# Draft Project plan for the CEN-CENELEC Workshop on "SALEMA. Evaluation of flowability using multiple strip test moulds in HPDC processes for aluminium and its alloys "

**Requests to participate in the Workshop and/or comments on the project plan are to be submitted by 2024-01-18 to ilinares@une.org**[1]

Recipients of this project plan are kindly requested to name all patent rights known to them to be relevant to the Workshop and to make available all supporting documents.

**Madrid, 2023.12.11 (Version 1)**

[1] Applications for participating in the Workshop and comments on the project plan that are not received by the deadline do not need to be taken into consideration. Once constituted, the Workshop will decide whether or not to consider the comments received in good time.

# Contents

# *Foreword (TO BE DELETED BEFORE THE PUBLICATION OF THE DRAFT PROJECT PLAN)*

*The content of the project plan is structured into chapters. These chapters represent the Workshop project plan's minimum content, as well as optional but recommended text modules. There is no restriction on the addition of further chapters if this is deemed useful.*

*Colour code:*

- Black font: Fixed text modules. Please do not change.
- Green font: Optional but recommended text modules. Please adjust according to your needs.
- **<Red font>: Placeholder. Please fill in.**
- *Blue font: Explanation. Please delete in the final version.*

# Summary

*The project plan is used to conduct a reflection on how to disseminate and involve a wider range of interested parties throughout the development of the CWA(s) and after its/their publication. It is recommended to include a short summary indicating the context in which the CWA(s) is/are developed, e.g., Why is this Workshop initiated? What is the need for this Workshop? Which issue(s) should be solved by the Workshop? What is the future benefit of the CWA(s)? What is explicitly not part of the CWA(s)?. The Summary can be used for public relations to provide a short description of the Workshop.*

The objective of this Workshop is the development of one CEN Workshop Agreement on the evaluation of flowability using multiple strip test moulds, to assess HPDC (High-Pressure Die Cast) castability for the aluminium and its alloys.

The EU Green Deal, adopted on December 11, 2019, outlines a comprehensive strategy for achieving climate neutrality by 2050, with a particular emphasis on increased climate ambition for 2030. One crucial aspect of this initiative is the Sustainable and Smart Mobility Strategy, introduced by the European Commission in December 2020.

Recognizing that the transport sector contributes nearly 30% of the EU's total CO2 emissions, with 72% originating from road transportation, the strategy aims to achieve a 90% reduction in emissions by 2050 through 82 targeted initiatives. Key focus areas include the integration of zero-emission vehicles, high-speed rail, automated mobility, and zero-emission marine vessels by 2030, with the ultimate goal of making nearly all vehicles emission-free by 2050. Electric mobility plays a pivotal role in achieving these targets, and aluminium is a critical component due to its high performance, lightweight nature, and economic viability for mass-market applications. However, the challenge lies in the fact that crucial alloying elements like silicon (Si) and magnesium (Mg) are classified as Critical Raw Materials (CRMs), posing a risk of dependence on foreign markets.

To address the issue of CRMs, a task force working under the Raw Materials Supply Group identified critical raw materials at the EU level between April 2009 and June 2010. Since then, the list has been updated every three years, with the latest revision in 2023 identifying 34 CRMs. The criticality of these materials is determined by their economic importance and supply risk. Economic importance is assessed based on the allocation of raw materials to specific industrial applications, while supply risk considers factors such as global production, governance of supplier countries, recycling potential, and dependence on imports by the EU.

Among the CRMs, silicon and magnesium are integral to the aluminium industry, and the SALEMA project aims to create a less dependent aluminium industrial ecosystem. Given the challenges posed by the availability of primary magnesium and silicon, the project explores alternatives and emphasizes recycling to reduce dependence on primary CRMs.

Magnesium, with applications in transportation, packaging, and construction, is primarily used in aluminium alloys in the EU. However, 95% of the magnesium supply in Europe comes from China, creating vulnerability in the supply chain. Recent events, such as restrictions imposed by Yulin City in 2021, underscore the risks associated with this dependence, resulting in a spike in magnesium prices and concerns of a global supply crisis.

Silicon, crucial for solar cells, semiconductors, and aluminium alloys, faces a different challenge. While the European silicon industry covers a significant portion of domestic demand, overcapacity in the Chinese market poses a threat to global markets, necessitating anti-dumping duties on silicon.

Legislation such as the End-of-Life Vehicles Directive (ELV) and the proposed Critical Raw Materials Act play a crucial role in addressing the challenges related to reduction of primary critical raw materials such as Mg and Si. The End-of-Life Vehicles Directive (ELV) regulates the disposal and recycling of vehicles, setting quantified targets for re-use, recycling, and recovery of materials. Building upon the foundation laid by the ELV Directive, a new Regulation on end-of-life vehicles was proposed in July 2023. Aligned with the European Green Deal and Circular Economy Action Plan, this regulation seeks to enhance circular design, setting ambitious targets for plastic recycling and raw material recovery. Producers are reinforced in their financial responsibility for vehicles at the end of their life cycle. The proposed regulation also expands its scope to cover a broader range of vehicles, including motorcycles, lorries, and buses, thereby ensuring a comprehensive approach to end-of-life treatment.

