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Communication plan

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Summary

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Approval

Date	By
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2022-12-02 09:49:38	Dr. Myriam BOURGEOIS (CEA)

Disclaimer

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Preface

This project named NUCOBAM Nuclear Component Based on Additive Manufacturing has received funding from the EURATOM research and training programme 2014-2018 under grant agreement No 945313. The partners are:

- CEA: Commissariat à l'énergie atomique et aux Energies Alternatives,
- EDF: Electricité de France,
- LABORELEC: Belgisch Laboratorium van de Elektriciteitsindustrie Laborelec cvba,
- TRACTEBEL: Tractebel engineering,
- NAVAL: Naval group,
- FRAMATOME: Framatome SAS,
- CIEMAT: Centro de investigaciones energeticas, medioambientales y tecnologicas-ciemat,
- UDSD: The university of Sheffield, VTT: Technical Research Centre of Finland Ltd,
- SCK.CEN: Centre d'étude de l'énergie nucléaire fondation d'utilité publique,
- JRC: Joint Research Centre- european commission,
- RAMEN VALVES: Ramen valves ab,
- IRSN: Institut de radioprotection et de sureté nucléaire.

History

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07/02/2022	N°1	P.F. GIROUX	M. BOURGEOIS R. VERLET	Submitted to all consortium until 11/03/2022, no comment received
05/09/2022	N°2	M. BOURGEOIS	R.VERLET	Measurable quantitative targets added in accordance with the evaluation report
28/09/2022		M. BOURGEOIS		Re-evaluation of Target Regulator People
11/10/2022			all	Submitted to all consortium
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Abbreviations and Acronyms

Acronym	Description
AM	Additive Manufacturing
NUCOBAM	NUclear COmponents Based on Additive Manufacturing
NUGENIA	Nuclear Generation II & III Alliance
SNETP	Sustainable Nuclear Energy Technology Platform
WP	Work Package

Executive Summary

The Communication Action Plan describes the proposed communication measures for promoting the project and its findings during the period of the grant. It also identifies the communication strategic objectives.

Keywords

Exploitation, Dissemination, Nuclear, additive manufacturing, qualification

1. Introduction

1.1. Purpose and scope

This document sets out the communication strategy and action plan to promote, inform and ensure the international visibility of NUCOBAM through various means including the public website, the project presentation, publications in journals and participation in conferences and other relevant events.

The scope includes all actions taken in and outside the project in terms of knowledge dissemination and public communication on the project and its results.

Communication actions will be continuously monitored and updated accordingly in this document.

1.2. Approval process

The present plan was drafted by the Coordinator and shared with the Executive Committee (ExCom) and NUCOBAM partners.

1.3. Applicability

The plan is applicable to all project partners, subject to the defined communication process, for the duration of NUCOBAM project.

2. Communication strategy

2.1. Objectives

The key objectives of public communication activities in NUCOBAM are to:

- issue the Project presentation and the communication plan,
- set up and maintain a public website,
- manage external interaction and organize events (workshop).

In detail:

Project presentation (CEA)

The Project presentation will include the Project objectives, activities, expected outcome and impact in a 1 page document according to the template provided by the SNETP organization. The document will be provided to SNETP and its contents will be used for the initial public communication of the project.

Communication plan (CEA)

Essential activity for NUCOBAM project is the realization of an adequate Europe-wide dissemination campaign with the specific aim to:

- create awareness of the project and its links with SNETP,

- disseminate results obtained from various work packages of the project, within and outside the research community,
- create the basis for the exploitation of NUCOBAM results, especially for the Nuclear Safety Authorities and national regulatory bodies.
- Perform dissemination of success stories regarding demonstration actions realized within the project in order to promote broad adoption of the technological advances made in it,
- communicate technological solutions and methodologies developed inside NUCOBAM.

Open website (CEA)

These tasks aim at developing and maintain the NUCOBAM public website. This website will provide general information on the Project and communicate on the news and events. It will provide links to SNETP and NUGENIA websites.

