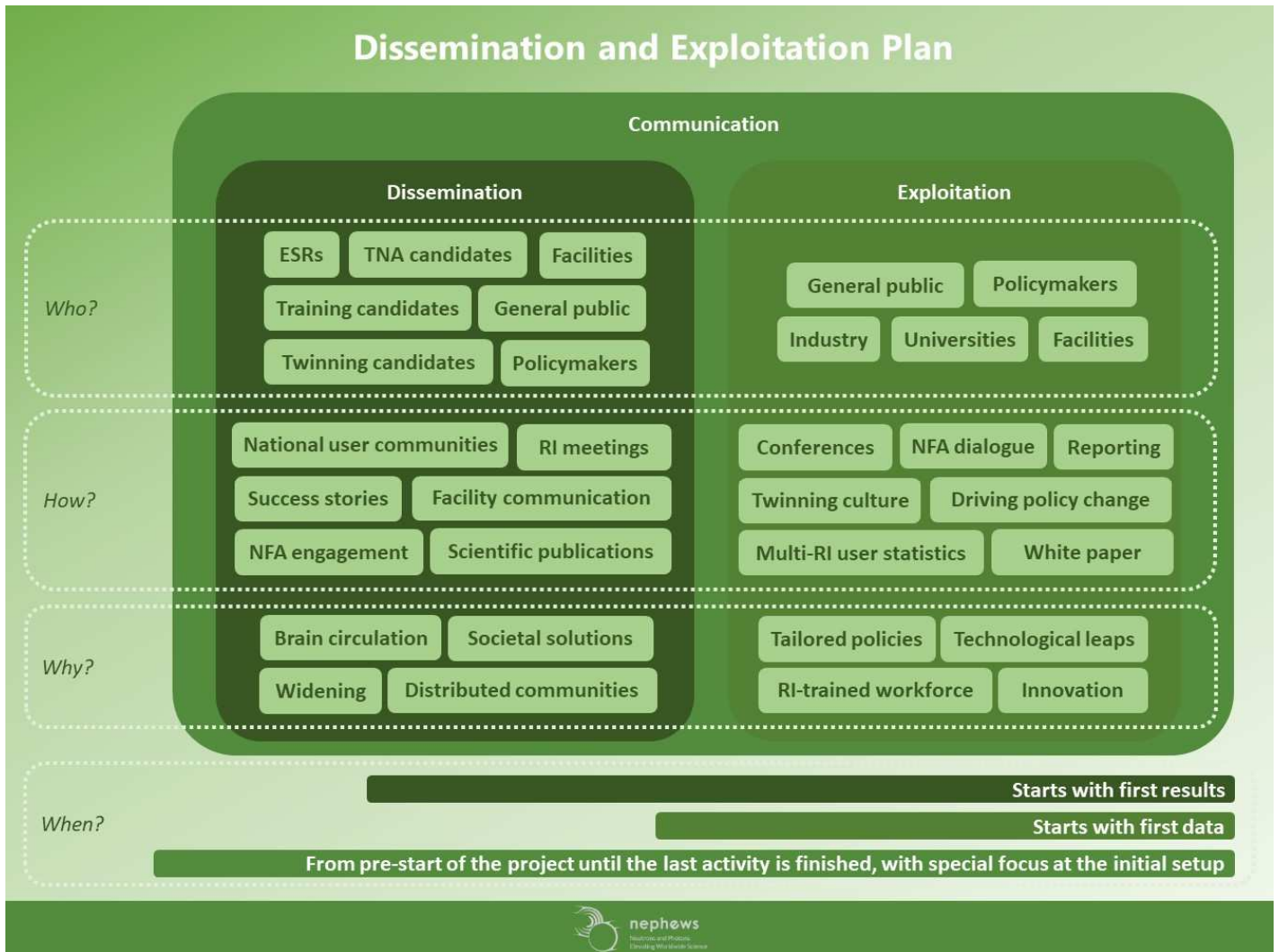
Potential to benefit the industry through direct and targeted pairing.

Secondary exploitation

It must be noted that while NEPHEWS oversees the organizational side of TNA, twinning, and training, and therefore the data produced will be largely statistical; the impact of the research that could not have been done without the aid of NEPHEWS will be much larger. Also, this means that the research results will be much further reaching than the primary outcomes of the project.

The foreseen exploitable research will have the potential to be used by the industrial ecosystem, policymakers, and European society at large.

## Appendix 1 – Visualization of the D&E plan



## Appendix 2 - Mission, Vision & Identity

NEPHEWS project sets out on an ambitious journey to foster the brain circulation of excellent scientists and strengthen Europe's leading positioning in the global scientific ecosystem. Ultimately, actions taken within the NEPHEWS project duration are foreseen to contribute to the quality of life for European society through scientific leaps in health, safety, access to energy, and resource availability, to name a few.

These goals are achieved through strategic organizational involvement combined with tactical nurturing of individual strengths. The values of NEPHEWS, such as inclusivity and accessibility, ensure the project's exceptional reach and therefore widening impact and are central to the identity of the activities.



## Appendix 3 – Key element of the project impact

### KEY ELEMENT OF THE IMPACT SECTION

#### SPECIFIC NEEDS

**What are the specific needs that triggered this project?**

**Reduce barriers to access.** Most X-ray SR/FEL and N RIs are funded for national use. International users provide significant scientific value to RIs but such open access, is not well resourced. These limitations throttle scientific diversity, lead to knowledge and expertise loss in countries without RI.

**A sustainable community** of users of RIs across European facility landscape.

**Resilient access routes.** There is a need for national funding; this funding can significantly grow the national user base in countries without a national RI.

**Knowledgeable, diverse and democratised user communities** are needed for RIs to provide knowledge transfer to industry and wider society.

#### EXPECTED RESULTS

**What do you expect to generate by the end of the project?**

**TNA Access:** for 902 users to 16RIs. **Train and Educate** new users in benefits and complementary science of RIs, provide knowledge of how to access.

**Twinning Activities:** for 135 guests on-site at 20 RIs + 8 from Africa. **Community Breadth:** A diversification of the user base from ERA and Africa.

**User statistics and metrics** and policy **white paper** and roadmap to support new national access programmes for TNA of RIs with funding agencies.

**User metrics and demographics** to be published as well as highlights of scientific discoveries made through TNA.

#### D & E & C MEASURES

**What dissemination, exploitation and communication measures will you apply to the results?**

**Dissemination** to national user scientific communities on results of TNA access via Moderator, highlighting success stories throughout project, and to national funding agencies (NFAs) in targeted Widening countries. **Exploitation** by providing assistance in dialog for access funding with NFAs. **Communication** at RI/ESUO/ENSA/RI national and international conference on access outcomes and engagement with NFAs.

**Dissemination:** Scientific publications and facility communication. Direct engagement through ESUO and ENSA national representatives. **Exploitation:** Embed sustainable twinning culture in RI communities; expand user communities across the ERA by seeding new users providing knowledge, experiential transfer to academia in widening countries. **Communication through** Facility communications, website and direct engagements through meetings, seminars and training activities.

**Dissemination:** Publication in relevant scientific literature; Representation to NFAs. Production of NEPHEWS white paper, reports and materials. **Exploitation:** Use statistics and metrics to drive policy change nationally and internationally.

**Dissemination via** RI meetings, to ESUO, ENSA and national communities. **Exploitation:** Collate and aggregate multi-RI statistics and user metrics to provide an overview of the ERA user community and its impact.