In parallel, recognizing the criticality of raw materials in achieving sustainability targets, the European Commission introduced a Critical Raw Materials (CRM) Act in March 2023. This act represents a strategic initiative aimed at securing a stable, diversified, affordable, and sustainable supply of critical raw materials. It introduces lists of critical raw materials and strategic raw materials, providing a legal framework to assess and address the criticality of specific materials based on economic importance and supply risk. The CRM Act adopts a forward-looking

approach, focusing on strategic applications and implementing measures specific to critical and strategic raw materials.

SALEMA offers solutions to this conundrum by developing high performance aluminum concepts which shield the automotive sector and the aluminum processing industry from the dependency on CRM.

Materials will be developed in SALEMA following two strategies. The fist consists on developing Aluminum grades with high amount of recycled material, that is, reclaiming CRMs already embedded in end-of-life scrap metal available within the EU as a substitute for the import of refined pure elements. In the second approach, SALEMA will demonstrate the feasibility to majorly substitute the CRMs most commonly used in Aluminum alloys (Si and Mg) with Iron, which is not critical in supply and is produced within the European borders (Europe is the world second largest producer of iron and steel2). Moreover, this would open the gate to recover currently undesirable Fe-containing aluminum scrap.

The developed grades will be tested at the most used aluminum alloys processes for automotive parts, i.e. sheets, castings and extrusions. These account for approximately 98% aluminum mass and 95% aluminum components in an average passenger car3. SALEMA materials will be tested though four pilot actions that cover these processes, specifically: High Pressure Die Casting (HPDC), Cold and Hot Stamping, and Extrusion.

The result of SALEMA will be new tailored-made Aluminum alloys with higher amount of recycled material and consuming greatly reduced CRM levels, conceived from the ground up to be transformed using minimum adaptation of existing installations and to cover the ever-increasing requirements of the high added value European vehicle industry. In order to achieve this result and demonstrate that their performance can match what is currently obtained with primary alloys and primary scrap metal, SALEMA involves the whole value-chain of aluminum transforming industry, including aluminum alloy producers (Rheinfelden, SLIM and ASAS), processing industries (Endurance Spa, Gestamp, Fagor Ederland and ASAS), car manufacturers (CRF and FORD) and car scrappers (COMET).

The consortium is completed with top performance research institutions specialized in aluminum alloy development and the different transformation processes, recycling and sorting technologies and sustainability assessment (EUT, ULIEGE, UNIPD and IMN). Key partners for reinforcing the project impact, dissemination, communication and standardization of the project results and facilitate market uptake (UNE, EAA and ESCI) have also been engaged.

# 1 Status of the project plan

*The project plan serves to inform the public of the new Workshop and to lay down the Workshop's framework conditions. Because the project plan has to be modified and updated throughout the initiation and development of the CWA(s), the status must be indicated each time a modification is made, and each version shall be given a version number, as follow. Depending on the Workshop's status, delete either the status* ***Draft project plan*** *or the status* ***Approved project plan****:*

**Draft project plan** for public commenting (Version 1.0)

This draft project plan is intended to inform the public of a new Workshop. Any interested party can take part in this Workshop and/or comment on this draft project plan. Please send any requests to participate or comments by e-mail to ilinares@une.org

All those who have applied for participation or have commented on the project plan by the deadline will be invited to the kick-off meeting of the Workshop on **2024-02-29**

**Approved project plan** for CWA development adopted at the kick-off meeting of the Workshop on **2024-02-29** (Version **<No.>**)

# 2 Workshop proposer and Workshop participants

*The information that is provided in this chapter depends on the purpose of the project plan. In case of a proposal for a new Workshop, it is necessary to mention a contact point from the proposer's side. Similar information applies to further milestones in the Workshop's lifetime: Who approved the creation of the Workshop at the kick-off meeting?*

*The following information is therefore requested (depending on the Workshop's status, grey out as appropriate):*

- *Workshop proposer*
- *CEN/CENELEC national member holding the Workshop secretariat*
- *Participants at the kick-off meeting (see 2.3)*
- *Registered Workshop participants which approved the project plan at the kick-off meeting (see 2.4)*

## 2.1 Workshop proposer

*Information on the Workshop proposer and her/his background, including the name and a short description of her/his organisation is to be given here.*

The proposer of this CEN Workshop is the Project SALEMA funded by Horizon2020 programme under Grant Agreement No.101003785 and coordinated by:

**Hannah ARPKE**
European Projects Coordinator
EURECAT
C/Bilbao, 72. Edifici A, 08005 Barcelona
Phone: +34 932 381 400
e-mail: hannah.arpke@eurecat.org
www.eurecat.org

The main contact point for the CEN Workshop is:

**Manel DA SILVA, PhD**
Researcher | Unit of Metallic and Ceramic Materials
EURECAT
Av. Universitat Autònoma, 23 - 08290 – Cerdanyola del Vallès
Phone: +34 93 594 47 00 (ext. 428)
e-mail: manel.dasilva@eurecat.org
www.eurecat.org

The CEN/CENELEC national member holding the Workshop secretariat is:

**UNE** – Asociación Española de Normalización
Calle Génova, 6. 28004 Madrid
www.une.org

| Person or organisation | Short description and interest in the subject |
|---|---|
| Horizon2020 project SALEMA GA No.101003785<br>Hannah ARPKE (European Projects Coordinator) | Technology Centre of Catalonia, EURECAT<br>Eurecat is the result of the merging process of the main Catalan Technology Centres, a process which started in 2015 and still ongoing which counts already with the sum of capacities of seven originals Centres and beyond. Eurecat is currently participating in more than 70 EU funded collaborative projects, mainly in the Horizon 2020 Programme. Eurecat R&D, innovation and training activities span from Industrial Technologies (metallic, plastic and composite materials, manufacturing processes, autonomous and professional robotics, functional printing and fabrics, simulations and sustainability) to Digital Technologies (Digital Humanities, Big Data Analytics, IT Security and Smart Management Systems, e-health, data mining and multimedia technologies) and Biotech (Omic science and Nutrition & health). Additionally, EURECAT has been accepted by the European Commission as a KETs (Key Enabling Technologies) |

| | |
|---|---|
| | Technology Centre in order to collaborate with SMEs on close-to-market research and innovation activities. |
| Manel DA SILVA, PhD | Researcher \| Unit of Metallic and Ceramic Materials Technology Centre of Catalonia, EURECAT |

## 2.2 Other potential participants

*Any other actors who could be interested in and/or should be asked to participate in the Workshop should be listed here. Persons or organisations should not be expressly named, but rather generally described (Industry and commerce, Government, Consumer, Labour, Academic and research, Standards application, Non-governmental organization (NGOs) or more specific "manufacturers of ...", "test institutes for ...", "representatives of the public sector", "research institutes for ...", "system providers", etc.).*

This CWA will be developed in a Workshop (temporary body) that is open to any interested party. The participation of other experts would be helpful and is desired. It is recommended that:

- Academic and research bodies
- Funded European Projects (i.e. Horizon 2020, Horizon Europe)
- Industry and commerce
- Car market
- Standards application

take part in the development of this CWA.

## 2.3 Participants at the kick-off meeting

*List all participants at the kick-off meeting here or as Annex. If some of the participants are already known at the time this project plan is drawn up, they can be listed ahead of time. After the kick-off meeting, this table should be deleted and only the lower table shall be used.*

All SALEMA project partner will be invited to actively participate to the kick-off meeting prior to the publication of the draft project plan. The list of participants is not yet fully finalized, and it will be available after the kick off meeting. A high participation is expected from experts coming from different funded European projects (e.g., Horizon2020).

## 2.4 Registered Workshop participants

*List all participants at the kick-off meeting who have adopted the project plan here or as Annex. Participants are not named as Workshop participants until the project plan has been adopted.*

The following persons or organisations have registered as Workshop participants at the kick-off meeting and will actively participate in the development of the CWA.

| Person | Organisation |
|---|---|
| Workshop Chair<br><br>Manel DA SILVA, PhD | Technology Centre of Catalonia, EURECAT |
| Workshop Vice-Chair<br><br>Franco BONOLLO, Prof. | Workshop Vice-Chair<br><br>University of Padova |
| Hannah ARPKE | Technology Centre of Catalonia, EURECAT |
| Workshop secretariat | Workshop secretariat |

| | |
|---|---|
| UNE – Asociación Española de Normalización<br><br>Isabel LINARES | UNE- Spanish Association for Standardization |

## 3 Workshop objectives and scope

*This section should contain a broad statement of the overall goal of the Workshop, including the justification for the specific projects if there are more than one. It may mention the origin of the proposed activities, where this is important to provide the context of the proposal. This section should include stable information, valid for the lifetime of the Workshop. The presence of detailed timescales in this part of the document should be avoided.*

The overall goal of the Workshop is developing a pre-standard (CEN Workshop Agreement- CWA) on the evaluation of flowability using multiple strip test moulds in HPDC (High-Pressure Die Cast) processes for the aluminium and its alloys. The origin of the proposed activity is the H2020 SALEMA project, GA No.101003785.

The mould and procedure to assess the fluidity of aluminium alloys in a robust manner and representative of HPDC has been optimized and validated in the SALEMA project.

