Deliverable 8.1 Dissemination and Communication Plan

Project: **topAM**

Full Title: Tailoring ODS materials processing routes for additive manufacturing of high temperature devices for aggressive environments.

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The purpose of this Dissemination and Communication plan is to provide guidance to all topAM project partners and to support them in finding the relevant information quickly and easily.

It does not supplement or replace the European Commission Horizon 2020 provisions or official documents, e.g. the EC Grant Agreement, nor the Consortium Agreement, but summarises important information and provides links to all key documents.

HISTORY OF CHANGES

Version 1.0	Issue date 30.03.2021

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 958192.

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1 General information

1.1 Introduction

The topAM consortium is fully aware of its obligation to promote the project tasks and its results according to the EU Grant Agreement Art 38.1. That is why a strategy for communication and dissemination is defined, provided as Deliverable 8.1. A strategic approach is given to the consortium in order to reach the multiple target audiences by using appropriate means of communication in order to maximise the visibility of the project and to raise awareness on the main objectives. Since the communication activities are clearly planned, they can be activated and strategically implemented by following the defined steps and addressing the target audiences as defined below.

1.2 Purpose, context and scope of this document

Our dissemination and communication strategy determines how we will communicate within the consortium to ensure a common approach by defined workflows, rules and procedures, and how topAM outcomes will be shared with the public.

To comply with the provision of the Grant Agreement, this document contains the contact persons, workflows and provisions to communicate and disseminate the project results. This document provides guidelines for all partners and includes the project webpage and other communication channels.

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2 topAM

2.1 Goals

The initial starting point for this project was the demand of industrial enterprises for materials that combine an outstanding corrosion resistance in aggressive high-temperature environments with excellent mechanical properties at extremely high temperatures of up to 1350 °C. Candidate materials, e.g., the ODS Fe-based alloy PM2000, or the ODS Cu-based alloy GlidCop, are extremely difficult to machine, and their market availability will disappear soon. The rapid development of advanced additive manufacturing (AM) processes requires a paradigm shift, i.e., tailoring new materials towards the AM process chain and the technical application. In this context, ODS alloys were identified as promising candidate materials to produce highly individualized burner heads and high-temperature heat exchangers, that are utilized in aggressive high-temperature environments, e.g., steam reformer plants. Gradual adaptation of the thermal conductivity and thermal expansion, the ability to form protective oxide and healing layers tailored for the respective aggressive environment, and the ODS mechanism in combination with the high degree of freedom in laser powder bed fusion (LPBF) will form the cornerstone of multifunctional material systems that allow for tailor-made designs of technical devices exposed to extreme operating conditions.

2.2 Impact

In summary, the following specific impacts will be addressed:

1. Improvement of energy and cost efficiency of the manufacturing process of at least 30 %,
2. Reduction of CO_2 emissions and resource utilization by 20 %,
3. Lifetime increase by at least 20 %.

The achievements envisioned for the two application cases “high-temperature burner head” and “high-temperature heat exchanger”, including the development of new ODS material concepts and the experiences gained with topology-optimized component design for AM, are completely transferable to industry. Application fields for high-temperature ODS alloys are manifold, e.g., in the energy-producing sector for receiving components or spare parts in CO_2 saving solar thermic power plants (600 – 800 °C), as gas turbine components in aviation applications (>1,000 °C) or, in the case of high-conductive ODS NiCu or Cu alloys, for fast-charging plugs in electro mobility (<700 °C). In all these cases, the alloys suffer from thermomechanical loading in combination with high-temperature corrosion, leading to a degradation of the material, which is aimed to be overcome by the ODS material design concepts in topAM. Furthermore, the component design, especially concerning the integration of sensors, is transferable to the mentioned cases, since functional integration as well as temperature and failure monitoring by smart sensors are features that are of distinct interest for all of these applications.

Since all steps of the material value chain are represented not only by experimental methods beyond the current state-of-the-art, but also by computer-based microstructure and process simulation approaches,

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the project will deliver a unique and robust toolset (ICME) to derive digital twins, making future material development and optimization tasks in AM much more efficient. Hence, topAM contributes to the protection of the environment by limiting the application of energy-intense materials, reducing the costs by at least 35 % at the same time.

