
**Draft Project plan for the CEN
Workshop on “Methodology for
managing maintenance strategy
and remanufacturing projects
of large industrial equipment”**

**Requests to participate in the Workshop
and/or comments on the project plan are
to be submitted by
20th February 2023
to sviluppo.progetti@uni.com¹**

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.

Milan, 15/12/2022, version No 1.0

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.

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Summary

To remain competitive, manufacturing companies need to continuously increase the effectiveness and efficiency of their production processes and equipment. Maintenance activities have become even more crucial for business success, and it is worth-noting that poor maintenance strategies reduce the industry's overall capacity. This highlights the urgent need to improve the maintenance process, emphasizing methods of refurbishment and re-manufacturing.

This CWA is framed within the activities of project RECLAIM that aims to establish new concepts and strategies for repair and equipment upgrade and factory layouts' redesign in order to bring economic benefits to the manufacturing sector. RECLAIM aims at supporting legacy industrial infrastructures with advanced technological solutions with built-in capabilities for in-situ repair, self-assessment, and optimal re-use strategies.

1 Status of the 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 sviluppo.progetti@uni.com.

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 **1st March 2023**.

Approved project plan for CWA development will be adopted at the kick-off meeting of the Workshop on **1st March 2023**.

2 Workshop proposer and Workshop participants

The proposer of this CEN Workshop is the RECLAIM project funded by Horizon2020 programme under Grant agreement n. 869884 and coordinated by:

Michael Peschl
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Dr Michael Peschl is also the main contact point for the CEN Workshop.

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

UNI - Ente italiano di Normazione
 Via Sannio n.2, Milano, Italy (20137)

2.1 Workshop proposer

Person	Organization
Michael Peschl – HWH/Reclaim	RECLAIM Project Coordinator and expert in the field

2.2 Other potential participants

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
- Non-governmental organizations (NGO)
- Standards application

take part in the development of this CWA.

2.3 Participants at the kick-off meeting

All relevant RECLAIM project partners will be invited to attend the kick-off meeting, the invitation will also be extended to experts from twin projects.

The following persons or organizations already signed up to the kick-off meeting prior to the publication of the draft project plan.

<u>Person</u>	<u>Organisation</u>
<u>Workshop proposer</u> Michael Peschl	RECLAIM - Harms & Wende GmbH & Co. KG (HWH)
Gil Gonçalves (Vice-chairperson)	RECLAIM - Faculty of Engineering at Porto University (FEUP)
Melanie Gralow (Project Leader)	RECLAIM - Steinbeis-Europa-Zentrum der Steinbeis Innovation GmbH (SEZ)
<u>Workshop secretariat</u> Elena Mocchio	RECLAIM – UNI Ente Italiano di Normazione

2.4 Registered Workshop participants

Relevant RECLAIM project partners will actively participate in the development of the CWA.

The following persons or organizations have expressed an interest to be involved as Workshop participants at the kick-off meeting and to actively participate in the development of the CWA:

<u>Person</u>	<u>Organisation</u>
<u>Workshop proposer</u> Michael Peschl	RECLAIM - Harms & Wende GmbH & Co. KG (HWH)
Gil Gonçalves (Vice-chairperson)	RECLAIM - Faculty of Engineering at Porto University (FEUP)

Melanie Gralow (Project Leader)	RECLAIM - Steinbeis-Europa-Zentrum der Steinbeis Innovation GmbH (SEZ)
<u>Workshop secretariat</u> Elena Mocchio	RECLAIM – UNI Ente Italiano di Normazione

3 Workshop objectives and scope

3.1 Background

During the first year of RECLAIM project (2019 – 2020), it was performed a first state of the art analysis of existing international standards for remanufacturing and refurbishment with a cross sectoral, cross technology and holistic approach. The then past President of Aiman and Chairman of CEN TC 319 Maintenance also was involved in this activity.

This analysis has led to the realization of an online toolkit, freely available at this [link](#), based on RECLAIM consolidated view.

It has shown that there is still no methodology/guideline that can be shared by the market and that is able to assess the feasibility to remanufacture and refurbish large industrial equipment effectively and efficiently. Just some companies' practices (not standardized) seem available on the market.

The future content of the CWA will help companies and organisations, which are forced to create a methodology on their own, with considerable efforts, to have a pre-standardized methodology that can help them in feeding this process, while having the possibility to tailor it to their needs.