### 3.1 Background

*This section explains why the Workshop should be initiated and describes the current issues and future added value of the document (need for standardisation). This section should include information about:*

- *Motivation for the creation of this Workshop: e.g. Why is this Workshop initiated? What is the need for this Workshop? Which issue(s) should be solved by the Workshop? What is the future benefit of the CWA(s)? What is explicitly not part of the CWA(s)?.*
- *Market environment (e.g. What is already on the market and how does the envisaged CWA(s) differ from it?)*
- *Legal environment (Directives and relevant European legislation)*

This Workshop is framed within the low-content Critical Raw Materials (CRM) Al and recycled Al at the forefront of such strategy contribute to achievement of the objectives of the European Aluminium Industry as well as the EIP Raw Materials. Reducing the dependency of Europe to the imports of Silicon and Magnesium will help to make the European aluminium industry more resilient and more sustainable. Additionally, maximising the Mg & Si sourcing from aluminium scrap kept in Europe fully support the Circular Aluminium Action plan requiring to move to better recycling value chain, promoting more closed loop recycling models, e.g. directing recycled aluminium towards high value and performing products is a key priority. European Aluminium Association (EAA), through its Automotive and Transport market group, will actively promote and advocate aluminiumfriendly policies and regulations for the European automotive market. SALEMA's outcomes will be integrated into these advocacy actions to further boost aluminium penetration in this market.

Thin wall castings are always considered as potential choice in range of applications because of their superior characteristics i.e., weight reduction, complex design flexibility, reduce machining, efficient production, effective heat dissipation, and cost effectiveness. These days, the demand for production of thin wall sections along with higher mechanical properties are getting vast attention in automotive and aerospace sectors. Aluminium and its alloys are considered as promising candidate to meet these requirements due to their low density (2.7 g/cm$^3$), high strength to weight ratio, high specific stiffness, and good castability. Among available casting techniques, high pressure die casting (HPDC) is widely used these days for mass production of these thin wall aluminium components with near net shape configuration, high dimensional accuracy and excellent surface finish. However, there are several challenges associated with these thin wall castings as thin sections undergoes rapid cooling, which could affect the flow of molten metal while filling mold. It is greatly associated with the various casting problems

such as mold cavity filling, feeding, cold shut, hot tearing and macro segregation. Therefore, proper understanding and thorough knowledge of molten metal flow in mold cavity is vital for achieving sound and defect free components.

In casting process, pouring of molten metal and its ability to continuously flow in the designed mold cavity are considered as critical steps, as molten metal continuously losses its temperature while filling. It is the behaviour of molten metal and its solidification mechanism which determines the quality and integrity of the final product. The poor filling of molten metal in cavity leads to casting defects which inevitably not only results in rejection of components but also increases the manufacturing cost i.e., indirect economic loss in any production domain. Realizing its vital importance, this topic has been investigated by many researchers which ultimately results in pitching a quantitative concept of characterizing metallic material in liquid state called “fluidity”.

In foundry process, fluidity is defined as the empirical measurement of maximum length covered by the molten metal or alloy in a specific channel of constant cross sectional area before it get fully solidify. Thus, fluidity is simply a measure of distance in millimetres or centimeters. It is very well known that higher the fluidity of metal or alloys, the more complex and intricate thin wall castings can be produced. Regardless of its high significance, there are many attributes of this property on which very limited studies are present and instead more research efforts has been made on optimizing casting process to achieve corrosion resistance and high mechanical properties. Because of limited data that governs all possible attributes of fluidity, there is no widely accepted standardized method to measure the fluidity of metals and alloys.

Several testing methods has been adopted by different researchers to measure the fluidity of molten metals. Among them, two methods got widely acceptance: Vacuum fluidity test (vertical and horizontal) and spiral fluidity test:

- Vacuum fluidity test consists of measure of maximum length of the molten metal flow inside a narrow channel testing tube when sucked from a crucible by using a vacuum pump. The vertical vacuum test is preferred over the horizontal vacuum test because the experimental setup is seen as being simpler to assemble as the testing tubes do not need an L shaped bend like in horizontal testing.
- In spiral testing method, molten metal whose fluidity is to be determined is poured into a cylinder which terminates into a long thin cavity shaped like a spiral.. The walls of the cavity might be sand or coated metal, heated or unheated.

Common to both test is that molten metal is flown into narrow channel of constant cross-sectional area Traditionally, vacuum testing molds are considerably use less in foundry and spiral testing has been widely used as it makes the fluidity test very compact and convenient by compressing mold into small area and is very less sensitive towards levelling errors as well. Though being widely used in foundry, spiral testing is still criticized as it shows no correlation to its application in real casting situations as fluidity length measurement through spiral testing can be obtained only for channel section of constant cross-sectional area. This eventually raise many questions how molten metal will behave in real castings where mold geometry has different thicknesses. Moreover because of no designed standard protocols for conducting these traditional tests there exist a poor repeatability of results at same apparent condition which greatly affect the reliability of these testing method. This is the reason why reliable fluidity data for aluminum and its alloys are not readily available in literature.