The project consortium covers all steps along the value chain of the application-driven material development for LPBF. The industrial project partners, in particular the SMEs, will achieve higher competitiveness due to their strategic position in the value chain of materials processing, e.g., gas atomization and post processing of the AM structures. Eventually, topAM will strengthen Europe's leading position in the emerging technology field of AM in a unique combination with ICME.

The results obtained in topAM are not exclusive to the previously mentioned cases as materials with increased high-temperature corrosion behaviour in combination with improved mechanical properties are in demand for various industrial applications, e.g., receivers, heat exchangers or spare parts in solar-thermic power plants, in propulsion and engine systems or, when de-limiting from high-temperatures, also in maritime applications for NiCu and CuNi systems.

After the end of the project, the ODS process routines may be transferred to further alloy systems and to multiple application cases. As an example, NiCu and CuNi alloys exhibit excellent aqueous corrosion resistance and are used as piping systems in shipbuilding, offshore installations and other marine applications. For decades, seawater pipe systems made of Cu-Ni alloys have been put to successful use on seagoing vessels and offshore production units like platforms, drilling rigs, semisubmersibles, FPSOs etc. Seagoing vessels need large amounts of seawater daily for fire water systems, sprinkler systems, cooling systems or ballast systems. The materials used for seawater piping systems therefore must be highly resistant to cavitation erosion, crevice and galvanic corrosion, as well as stress corrosion cracking. Moreover, such materials must satisfy high standards in terms of hot and cold working properties and weldability. In this context, the results on the developed ODS NiCu alloys may be transferable as ODS strengthening is supposed to increase the mechanical properties and wear resistance, which is also of significant importance for maritime applications.

2.3 Approach

According to the reference document on Best Available Techniques for Energy Efficiency of 2009 by the European Commission, energy efficiency and its measurement within the IPPC Directive [1] generally addresses (i) reduction of carbon emissions (climate protection), (ii) enhancement of the security of energy supplies (through sustainable production), and (iii) reduction of costs (improvement in the competitiveness of business). When considering the process chain for ODS alloys from the point of view of resource requirements and energy consumption, the omission of several steps within the AM chain compared to the conventional routine has a significant impact. As the compacting and forming processes as well as the subtractive post-processing requires the service time of respective machines, including the consumption of electricity, these resources may be saved. In the case of establishment of complex geometries with full

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individualization and functional integration, processing through conventional methods is not possible as the subtractive post-processing does not allow the respective geometries. In this case, the material development routine for ODS alloys is solely possible by AM. By choosing this routine, which is meaningful for the anticipated application case, the costs for the manufacturing process and the necessary resources may be significantly reduced compared to conventional manufacturing. A conventionally manufactured part, for example a high-temperature burner head with a comparable complex geometry, is either impossible to generate or consists of multiple parts that must be joined. In this case, further energy needs to be afforded which (i) increases the costs massively and (ii) requires more resources. By the topology optimization according to the loading paths, material savings in combination with weight reduction is achieved which reduces the amount of raw material and the production costs as well. Recycling and usage of the non-melted powders according to the life cycle also decreases the amounts of gas atomization processing as well as the production costs. After considering these points, the energy use during the manufacturing routine may be decreased significantly, as highly energy consumptive parts of the conventional manufacturing process chain are omitted. An assessment of the component during service, i.e., the monitoring of temperatures and corrosive degradation, which is possible by the integration of sensors, will contribute to the security and help to minimize downtimes. Both the gas burner head and the heat exchangers are expected to be used in syngas plants such as steam reformer plants or partial oxidation plants. Large steam reforming plants are currently able to produce more than 150,000 standard cubic metres of hydrogen per hour. These plants can produce hydrogen from natural gas at an elevated efficiency with very limited CO_2 gaseous emission if carbon sequestration is considered, where 90 % of the CO_2 produced is made available as a pressurized liquid at 80 bar [2,3].