Target groups

Communication needs to be adapted to each target audience group. The expectations and needs of each group should be analysed and taken into account. The following audiences are targeted in the present communication strategy:

- the nuclear industry (end-users),
- the other industry sectors using additive manufacturing,
- EU and national regulators and policy makers, and standardisation bodies,
- the scientific community,
- EC H2020 programme,
- SNETP-AISBL and other related networks or initiatives,
- the civil society.

Dissemination towards the nuclear industry (end-users)

The organization of 2 international public workshops and 1 FabLab event is foreseen (for which a provision of 30 k€ is allocated to CIEMAT – 10 k€ for each event).

The second workshop will be specifically end-user-oriented and significant efforts will be made to attract as many industrial representatives as possible, both on European and world-wide level. Industrial members of the NUCOBAM end-user group will actively participate in the workshop and present the use of NUCOBAM results from an end-user perspective. These events are also an opportunity to set up a forum in which particular interests and approaches from both the scientific community and the industry can be shared, fostering an active discussion with the aim of turning research projects results into real and applicable benefits for nuclear power plants safety.

A Fab Lab event will be organised to present the AM use cases, the AM facilities, including Powder Lab and laser powder bed fusion equipment. A “Part Screening Session” will be part of the Fab Lab event to actively interact with the audience and select two cases to be produced afterwards. During the visit, a small and simple component manufacturing process could be launched during the event so that participants could see the process and the result in real time. Technical communication (oral and poster)

will be organised in parallel in order to share recent progress and debate on the qualification and codification expectations.

NUCOBAM partners will also participate in several industry-oriented events such as POWER-GEN, ENC (European Nuclear Conference), ICONNE (International Conference on Nuclear Engineering), WNA (World Nuclear Association) Symposium, Power plant Simulation Conference, or ICAPP (International Congress on the Advances in Nuclear Power Plants), where results will be presented from an industry point of view. These presentations will also be published in conference proceedings and books.

Dissemination towards other industry sectors using additive manufacturing

Other industry sectors with component obsolescence challenges such as aerospace and automobile are secondary users of NUCOBAM results. The NUCOBAM partners will seek for opportunities to participate in events and to publish in journals addressing these stakeholders. Events organised by the European Association of the Machine Tools Industries and related Manufacturing technologies (CECIMO) are an excellent opportunity to present NUCOBAM project and the more relevant results.

Dissemination toward EU and national regulators and policy makers, and standardisation bodies

To ensure the uptake by nuclear safety regulators and policy makers of the NUCOBAM results, NUCOBAM will carry out specific dissemination measures towards this target audience. As NUCOBAM will also contribute to the revision of standards, the consortium will as well carry out specific dissemination measures towards standardization bodies.

By the end of the project, NUCOBAM will issue guidelines for better use of additively manufactured components in nuclear power plants, developed in the project. These will be communicated and presented to EU nuclear safety regulators and policy makers – such as WENRA (Western European Nuclear Regulators' Association), NEA (Nuclear Energy Agency), IAEA (International Atomic Energy Agency) or the ENSREG (European Nuclear Safety Regulators Group) – as well as to their national equivalents. These guidelines allow safety regulators and policy makers to prepare/revise/set international standards.

Communication and presentation of NUCOBAM results to regulators and policy makers, as well as to standardisation bodies (such as the ASTM International Additive Manufacturing Center of Excellence (AM CoE), that brings together industry), will be made mainly by participation of NUCOBAM members in related conferences and symposia.

In addition, to establish a link early in the project, NUCOBAM will invite representatives from European and national regulatory bodies, and from standardisation bodies, to the annual consortium meetings. This will facilitate the uptake of NUCOBAM results in regulations, policies and standards. Finally, this target audience will be invited to the two public workshops organized by NUCOBAM, both as lecturers and as audience.

Since January 2015 a CEN/TC438 was established which has as its scope the standardisation in the field of Additive Manufacturing. CEN/TC 438 has the aim to make the link between research programs and European standardization in AM. The Secretariat of the CEN/TC 438 Committee will be contacted to present NUCOBAM project to this Committee during one of its meetings.