To resolve these issues, multi channel strip testing was proposed in which multiple strips of identical length and different cross-sectional area are filled simultaneously from a common runner bar and flow length for different cross sections can be measured simultaneously. The schematic representation for horizontal, vertical vacuum testing, spiral testing and strips testing are shown in Figure 1. Sabatino et al.

investigated fluidity evaluation for Al-Mg-Si alloys through spiral and strip testing methods. Results reveal that higher relative repeatability (11%) was achieved through strip testing as compared to spiral testing method (5%). Adefuye et al. explore that sand molded multiple strip testing with thickness range from 4mm to 1mm can produced results with less than 10 % error by simple adjustment in design. Moreover researchers have shown their interest in strip fluidity testing methods because of higher repeatability of results.

In summary, the fluidity measurement for the newly developed aluminium alloys with low criticality issues for HPDC has been optimized and validated in the SALEMA project.

### 3.2 Scope

*This section describes in detail the subject matter of the CWA(s) (e.g. using expressions such as "requirements for ...", "method of ...", "guidelines for ...", etc.). As a rule, this scope is originally the same as that given in Form A.1 of the Workshop proposal.*

The purpose of the planned CEN/ Workshop Agreement(s) related to evaluation of flowability is to develop one CWA, namely:

Title:

- Aluminium And Its Alloys. Fluidity Evaluation Via Multi Strip Testing Molds:

Scope:

- Develop a testing method to evaluate the fluidity of aluminium alloys for thin wall castings in a robust and reliable way to provide useful information for subsequent use in a foundry. The adopted methodology is based on strip testing and the prime objective of this work will be focused on defining standard protocols to achieve higher repeatability for the fluidity of aluminium and its alloys.

- Describe the experimental procedure for the proposed fluidity testing method.

### 3.3 Related activities

*This section should include information about existing standards and standard related activities and documents. This section should specify any requirements for liaison with CEN or CENELEC Technical Committees or other bodies or organisations.*

The subject of the planned CWA is not at present the subject of a standard. However, there are committees, standards and/or other technical specifications that deal with related subjects and thus need to be taken into account - and involved, where necessary - during this Workshop:

- Critical Raw Materials Act (CRMA)
- CEN/TC 132 Aluminium and aluminium alloys
- ISO/TC 79 Aluminium and aluminium alloys
- ISO/TC 22 Road vehicles (SC 37 Electrically propelled vehicles)

## 4 Workshop programme

### 4.1 General

*This chapter gives information on the date of the kick-off meeting and the planned number of additional meetings and/or web conferences.*

*In addition, information is provided on whether the publication of a/the draft CWA(s) is planned (this must then also be included in the calculation) and the language in which the CWA(s) and, if applicable, the (optional) draft are to be written. The CWA(s) shall be drafted and published in English. If drafting and publication in an additional language is required, the project plan shall mention it.*

The kick-off meeting is planned to take place on **2024-02-29 via online**. A draft for public commenting will be published for 30 days.

A total of three Workshop meetings (one kick-off meeting and two Workshop meetings) and web conferences will be held, during which the content of the CWA(s) will be presented, discussed and approved. The drafting process is open, and all comments will be considered, first by the chair person and secondarily by the participants of the workshop. In order to minimise travelling, meetings will mostly be done remotely.

The CWA will be drawn up in **English** (language of meetings, minutes, etc.). The CWA will be written in **English**.

The CWA will be available for free download, according to the conditions of CEN-CENELEC Guide 10.

## 4.2 Workshop schedule

*This section should list the specific work items with their deliverable and timescale for delivery (see Table 1).*

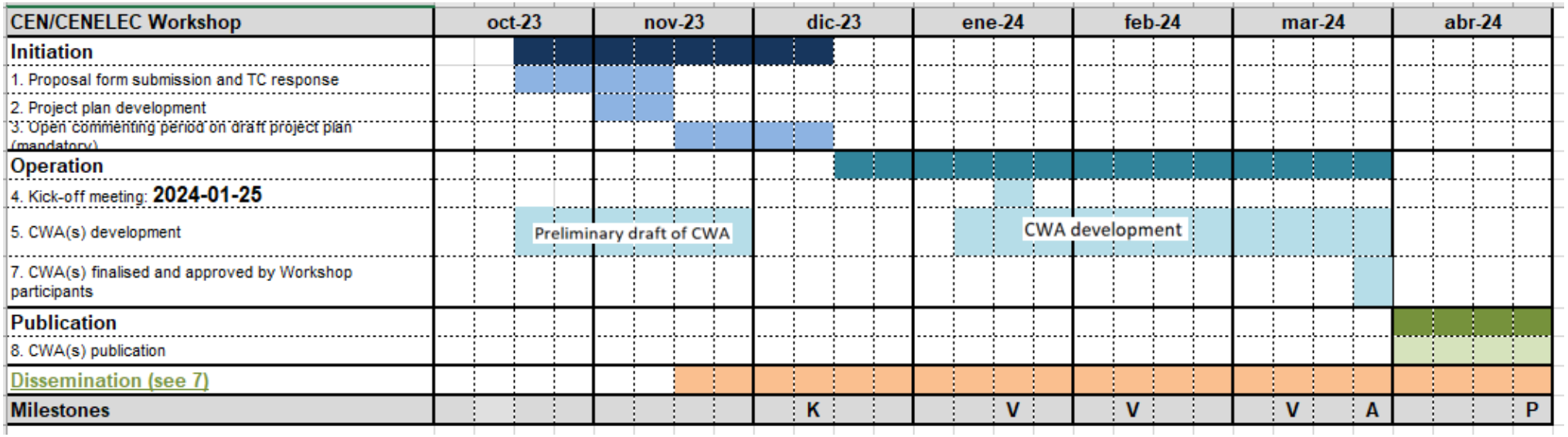
*The timescale for the development of work items stated in the project plan at the time of its adoption must remain visible in later versions/revisions of the project plan.*