Structurally-loaded high-temperature devices, such as gas burner heads, suffer from massive materials degradation by oxidation and creep and need to be replaced frequently. Currently, FeCrAl or Ni-based superalloys are used within the components of the POX and reformer plants, both severely suffering from metal dusting attack in combination with creep. As central outcome of the project, the novel ODS material concept for AM will enable the end-users to extend the operation temperature range of high temperature devices by at least 50 K and the service life by at least 200 %. Currently, the typical application time of burner heads in a reformer plant is 3 months, while in a POX plant the time ranges to around 1 year. The burner heads are run permanently with a scheduled preventive replacement prior to failure. They suffer from temperature and pressure loading with a concurrent high thermal gradient (hot synthesis gas and 50 °C water cooling), so that, depending on the wall thickness, the components are exposed to high loads (compressive stresses). Applying the ODS concept, the lifetime of the burner heads shall be increased via a significant improvement of the creep and HCF resistance in conjunction with enhanced corrosion resistance, resulting of a lifetime increase for both plants of 200%, i.e., 6 months in reformer plants and 2 years in the POX plant. This estimation is justified by both the improved mechanical properties that were reported for ODS bulk alloys (mechanical lifetime), and the superior high-temperature corrosion behaviour of the Fe(Ni)CrAl- and NiCu-alloys not optimized for structural applications (chemical lifetime) [4,5]. The application temperature for NiCu alloys, for example, is limited by the creep behaviour at high temperatures

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exceeding 700°C [6]. With the ODS concept, it is intended to achieve a better creep resistance at higher temperatures. From the manufacturing as well as from the economical perspectives, AM is the only way to achieve the ODS material development and the desired high degree of functional integration without the necessity of machining and joining processes, resulting in cost and raw material savings and in an efficient rapid production of replacement parts. In the case of high temperature heat exchangers, the use of ODS NiCu-based alloys instead of Ni-base alloys, or refractories, yields a substantial increase in efficiency (at least 100 %), which is due to the higher thermal conductivity of approximately 320 Wm-1K-1 (ODS-Cu) instead of <15 Wm-1K-1 (Ni-base alloys, refractories) [4].

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3 Dissemination and communication strategy

3.1 Objectives

The overall aim of the communication and dissemination strategy is to inform about the project, to raise awareness of the project's main objectives and to increase the visibility of the project by communicating its results to a broad audience in academia and industry. The consortium is aware of the need to promote the project in general, to inform about new insights and results and to make these results available to end-users and stakeholders to pave the way for broad market uptake. The dissemination and communication activities promote the project and raise awareness to maximise the impact of results to the scientific community, stakeholders and Industrial Advisory Board (IAB) members.

3.2 Strategy

To promote the project and to raise awareness for our approach, a communication concept, including a corporate design and a set of specific communication tools, was developed to address the diverging target audiences appropriately. To ensure a common approach of the consortium, the strategy comprises specific means of communication and workflows on how to address the stakeholders and target groups precisely. For a high recognition value of our project, our acronym, logo and the acknowledgement of the EU funding will be used for every publication, may it be printed (flyer) or online material (webpage). Our stakeholder analysis will be continuously updated to identify important persons or groups who might be interested in our goals and results. Providing them information about the project will lead to a broader acceptance of our aims at an early-stage and the possibility to take advantage of their personal contacts and networks to accelerate and promote our project.

All project results, such as publications for journals, posters, lectures, etc. will be approved by the Steering Board prior to publication. This procedure ensures high quality of the project outcomes to the scientific community and it includes the possibility of assessment and documentation. Detailed procedures for the whole consortium to distribute results are laid out in the dissemination plan, including also the outreach activities. If no infringements with regard to exploitation activities exist, the results will be published gold-standard Open Access and linked by DOI with OpenAIRE, connecting them directly with CORDIS. The consortium is committed to present, debate and share the publishable results of the project at local, national events or on EU level. Consortium partners attending scientific meetings may make available any relevant information obtained during the meetings, thereby ensuring that other partners of the project are informed about related research carried out in the EU or other parts of the world.

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4 Stakeholders and target audience

4.1 Identification

The success of topAM scientific and technological goals also depends on the impact in the relevant industries and its stakeholders. They are defined as parties with interest in topAM who impact or are impacted by the project's results. The consortium has identified a list of stakeholders that are relevant to topAM. These are summarised in the following table.

Area	Stakeholders
Industrial consignees	ODS powder users Plant operators Applicants of gas burners/heat exchangers
Scientific community	Universities Research institutes (esp. high-temperature corrosion) Additive manufacturing Mechanical properties
Associations	DECHEMA SPIRE
Regulatory authority and standardisation organisations	e.g. CEN and CENELEC
Interested public	Visitors of conferences/fairs

4.2 Industrial Advisory Board

With the support of the Industrial Advisory Board (IAB), the results can be disseminated to a wider range of interested groups, while benefitting from the broad network and contacts of the IAB partners. The IAB is established for topAM to provide advice and scientific expertise to the network. The IAB's principal tasks include:

- Advice on the quality and relevance of the scientific and technical information being collected and processed by the consortium in terms of (i) the process routine for generation of ODS alloys, (ii) the material properties and (iii) the ICME approach.
- Advising the project approaches to better address end users and regulatory authorities.
- Advising the project partners on a broad scale about scientific matters in science, technology, social, economic and ethical issues.
- Advising the project network on emerging trends and other short-notice programmes.