Dissemination towards the scientific community

It is expected that NUCOBAM results will be used largely by the scientific community in further research. This population is therefore a very important target for the NUCOBAM dissemination activities.

NUCOBAM results will be disseminated to the scientific community in several ways. Publications of NUCOBAM results will be made in peer-reviewed scientific journals with high ranking, such as Progress in additive manufacturing (Springer), Additive manufacturing (Elsevier), International Journal of Additive and Subtractive Materials Manufacturing, Nuclear materials and energy (Elsevier), Nuclear engineering and design (Elsevier), etc. to reach out to the scientific community. In accordance with the NUCOBAM policy for publications (see section 3.2), these will be open access as much as possible.

As mentioned earlier, NUCOBAM will also organize two workshops which will, besides end-users, mainly target the scientific community. Renowned scientists in the field of nuclear safety will be invited both as lecturers and as attendees.

NUCOBAM partners will also participate in many scientific conferences where results will be presented during the project. As mentioned in the previous paragraph, a number of conferences to which NUCOBAM partners will take part have already been identified. These conferences are international and gather most high-level scientific people working on radiation effects on nuclear materials. They will be held all around the world, in Europe, USA, and Asia. Other smaller conferences or workshops (national or international) are also foreseen in the frame of NUCOBAM to let researchers present and discuss their results as much as possible. In addition to oral or poster presentation such events can be the occasion to share results by publishing proceedings.

The public deliverables of NUCOBAM, and in particular the guidelines mentioned earlier, will be made available to the scientific community through the public website, through editors' website (APS, Elsevier...) and using the networks of project academic partners.

Dissemination towards the EC H2020 program

To create synergies and receive external input, NUCOBAM will aim to co-organise their workshops and parts of consortium meetings with other projects funded under the H2020 Euratom NFRP-2020-2019-04 call and under other related topics. NUCOBAM will also invite representatives, both as speakers and as participants, from other Euratom funded projects to the training school, which will be organized in the middle of the project.

Workshops on cross-project research questions will be organized during the events by the project, to create synergies and optimize the use of the available expertise in the research field. This will be facilitated by the fact that NUCOBAM partners are involved in several research projects funded under the same H2020 work program.

Dissemination towards SNETP-AISBL and other related networks or initiatives

SNETP-AISBL includes all major players in the nuclear field in Europe, including industry, research and academia. To ensure the uptake of NUCOBAM results by the SNETP-AISBL members, dissemination and close links will be made with SNETP-AISBL during the project.

Most of the NUCOBAM partners are members of SNETP-AISBL and some of them are members of the SNETP-AISBL ExCom. Furthermore, NUCOBAM will benefit from the advice from a SNETP-AISBL Executive Committee member with related expertise. This will ensure that project results are in line with the research agenda of SNETP-AISBL and facilitate the presentation of results to SNETP-AISBL members. It is planned to link NUCOBAM workshops with SNETP-AISBL events so as to ensure the presence of as many SNETP-AISBL partners as possible. Furthermore, the guidelines on how to better use additively manufactured components in nuclear power plants to be produced by NUCOBAM partners during the project will be published within the SNETP-AISBL technical areas 3 to 6.

In addition, the European Technology Platform in Additive manufacturing will be contacted to establish some common actions of dissemination. The platform has indeed already organized several relevant conferences on AM that would constitute an excellent dissemination channel for NUCOBAM results.

Dissemination towards the civil society

To ensure the acceptance of nuclear power as a continuous important source for energy by the civil society, it is important to communicate to citizens about the safety of reactors. NUCOBAM will therefore take measures which will make results visible to a large non-specialist audience.

The most appropriate way to reach the civil society is through more general communication about the purpose of the project and how its results can have a great impact on nuclear safety (see section 2.1.3). Being of highly technical nature, direct dissemination of project results to the citizens is not very suitable. However, to show that results actually have the expected impact, the overall progress made in the project with regards to nuclear safety will be presented in general media, such as generalist papers and videos posted on web. Popular social media with high impact on the civil society will be selected as dissemination channels to reach the civil society and let them know about NUCOBAM, explaining its objectives and results in an accessible way for non-experts and avoiding too specific communication.