Moreover, it is important to take into account that many companies/organisations are lacking IT specialists, so a document explaining which methodology and which tools are useful to enable the maintenance of large industrial equipment, can help them to integrate these solutions and not “feel lost” in their implementation. Consequently, the methodology developed within this CWA will help and guide them through an actual change in the paradigm beyond I4.0.

About the legal environment applicable to this CWA, the European Machinery Directive (with its dual objective to permit the free movement of machinery within the internal market whilst ensuring a high level of protection of health and safety) is the main directive but other relevant regulatory documents will also be taken into account, for example, related with ethical principles in machine learning and artificial intelligence. These have been included as part of RECLAIM's deliverable D1.5 Regulatory & EthicalHelpdesk Report.

3.2 Scope

The role of machine and plant maintenance is gradually expanding from fault repair and preventive interventions to achieving sustainable operational integrity and availability through preventive maintenance 4.0 and, at end-of-life, remanufacturing.

This document defines a methodology that enables a new paradigm for the maintenance of large industrial equipment -specifically in the manufacturing sector- that approaches the end of its design life. The methodology is based on a systematic assessment of strategies comprised of one or more technical solutions (hardware, software, training, or a mix of those) related to the re-manufacturing or refurbishment of the equipment.

The target group of the CWA are industrial equipment maintenance practitioners concerned with re-manufacturing or refurbishment, public authorities concerned with circular economy models for large industrial equipment, as well as research and development departments in industry and research.

The work is based on the results of the RECLAIM European project (RE-manufaCturing and Refurbishment LARge Industrial equipMent).

The vision of RECLAIM is to demonstrate technologies and strategies in support of a new paradigm for the management of large industrial equipment that approaches the end of its design life. This paradigm will substantially reduce the opportunity cost of retaining strategies by allowing relatively old equipment that faces the prospect of decommissioning to reclaim its functionalities and role in the overall production system.

To achieve this, a methodology is proposed to use the accumulated knowledge of the health status of machinery together with innovative methods, tools or services for the systematic assessment of the most appropriate lifetime extension strategy.

Finally, in the annex some concrete cases from RECLAIM project will be also showcased in this CWA in order to have a direct connection between the theoretical part of the document and its concrete possible implementation.

3.3 Related activities

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 will be taken into account - and involved, where necessary - during this Workshop:

- CEN/TC 319 – Maintenance and in particular the document prEN 17666:2021 the “Maintenance - Maintenance engineering – Requirements”, under development by the drafting technical body CEN/TC 319/WG 14 - Maintenance engineering

RECLAIM project has signed a liaison agreement with the CEN TC 319 on March 2021.

Finally, also the UNI 11454:2022 Maintenance - Maintenance within physical asset design, which contains important criteria related to how to manage and optimize projects of new facilities in part or complete as in fact is Remanufacturing and the UNI ISO 21500:2021 Project, programme and portfolio management - Context and concepts will be taken into account in developing the document.

4 Workshop programme

4.1 General

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

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 minimize travelling, meetings will mostly be done remotely. If a physical meeting is desirable, it will be organized.

The kick-off meeting is planned to take place on February 2023, 1st remotely.

4.2 Workshop schedule

Table 1: Workshop schedule (preliminary)

CEN/CENELEC Workshop M1-M	M1 June 2022	M7	M8	M9 Feb 2023	M13	M14	M16 Sep 2023
Project plan							
Submission to CEN							
WS announcement							

Public consultation of PP							
kick-off							
CWA drafting							
approval							
promotion							

5 Resource planning

The administrative costs of CEN Workshop Secretariat will be covered by resources from the H2020 project RECLAIM Grant Agreement n. 869884.

6 Workshop structure and rules of cooperation

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. CEN Workshop participants are the CWA proposers (the members of RECLAIM project), plus other relevant stakeholder, identified by the proposer.

6.1 Participation in the Workshop

The Workshop will be constituted during the course of the kick-off meeting. By approving this project plan, the interested parties declare their willingness to participate in the Workshop and will be formally named as Workshop participants, with the associated rights and duties. Participants at the kick-off meeting who do not approve the project plan are not given the status of a Workshop participant and are thus excluded from further decisions made during the kick-off meeting and from any other decisions regarding the Workshop.

As a rule, the request to participate in the Workshop is closed once it is constituted. The current Workshop participants shall decide whether any additional members will be accepted or not.