The IAB will support us to promote the topAM results to inform the target audiences about the project, explain the wider societal relevance, and to raise the publicity for the project.

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The members are invited to advise the consortium on high level technical, political and strategic issues and in terms of scientific quality. The IAB is regularly informed on the topAM progress and provides feedback and ideas intended to shape and to accelerate the formation of the Europe-wide integration. The IAB will be invited to GA meetings or specific workshops to provide feedback on intermediate results and give their vision about relevant international technical, political and strategic developments and assist the consortium in strategic guidance. All IAB members maintain close relationships with the worldwide scientific and industrial community and ensure that topAM project stays at the leading edge of scientific developments.

4.3 Interaction

4.3.1 Networks

The PIs of the project partners know each other from long-term collaborations, common publications, etc., and are organized in international and national networks on AM, materials design and advanced materials testing, e.g., the Aachen Center for Additive Manufacturing (ACAM), the German Society for Materials Science (Technical Committee 'Additive Manufacturing'), the Gesellschaft für Korrosionsschutz GfKorr, ProcessNet, and ACHEMA.

4.3.2 Fairs and conferences

Through the participation in local, regional, national or EU events and conferences and the organisation of specific workshops and events, new results and project findings will be disseminated. Especially, the MACH, 3D Print and EUROMAT conferences are important events for the consortium to foster the scientific dialogue about our goals and achievements, not only to disseminate the project results, but also to receive feedback and opinions from experts and stakeholders within this field.

To promote the project results to a wide range of stakeholders, the participation of consortium partners to reference exhibitions for the commercial domain will be targeted for the duration of the project:

- Formnext, Germany
- MACH 2022 (Birmingham, UK)
- 3D Printing Expo (Dublin, Ireland)
- EUROCORR (varying locations)
- Werkstoffwoche (Dresden, Germany)
- EUROMAT (varying locations)
- NACE (varying locations, USA)
- TMS (varying locations, USA)
- ICME (varying locations, USA)

The mentioned exhibitions' and conferences' regular schedules (annually or biannually) allows timely dispersion of new results to the industrial and scientific community. By disseminating the project results and

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sharing them with leading industrial and scientific organisations, the current development beyond the state-of-the-art will be discussed and feedback can be included into our work plan during the whole project duration. In the first year of the project, the contact to stakeholders, besides our Industrial Advisory Board, will allow the consortium to gain early feedback. The participation at reference exhibitions or conferences during the last 18 months of the project will contribute to a wide dissemination, opening the project's results to new potential customers. It is anticipated to hold a status seminar on the high-temperature behaviour of the respective ODS alloys at the annual EUROCORR conference. Another two seminars with a focus on the AM routine and the generation of ODS alloys will be organized for industrial partners mainly. Additionally, a set of “open-days” will be programmed, addressing potential end users in the different regional markets.

4.3.3 Workshops

Knowledge and experience emerging from the collaboration of academic and industrial partners within this project and gained during the development and design of the new ODS materials for advanced AM, together with the feedback from end-users, will result in a knowledge and technology base available for highly educated young academics on the post-graduate level. More specifically, the coordinator will organise annual summer schools, to which young European postgraduates are invited to learn from the experience of senior scientists in industrial engineering and fundamental research. Additionally, our partners from distinguished universities will enlarge this programme. Finally, European students pursuing Bachelor’s and Master’s degrees will benefit from the implementation of project results in lectures on the topic “Materials for Additive Manufacturing”.