NUCOBAM partners will also participate in specific public awareness information days regarding different procedures and activities involved in the management of an NPP, explained such as to be understandable by a nonexpert audience. For example, IRSN will participate at the “Fête de la science” organised every year in France in several cities, in which the public can participate in different workshops, hands-on experiments, labs etc.

2.2. Priorities

The following actions are identified as priorities. They are not exclusive, but represent the main actions on which the project should focus its efforts on:

- follow-up, support and improve communication activities in NUCOBAM,
- development and management of a NUCOBAM website,
- participation of NUCOBAM representatives in relevant international conferences & workshops.

3. Communication tools and materials

This section describes the various tools and materials that will support the present plan.

3.1. Visual identity

A logo will be designed to promote the project, allowing it to be easily identified. It will also give more visibility and homogeneity to the communication activities carried out in NUCOBAM.

The logo should appear on the website, reports, deliverables, documents, PowerPoint presentations etc.

Standard templates for presentations and posters will be designed and distributed to partners.

3.2. Project website

The NUCOBAM website is currently being designed. In this context, existing content will be updated and new content will be written, when appropriate, in a non-expert language in order to be comprehensible for the general public.

NUCOBAM website will be structured along the following main pages:

- Home
 - Partners
 - Ambitions
- About the project
 - Project objectives
 - Impacts
- Additive Manufacturing
 - Powder Materials
 - Standardization
 - Demonstrators
- Consortium
- News and Events
- Resources
 - Deliverables list
 - Related initiatives

Partners may be involved in providing content, for example the organisations' presentations, logos etc. The website will be updated regularly and will remain a flexible tool; content and structure may evolve if necessary. The website will enhance and promote MatISSE international visibility, promote the progress achieved all along the project and enable the dissemination of all public results. All content should be approved by the Executive Committee before release.

Increasing traffic

A way to increase the visibility of the NUCOBAM website is to promote the project via other websites, surely those of SNETP and NUGENIA. When the site is online, partners will be invited to include a link to

the NUCOBAM website on their organisation's websites and social media accounts, which will generate additional traffic and interest.

3.3. Online collaborative workspace

An online collaborative workspace for the NUCOBAM participants will be put in place for sharing administrative documents, deliverables, reports and any other relevant working files.

3.4. Project presentation

A project presentation has been produced at the beginning of the project. This document will be updated during the project in order to include progress made and results achieved.

3.5. Other materials

Additional material listed below can be produced when appropriate to communicate on the project.

- Press releases
- Newsletter
- Posters
- Presentations of the project at conferences
- E-mailing
- Exhibition material, such as a roll-up or stand

3.6. Obligations towards the European Commission

In accordance with the Commission's guidelines on visual identity, all EU programs must be identified exclusively by the EU emblem and the mention of the program name. All dissemination materials produced in the project (publications, website, publications, scientific papers etc.) should contain the following sentence:

"The project leading to this application has received funding from the Euratom research and training program 2014-2018 under grant agreement No 945313".

4. Communication actions

4.1. Planning and dates of the foreseen events

The 2 workshops and the FabLab event are planned to be organized between months 18 and 48.

The first workshop is dedicated to the first results and the two other events (2nd workshop and FabLab) are dedicated for dissemination on End Users Group, academic people and industry.

Consortium and the Project Officer agreed to have the **FabLab Event** organised at Laborelec near Bruxelles in September 2023 instead of March 2023 (decision taken at the first General Assembly meeting).

Event	When	Target audience	Target audience
First workshop	September 2022	NUCOBAM consortium	Industrial people: 20 Academic people: 20
FabLab	September 2023	NUCOBAM consortium + End User Group + external regulator, academic people and industrial people	Industrial people: 30 Academic people: 30 Regulator: 2
2 nd workshop	September 2024	NUCOBAM consortium + End User Group + external regulator, academic people and industrial people	Industrial people: 30 Academic people: 30 Regulator: 4

4.2. Articles & publications

Partners will be encouraged to submit articles to peer-reviewed journals. The submitted final versions of the articles and communications will be uploaded in the collaborative workspace folder of the relevant WP and published on the NUCOBAM website if made public. A mention on authors' copyrights will be inserted in the articles to be published.