*General outcomes such as liaison activities or "strategic overviews" in the case of multi-project Workshops should not be identified as a specific work item.*

*Where it is intended to develop a CWA in more than one part, each part must be listed separately as a work item. Where the Workshop is developing several work items, it is recommended that the work programme is limited in this chapter to a bulleted list of the work items with links to an annex where a more detailed explanation of the work items is provided.*

*The following project schedule is for orientation only and is to be modified as the Workshop progresses. The amount and the duration of the various Workshop phases are particularly dependent on the requirements and wishes of the Workshop proposer.*

**Table 1: Workshop schedule (preliminary)**




**K** Kick-off
**M** Workshop meeting
**V** Virtual Workshop meeting
**A** Adoption of CWA
**P** Publication of CWA

# 5 Resource planning

*All costs related to the participation of interested parties in the Workshop's activities have to be borne by themselves. This principle should be stated in the project plan.*

*In case there is a fee for registered participation in the Workshop (as part of the Workshop's funding process) this fee has to be explained in this section.*

*In the resource section, details can be given on the parts of the Workshop's operation for which EC/EFTA funding is required, as well as the amount of this funding. In case of Project Teams (or paid editors in case of one man Project Teams) that require EC/EFTA funding, there is a requirement to specify the number of expert man-days that require funding.*

- *Option 1: The Workshop participants finance the Workshop themselves.*
- *Option 2: The Workshop proposer finances the Workshop.*
- *Option 3: The Workshop will be financed within the framework of a research project.*

The administrative costs of CEN Workshop Secretariat will be covered by resources from the H2020 Project SALEMA.

# 6 Workshop structure and rules of cooperation

*This chapter lists the prerequisites for Workshop participation, as well the organisation of the Workshop participants' joint work. The Workshop structure and the responsibilities of the main actors (e.g. Workshop Chair, Workshop Vice Chair, Workshop secretariat, Workshop participants, etc.) are to be described as well as a decision making process.*

The workshop will be led by a chair or vice-chair. The workshop secretariat is responsible for the organisation and management of the workshops.

**a. CEN Workshop Chairman:**

Manel DA SILVA, PhD

Researcher | Unit of Metallic and Ceramic Materials.Technology Centre of Catalonia, EURECAT

Chairman main responsibilities include:

- Chairing the CEN Workshop meetings.
- Representing the CEN Workshop in outside meetings in cooperation with CCMC and with the Workshop secretariat.
- Monitoring the progress of the CWA in line with the Project Plan.
- Managing the consensus building process.
- Interface with CEN/WS Secretariat and CEN Management Centre regarding strategic indications, external relationships, problems arising in the development of the CWA

**b. CEN Workshop Vice-Chair**

Hannah ARPKE

European Projects Coordinator- EURECAT

The Workshop vice-chair shall be appointed in the Kick-off meeting. The vice-chair shall support and assist in all responsibilities outlined for the chairperson. In the absence of the chairperson, the vice-chair will represent the CEN Workshop at outside meetings in cooperation with CEN/WS Secretariat and will interface with CCMC regarding strategic directions, problems arising, external relationships etc.

**c. CEN Workshop Secretariat**

The proposed CEN Workshop Secretariat is by UNE - Spanish National Standard Body.

CEN Secretariat is providing the formal link to the CEN system. The following main activities will be carried out by the Workshop Secretariat:

- Organizing CEN Workshop plenary meetings,
- Producing CEN Workshop minutes and action lists,
- Forming the administrative contact point for CWA project,
- Managing CEN Workshop attendance lists,
- Managing CEN Workshop document registers,
- Following-up action lists,
- Assisting Chairperson in monitoring and following-up of electronic discussions, in case the CEN Workshop is mainly working by electronic means,
- Administrating the liaison with relevant CEN/TCs, if applicable.

The Secretariat will also provide public dissemination of the CEN workshop and CWA, either via online tool (e.g., website, social media) and with dedicated seminars and workshops, exploiting liaison with international innovation community.

The proposed contact detail for UNE Secretariat is:

Isabel LINARES

## 6.1 Participation in the Workshop

The workshop will be led by a chair or vice-chair, while the project leader will support them in the organization.