4.4 Measures

Measure	Objective	Audience	Level	Key performance indicators
Project website and newsletter	General information about the project	All persons interested	EU, worldwide	≥ 4 newsletters/ year ≥ 1,000 views/year
Information material (e.g. factsheet, flyer)	General information about the project	All persons interested	EU, worldwide	≥ 1,000 documents /project duration
Participation in conferences, seminars and workshops	Knowledge exchange	Scientists, companies	EU, worldwide	≥ 20 conference participations (all partners)/ project duration
Participation in international trade shows	Knowledge exchange and marketing	Companies	EU, worldwide	≥ 4 / trade show participations project duration
Organisation of the topAM summer schools	Education on new findings and results	Students	National, EU	4 summer schools / project duration
Cooperation with organisations, e.g., SPIRE	Awareness event to introduce new results	NGOS, Politicians	EU, worldwide	≥ 8 information events/project duration
Articles in scientific and business journals	Knowledge visibility	Scientists, Companies	EU, worldwide	≥ 20 articles/project duration

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ODS materials Ni-based alloy Fe-based alloy NiCu alloy	Information about new materials	Companies	EU, worldwide	1 with multiple modifications / different type of ODS particles for each component/ project duration
ODS material development routine	New manufacturing routine	Scientists, Companies	EU, worldwide	1 general routine with different machines involved/ project duration
Material property data sheets	Material properties for new materials	Scientists, Companies	EU, worldwide	1 sheet for each ODS material/ project duration
ICME tool for material simulation	Simulation software	Scientists, Companies	EU, worldwide	1 simulation software, consisting of multiple subroutine/ project duration
Component of a burner head (Ni/Fe-based alloy)	Topology-optimized LPBF-built part	Companies	EU, worldwide	2 parts / one for each material produced during the project
Heat exchanger (NiCu alloy)	Topology-optimized LPBF-built part	Companies	EU, worldwide	1 part produced during the project

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5 Workflows

To communicate the results of the project to the EC, the stakeholders and the public, a consistent approach of the consortium is necessary. To foster the exchange of project-related information and results within the consortium and to keep partners fully informed about the project status, planning, and all events, different measures are defined for the project. On a technical level, the WP Leaders will discuss in monthly virtual/phone conferences the scientific results, of which the GA will be informed by the coordinator. Face-to-face meetings at WP level can be convened by the partners, whenever necessary, either in person or by other appropriate means of communication. The Steering Board, chaired by the coordinator, will hold meetings quarterly up to M18 monthly to build-up the consortium and ensure a common understanding. The GA will meet once a year in person and up-to M18 twice a year to define all tasks in detail to support a smooth of the project. Meetings of the Steering Board and General Assembly will be combine whenever possible, s to ensure the most effective use of time and budget. The members of the external IAB are invited to specific sessions of the consortium meetings to learn about the progress, give their point of view, and discuss strategic and political decisions.

Table 1. topAM Management Board meetings schedule

Management Board	**Purpose**	**Frequency***
General Assembly	Discuss the overall work progress of the project and changes to Annex I and II. Discuss results, IPR and exploitation.	**Once a year** in person. Twice a year in person up to month 18.
Steering Board	Discuss technical progress and outlook. Build-up a common understanding of the consortium.	**Quarterly** per video conference. **Monthly** video conferences up to month 18. Combined with GA meeting, if possible.
WP Leader	Discuss work progress and technical questions of task leaders.	**Monthly** video conferences within WP. Personal meetings whenever necessary.
External Advisory Board	Advice on technical, political and strategic questions.	Officially invited to special workshops or sessions

The chair of the meeting will announce all meetings and send an outlook appointment.

*Due to COVID-19, it might be necessary to hold these meetings remotely via video or phone conference.

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The consortium will communicate the achievements and public results in a strategic and effective manner, in order to reach these various target audiences, promote our goals and results and achieve great impact in a cost-efficient way. That is why every target group will be addressed with different agendas and appropriate means of communication. The communication activities, ranging from flyers in laymen terms for the general public, to peer-reviewed papers in scientific journals for a scientific audience, will increase the visibility of our research to gain understanding for our objectives, enhance the consortiums efforts and improve the success of the project.

The following sections describe the workflows to be taken, if someone plans to communicate via different channels. It includes contact persons, documents templates and where to get them, mandatory information for each workflow and the different steps taken after following these guidelines.