Any new participant in the Workshop at a later date is decided on by the participants making up the Workshop at that time. It is particularly important to consider these aspects:

- a. expansion would be conducive to shortening the duration of the Workshop or to avoiding or averting an impending delay in the planned duration of the Workshop;
- b. the expansion would not result in the Workshop taking longer to complete;

- c. the new Workshop participant would not address any new or complementary issues beyond the scope defined and approved in the project plan;
- d. the new Workshop participant would bring complementary expertise into the Workshop in order to incorporate the latest scientific findings and state-of-the-art knowledge;
- e. the new Workshop participant would actively participate in the drafting of the manuscript by submitting concrete, not abstract, proposals and contributions;
- f. the new Workshop participant would ensure wider application of the CWA.

All Workshop participants who voted for the publication of the CWA or its draft will be named as authors in the European Foreword, including the organizations which they represent. All Workshop participants who voted against the publication of the CWA, or who have abstained, will not be named in the European Foreword.

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 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 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 and Workshop Chair regarding strategic directions, problems arising, and external relationships,
- Advises on CEN rules and bring any major problems encountered (if any) in the development of the CWA to the attention of CEN,
- Administrates the connection with relevant CEN.

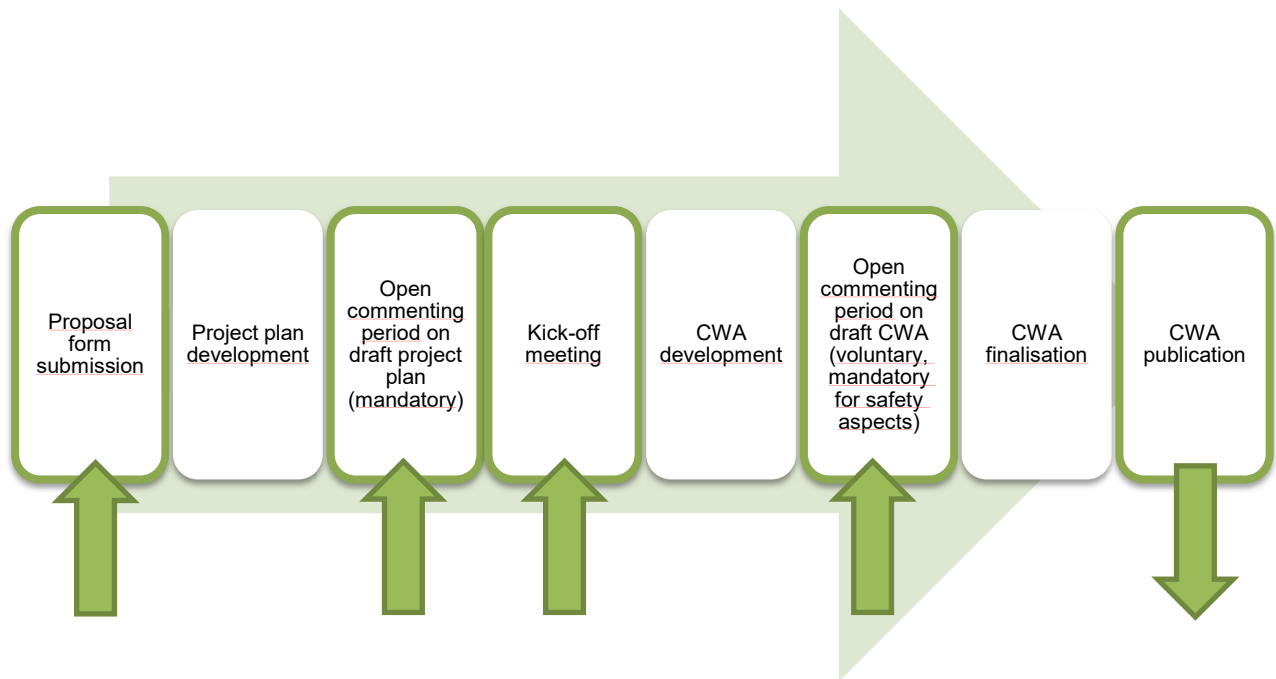
6.3 Decision making process

Each Workshop participant is entitled to vote and has one vote. If an organization sends several experts to the Workshop, that organization 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



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
- focus group
- coordination group
- others (RECLAIM sister projects)

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
- focus group
- coordination group
- others (RECLAIM sister projects)

In addition to the CCMC website, the project plan and the date of the kick-off meeting will be advertised on the RECLAIM website (<https://www.reclaim-project.eu/>) 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 commenting phase is not compulsory in this case and it can be added. Decision on the submission of the draft CWA to public commenting phase can be agreed at a later stage, during the works of the CEN/WS.

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
- focus group
- coordination group
- others (RECLAIM sister projects)

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

- Workshop Chair and Proposer:
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