The CEN Workshop Chair is responsible for ensuring that the development of the CWA follows the principles and content of the adopted project plan and the requirements of the CEN Guide 29. The CEN Workshop Chair may take decisions on the conduct of the CEN Workshop on the basis of the comments expressed by the participants according to the CWA rules.

The workshop secretariat is responsible for the organization and management of the workshops according to the CEN Guide 29.

CEN Workshop participants draft the CWA and take in consideration the comments after the public commenting phase (if this is foreseen in the development of the CWA). CEN Workshop participants are the CWA proposers (the members of SALEMA project), plus other relevant stakeholder, identified by the proposer

## 6.2 Workshop responsibilities

**The Workshop Chair** is responsible for content management and any decision-making and voting procedures. The Workshop Chair is supported by the Workshop Vice-Chair and the responsible Workshop secretariat, whereby the Workshop secretariat will always remain neutral regarding the content of the CWA(s). Furthermore, the Workshop secretariat shall ensure that CEN-CENELEC's rules of procedure, rules of presentation, and the principles governing the publication of CWA(s) have been observed. Should a Workshop Chair no longer be able to carry out her/his duties, the Workshop secretariat shall initiate the election of a new Workshop Chair. The list below covers the main tasks of the Workshop Chair. It is not intended to be exhaustive.

- Content related contact point for the Workshop
- Presides at Workshop meetings
- Ensures that the development of the CWA respects the principles and content of the adopted project plan
- Manages the consensus building process, decides when the Workshop participants have reached agreement on the final CWA, on the basis of the comments received
- Ensures due information exchange with the Workshop secretariat
- Represents the Workshop and its results to exterior

**The Workshop secretariat**, provided by a CEN/CENELEC national member, is responsible for organising and leading the kick-off meeting, in consultation with the Workshop proposer. Further Workshop meetings and/or web conferences shall be organised by the Workshop secretariat in consultation with the Workshop Chair. The list below covers the main tasks of the Workshop secretariat. It is not intended to be exhaustive.

- Administrative and organisational contact point for the Workshop
- Ensures that the development of the CWA respects the principles and content of the adopted project plan and of the requirements of the CEN-CENELEC Guide 29
- Formally registers Workshop participants and maintains record of participating organisations and individuals
- Offers infrastructure and manage documents and their distribution through an electronic platform
- Prepares agenda and distribute information on meetings and meeting minutes as well as follow-up actions of the Workshop
- Initiates and manage CWA approval process upon decision by the Workshop Chair
- Interface with CEN-CENELEC Management Centre (CCMC) and Workshop Chair regarding strategic directions, problems arising, and external relationships
- Advises on CEN-CENELEC rules and bring any major problems encountered (if any) in the development of the CWA to the attention of CEN-CENELEC Management Centre (CCMC)
- Administrates the connection with relevant CEN or CENELEC/TCs