If there are any questions while following these workflows, the following persons can be contacted:

Coordinator: Prof. Dr. Ulrich Krupp

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Intzestraße 1, 52072 Aachen, Germany

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Mobile +49 151 202 31321

Email emma.white@dechema.de

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5.1 Minutes

In every meeting, notes must be taken to make all decisions transparent to every member in the topAM consortium. Please make the decisions transparent in the following way:

1. Before every meeting, download the minutes template under sciebo\topAM\010 Templates (minutes)
2. Add the date, meeting title and where the meeting was held. Include the participants and mark down the discussed WPs.
3. Take notes for each topic discussed. Add any decisions made during the meeting.
4. Please send your document to the attendees of the meeting immediately after the meeting and let everyone agree on one version of the minutes.
5. No later than 10 days after the meeting, please send the notes to the project coordinator at krupp@iehk.rwth-aachen.de and upload the documents to sciebo\topAM\007 Meetings

5.2 Mandatory information

All publications and dissemination material, including the website, will acknowledge the funding received from the European Commission in compliance with the GA Article 27.3 to ensure highest visibility, not only of our project, but also for the EUs' Research and Innovation Programme Horizon 2020.

It is our obligation to inform about the EU funding received for our project!

We must in every communication activity related to the project, such as a publication, fact sheet, dissemination, social media, electronic emissions, etc., use:

a) the EU emblem and

b) the following text

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In this regard, we are allowed to use the EU emblem available at http://europa.eu/about-eu/basic-information/symbols/flag/index_en.htm

5.3 topAM identity

In order to create a "corporate identity" of the topAM project, a dissemination toolkit will be developed to be used by all partners for their communication and dissemination activities. The topAM logo and acronym

will be always used together on print and online material, such as the webpage, newsletters or agendas. To raise awareness for our project, partners should always use the project acronym and logo together and in the same design to be easily recognisable.

1. Logo templates in various formats can be found under sciebo\topAM\010 Templates
2. Where possible, stick to the colored version of the logo (Figure 1)
3. Every document should stick to the following colors scheme to increase its recognition as topAM:
    a. topAM Blue: RGB = 0, 84, 159; CMYK = 1, 0.5, 0, 0; HEX = 00549F
    b. topAM Yellow: RGB = 246, 168, 0; CMYK = 0, 0.4, 1, 0; HEX = F6A800

Figure 1: Example of the topAM Logo.

5.4 Publications

Publications in scientific journals will allow the dissemination of new insights following the research of the project. If you plan to address the scientific community with a journal publication, please follow the following guidelines:

1. Before writing a manuscript, please consult on your idea with the project coordinator at krupp@iehk.rwth-aachen.de. Please include the following information:
    a. Title,
    b. Summary of the content,
    c. Target journals.

    This will help make sure that a novel idea will be presented in the publication and no confidentiality is broken by the publication of the results. If your idea is meaningful, it will be discussed in the next monthly Steering Board meeting. By no later than 1 month you will get a response and can proceed with writing up a manuscript.

2. When the final version of the manuscript exists, please consult the project coordinator again at krupp@iehk.rwth-aachen.de. Please include the following information:
    a. Manuscript,
    b. Target journal.

    The manuscript will be discussed in the next monthly Steering Board meeting. This will make sure, that no problems of confidentiality are breached in your publication. By no later than 1 month you

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will get a response with a recommendation on how to proceed. If the manuscript needs considerable rewriting, please continue with point 2.

3. Make sure the mandatory information (see section 5.2) is included in your document under the Acknowledgement section.
4. Make sure the journal supports Gold Open Access. Every publication made under the topAM project must be published with Gold Open Access. Otherwise, a publication is not possible
5. Submit the manuscript to the journal.
6. After receiving the evaluation of your manuscript, please let the project coordinator know about the outcome at krupp@iehk.rwth-aachen.de. If it was not accepted, further steps will be discussed with the Steering Board. No later than 1 month after the Steering Board meeting you will get an answer on how to proceed. In this case, please continue with point 2.

5.5 Website

Complementary communication activities, such as a topAM webpage, also allows diverse communication of the project results to each target group and thus, enhanced visibility and perceptibility. Especially, the project website will be set up at the project start to present the project objectives, research areas, and consortium partners with contact details. News, events, and other activities of the consortium related to the project, as well as publications and public deliverables will be accessible via the website. To attract the various audiences, e.g., scientists, companies, start-ups and the general public the website is designed to be target-group oriented. That means, the start page contains icons on different themes, directing the target groups straight to their specific field of interest, such as a publication for scientists or a factsheet in laymen's terms for interested students or pupils. The webpage contains a subscription for the topAM newsletter, that will be published bi-annually. It will contain news on the project progress and results, advertise workshops, and highlight new publications and conference presentations about topAM.