Communication via EU research dissemination media, such as the CORDIS newsletter, will also be promoted.

For the detailed rules of disclosure please refer to the Grant Agreement.

Journals	Number	Target audience
Journals on material, nuclear components, additive manufacturing...	One per year	Industrial people: 200 Academic people: 5000 Regulator people: 22

4.3. General events

Participation to international conferences and workshops will be encouraged and will contribute to the maintenance, coordination and development of an effective network for the distribution of information about the project and enhance visibility on a global scale.

The participation of NUCOBAM in such events is decided by the Executive Committee or by the Coordinator.

This participation can take several forms:

- paper and presentation in a conference,
- participation in a workshop or other event
- poster presentation.

Conference	Number	What	Target audience
Conference on components behavior Conference on material and additive manufacturing Conference and codification workshops	two per year	Presentation and extended abstract / poster	Industrial people: 30 Academic people: 100 Regulator people: 20

All participations of NUCOBAM partners in relevant events will be recorded by the Coordinator for the purpose of monitoring and reporting.

Appendix WIKIPEDIA

National entities

Nuclear safety authority may refer to a national nuclear safety authority: (classification of countries in alphabetical order)

1. Afrique du Sud: National Nuclear Regulator (NNR),
2. Algérie: Commissariat algérien à l'énergie atomique,
3. Allemagne: Ministère fédéral de l'Environnement (BMU), pour la sûreté nucléaire et la radioprotection,
4. Office fédéral de radioprotection (de) (BfS), pour la radioprotection et le stockage des déchets,
5. Belgique: Agence fédérale de contrôle nucléaire (AFCN),
6. Canada: Commission canadienne de sûreté nucléaire,
7. Chine (république populaire): Administration nationale de la sûreté nucléaire (NNSA),
8. Corée du Sud: Nuclear Safety Security Commission (NSSC), l'Institut Coréen de sûreté nucléaire,
9. Émirats arabes unis: Federal Authority for Nuclear Regulation (FANR),
10. Espagne: Conseil de sécurité nucléaire,
11. États-Unis: Commission de réglementation nucléaire des États-Unis (U.S.NRC),
12. Finlande: Autorité de sûreté nucléaire et de radioprotection (STUK),
13. France: Autorité de sûreté nucléaire (ASN),
14. Inde: Atomic Energy Regulatory Board (en), "Conseil pour la réglementation de l'énergie nucléaire",
15. Japon: Autorité de réglementation du nucléaire (NRA),
16. Pakistan: Pakistan Nuclear Regulatory Authority (en), l'Autorité de Réglementation Nucléaire du Pakistan,
17. Royaume-uni: Office for Nuclear Regulation (ONR), le Bureau de Réglementation Nucléaire,
18. Russie: Rostekhnadzor (RTN), Service fédéral de l'écologie, des technologies et du contrôle nucléaire,
19. Suède: Autorité suédoise de sûreté radiologique,
20. Suisse: Inspection fédérale de la sécurité nucléaire (IFSIN)
21. Taiwan: Atomic Energy Council (AEC),
22. Turquie: Autorité turque pour l'énergie atomique (TAEK - Türkiye Atom Enerjisi Kurumu).

International entities

Nuclear safety authority may also refer to international associations or groups of nuclear safety authorities:

1. Groupement européen des autorités de sûreté nucléaire (ENSREG).
2. Association des autorités de sûreté nucléaire des pays d'Europe de l'Ouest (WENRA).
3. Association internationale des autorités de sûreté nucléaire (INRA).

Other entities

1. Association nucléaire mondiale (ANM/WNA).
2. Agence internationale de l'énergie atomique (AIEA/IAEA).