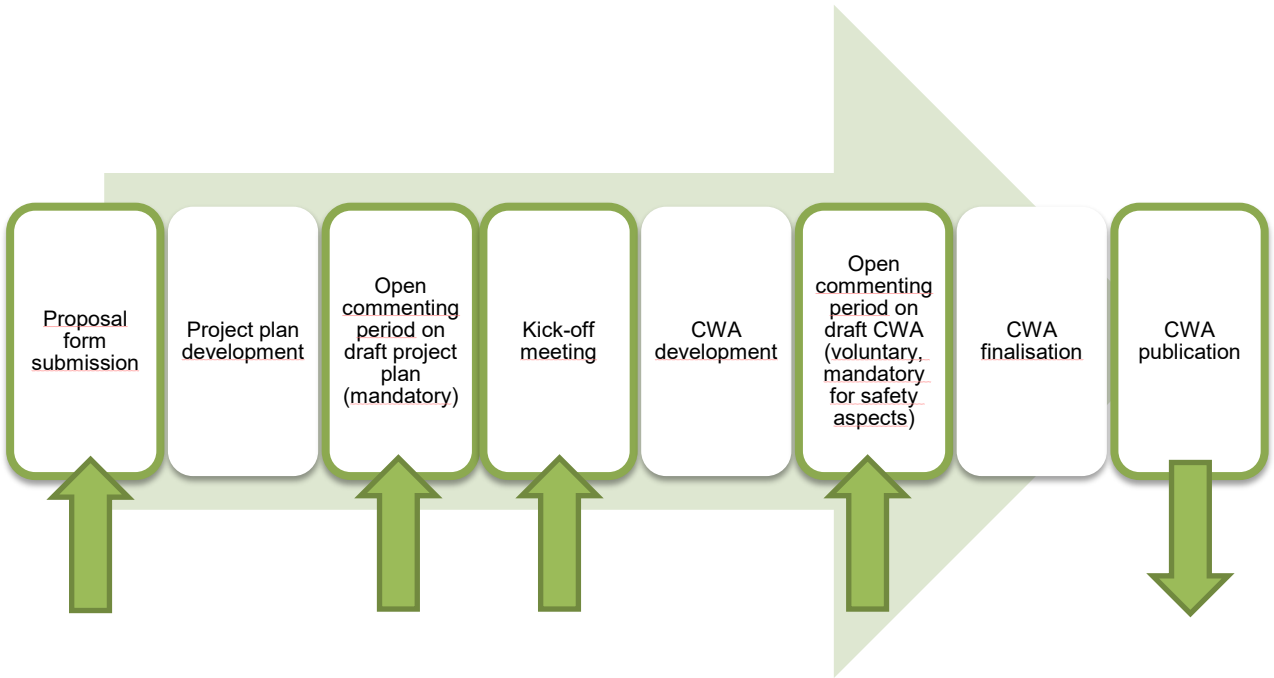
### 6.3 Decision making process

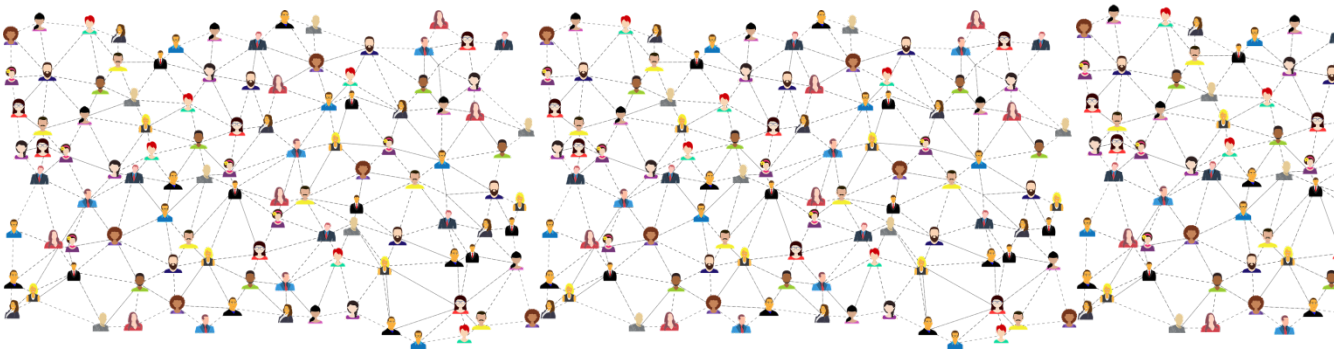
Each Workshop participant is entitled to vote and has one vote. If an organisation sends several experts to the Workshop, that organisation has only one vote, regardless of how many Workshop participants it sends. Transferring voting rights to other Workshop participants is not permitted. During voting procedures, decisions are passed by simple majority; abstentions do not count.

If Workshop participants cannot be present in the meetings when the CWA or its draft is adopted, an alternative means of including them in the voting procedure shall be used.

## 7 Dissemination and participation strategy

*The project plan is used to conduct a reflection on how to disseminate and involve a wider range of interested parties throughout the development of the CWA and after its publication. It is recommended to include a strategy defining how and when participants, other standardisation bodies and other stakeholders can be informed of the work and contribute to it.*





## Proposal form submission

The Workshop proposal will be disseminated to the following relevant stakeholders and bodies for consultation:

- standards committee, working group etc.
- publisher of technical rules
- sector forum[Error! Bookmark not defined.]
- focus group[Error! Bookmark not defined.]
- coordination group[Error! Bookmark not defined.]
- others

## Open commenting period on draft project plan

The project plan will be disseminated to the following relevant stakeholders and bodies for commenting:

- standards committee, working group etc.
- publisher of technical rules
- sector forum[Error! Bookmark not defined.]
- focus group[Error! Bookmark not defined.]
- coordination group[Error! Bookmark not defined.]
- others

In addition to the CCMC website, the project plan and the date of the kick-off meeting will be advertised on the SALEMA website to raise awareness. Interested parties are requested to contribute either through commenting of the project plan (short term) or through Workshop participation (long term).

## Open commenting period on draft CWA

The draft CWA will be disseminated to the following relevant stakeholders and bodies for commenting:

- standards committee, working group etc.
- publisher of technical rules
- sector forum[Error! Bookmark not defined.]
- focus group[Error! Bookmark not defined.]
- coordination group[Error! Bookmark not defined.]
- others

In addition to the CCMC website, the draft CWA will be advertised on the SALEMA website to raise awareness. Interested parties are requested to contribute through commenting of the draft CWA (short term).

## CWA publication

The final CWA will be disseminated to the following relevant stakeholders and bodies:

- standards committee, working group etc.
- publisher of technical rules
- sector forum[Error! Bookmark not defined.]
- focus group[Error! Bookmark not defined.]
- coordination group[Error! Bookmark not defined.]
- others

In addition to the CCMC website, the final CWA will be advertised on:

- sector specific newsletter

- social media, such as
  - Facebook
  - Instagram
  - LinkedIn
  - Twitter
- Research Gate
- EC Newsroom
- others

# 8 Contacts

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