Publicly accessible information about the topAM project can be accessed at:

topAM webpage www.spire2030.eu/topam

EU CORDIS webpage https://cordis.europa.eu/project/id/958192

5.5.1 Article

If you consider a press release as a part of a research network or to inform others about topAM (section 5.7), please also consider a simultaneous publication on the website of topAM.

1. A template for writing an article is available at sciebo\topAM\010 Templates (document)
2. Write your article including a heading. Please stick to a maximum of around 1 written A4 page and include as many graphics as possible.
3. When the article is finished, please contact the project coordinator (krupp@iehk.rwth-aachen.de) and the website manager (emma.white@dechema.de) with the article. It will be scanned by the

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Steering Board for breaches of confidentiality, at the latest at the next monthly Steering Board meeting. If you get a positive response, your article will be published on the website. If there are issues with your article, please rewrite and continue with point 2.

4. The article will be published on the website with the mandatory information (section 5.2). You will get an answer back to publish on your own channels.

5.5.2 Newsletter

A newsletter will be published every 6 months. If you have relevant results regarding achieved milestones, publications or other newsworthy content, please consider contributing to the newsletter.

1. A template for writing part of the newsletter is available at sciebo\topAM\010 Templates (document)
2. Write your part of a newsletter with a short headline. Please stick to a maximum of around ½ written A4 page and include up to 1 graphic.
3. When the section of the newsletter is finished, please contact the project coordinator (krupp@iehk.rwth-aachen.de) and website manager (emma.white@dechema.de) with the document. The document will be scanned by the Steering Board for breaches of confidentiality, at the latest at the next monthly Steering Board meeting. If you get a positive response, your article will be published as part of the newsletter. If there are issues with your article, please rewrite and continue with point 3.

All sections for the newsletter will be collected until 2 weeks before the publication of the newsletter. Afterwards, the newsletter will be compiled, including the mandatory information (section 5.2) and the topAM logo (section 5.2). The newsletter will be sent out to the stakeholders and anyone having signed up for the newsletter on the topAM website.

5.6 Social media

1. A template for writing a social media article is available at sciebo\topAM\010 Templates\socialmedia.pdf
2. Fill out the form with the relevant information. Please stick to a maximum of around 5 sentences for a social media publication with as many graphics as possible. Please focus on graphics, as these are more attractive on social media platforms.
3. When the section of the newsletter is finished, please contact the project coordinator with the document at krupp@iehk.rwth-aachen.de. The document will be scanned by the Steering Board for breaches of confidentiality, at the latest at the next monthly Steering Board meeting. If there are issues with your article, please rewrite and continue with point 3.
4. Your document will be sent to socialmedia@iehk.rwth-aachen.de and emma.white@dechema.de for publication on social media. Each publication will contain the mandatory information (section 5.2). Additionally, you will get your document back and can publish the content in your social media feeds.

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5.7 Press release

If you consider a press release as a part of a research network or to inform others about topAM, please also consider a simultaneous publication on the website of topAM (section 5.5.1).

1. A template for writing a press release is available at sciebo\topAM\010 Templates (document)
2. Write your article including heading. Please stick to a maximum of around 1 written A4 page and include as many graphics as possible.
3. When the press release is finished, please contact the project coordinator with the document at krupp@iehk.rwth-aachen.de and the website manager (emma.white@dechema.de). The document will be scanned by the Steering Board for breaches of confidentiality, at the latest at the next monthly Steering Board meeting. If you get a positive response, your article will be published on the website. If there are issues with your article, please rewrite and continue with point 2.
4. If there is positive feedback, you can publish your press release. Please include all the mandatory information in your press release.

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6 Evaluation of the taken measures

A staff knowledge and experience exchange programme will be implemented, evaluated and monitored to maximize the project's potential and impact. Each work package leader is responsible for preparation and realization of reports concerning the achievements in the corresponding work packages. These reports will accompany every deliverable and will be presented within the consortium meetings in half-year terms. The results of the reports will be analysed and discussed by the consortium members and a short final conclusion will be given.

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7 References

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[4] H. Schuster, R. Herzog, and A. Czyrska-Filemonowicz, “No Title,” Metall. Foundry Eng., vol. 21, no. 4, pp. 273–286, 1995.

[5] C. Haase et al., “Recrystallization behavior of a high-manganese steel: Experiments and simulations,” Acta Mater., vol. 100, pp. 155–168, Nov. 2015, doi: 10.1016/j.actamat.2015.08.057.

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