CEN Reference: BT N 11565
CENELEC Reference: BT162/DG11277/INF

Simultaneous circulation to CEN and CENELEC TECHNICAL BOARDS

BT by correspondence **Common Agenda item:**

For information **Issue date:**

SUBJECT

New CEN-CENELEC Workshop 'Monsoon - Predictive management of data intensive industrial processes'

BACKGROUND

CCMC has received a draft Project Plan for a new CEN-CENELEC Workshop on 'Predictive management of data intensive industrial processes'.

The Workshop is proposed within the context of the Task 8.3 – "Standardization" of the MONSOON (MOdel based coNtrol framework for Site-wide OptmizatiON of data-intensive processes) project which received funding from the European Union's Horizon 2020 research and innovation programme (call H2020-IND-CE-2016-17).

The aim of the forthcoming Workshop is to develop a CWA on predictive management of intensive industrial processes, containing a methodology detailing the techniques that should be employed (machine/deep machine learning techniques or trend analysis techniques), through the different steps to be followed, and with the aim to predict process or equipment drifts and trigger alarms and potentially help to improve overall equipment effectiveness (OEE) or the workshop performances.

Draft Project Plan

The draft Project Plan of the Workshop can be found in Annex 1.

Self-Assessment

The Self-Assessment is provided in Annex 2. The four conditions under which there is a need for the agreement of the BT members before proceeding with the process to launch a Workshop were analysed:

- the Workshop will not deal with safety matters, which is stated in the project plan and was further explained by the proposed Secretary, Mr José Antonio JIMÉNEZ CABALLERO (UNE):

  "The objective of the CWA is to predict process or equipment drifts and trigger alarms related to the performance of the equipment that could have an impact on the quality of produced items, not related to safety issues. In addition, changes in

the manufacturing equipment parameters for correcting this drifts will be set by an operator if considered suitable, in no case it is an automatic decision that could lead the machine to an unsafe state."

- the proposed Workshop does not deal with conformity assessments aspects;
- the proposed Workshop does not deal with management systems aspects;
- the proposed CWA falls within the scope of CEN/TC 310 'Advanced automation technologies and their applications'. Following the discussion on the CWA at the plenary meeting of CEN/TC 310 on 2019-03-05, the TC concluded that it is not working on a standardisation document on this topic and has no objections to the CWA being launched.

CCMC requested the Secretariat to ensure that CEN/TC 310 is involved in the work on CWA, that the CWA is not in conflict with standards of CEN/TC 310 and does not deal with safety aspects.

Therefore, there is no need for a CEN-CENELEC BT decision.

Kick-off meeting

The kick-off meeting of the Workshop will be held on 17th of May 2019 in Turino, ITALY.

The Workshop will be also announced on the CEN-CENELEC website at:

https://www.cencenelec.eu/news/workshops/Pages/default.aspx

Secretariat

UNE will provide the Workshop secretariat, subject to formal approval of the Project Plan during the kick-off meeting.

Should you have any comments on the launching of this CEN-CENELEC Workshop or on its proposed Project Plan, you are invited to contact Joanna Frankowska (jfrankowska@cencenelec.eu) or José Antonio JIMÉNEZ CABALLERO (jjimenez@une.org)

2019-04-04 – JF

2019-04-02

DRAFT

Project Plan for the CEN/CENELEC Workshop on "Monsoon - Predictive management of data intensive industrial processes"

1. Status of the Project Plan

Draft Project Plan to be approved at the Kick-off meeting of the Workshop.

2. Background to the Workshop

This workshop is created under the Task 8.3 – "Standardization" of the MONSOON (MOdel based coNtrol framework for Site-wide OptmizatiON of data-intensive processes) project. This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 723650 (call H2020-IND-CE-2016-17).

The MONSOON project aims at establishing data-driven methodology and tools to support identification and exploitation of optimization potentials. This is achieved by applying model based predictive controls to perform plant and site wide optimization of production processes, by working in multi-scale fashion at different layers of the SCADA pyramid.

MONSOON pursues the following set of ambitious cross-sectorial technical objectives (please consider that the following are the objectives of the whole MONSOON project, but only the topic described under Item "4. Workshop scope and objectives" in page 3 of this document is to be covered by the CWA to be developed within the WS):

- An effective multi-scale control methodology suitable for plant- and site-wide applications in heterogeneous production environments to improve process efficiency and reduce usage of resources;

- An integrated real-time and dependable infrastructure easing adaptation of heterogeneous systems in monitoring and control of data-intensive production processes;

- Distributed plant- and site-wide models and mapping techniques;

- Application of data-driven processing techniques suitable to support real-time control;

- Research and develop innovative, multi-level, plant-wide Analytics and Visualizations for the detection of complex patterns in plants processes;

- A novel model-based development environment to facilitate design, development, integration, deployment and testing of predictive control algorithms;

- Symmetric plant and site-wide Life Cycle Management Tools integrated with the existing control infrastructure.

The cross-sectorial MONSOON solution will be developed and evaluated in two industrial pilot sites, to assess its acceptance and usability by its intended end-users and for its potential effectiveness and impact on resource optimization, namely a primary aluminium production plant and a plastic injection plant.

The SubTask 8.3.3: “Contribution to the on-going and future standardization developments” within the MONSOON project is aimed at making an effective contribution to the Standardization system, in such a way that the findings of the project can be used by the European industry and also as a mean of involving external experts not being part of the Consortium.

In order to match the timeframe of the MONSOON project and the timeframe for developing the different types of standardization documents, the development of a CWA within a Workshop has been selected.

Market relevance

Process industry are characterized by intense use of raw resources and energy, thus providing a context where even small optimizations can lead to high absolute savings both in terms of economic and environmental costs, if they can prove to offer predictable and replicable results.

Predictive modelling techniques can be especially effective in optimizing processes in such context, but their application is not straightforward for several reasons including e.g., the high cost of integrating large number of new sensors or actuators into legacy production equipment, intrinsic difficulties in monitoring physical parameters in harsh conditions, interoperability issues among existing IT systems in use, difficulties in monitoring data intensive processes in a scalable fashion, etc.

New production plants can be designed from the beginning taking into account these new techniques for processes optimization, but for capital intensive process industries, where initial investments for new production sites are prohibitive, a cost effective and reliable solution as provided by the MONSOON project is desirable, in such a way they can improve their processes and continue to make profitable the investment and be competitive with the new facilities.

Legal environment

No legal issues related to this proposal have been identified due the following reasons:

- Data collected from the production plant are related to physical quantities of the production process, no personal identification information will be collected or generated in any case;

- The predictive management is aimed at triggering alarms related to the process in such a way small deviations affecting the production can be detected in advance, but these alarms are not related to safety. Plant and machinery safety is covered by the existing systems within the plant.

Standardization activities

The scope of the CWA to be developed is within the scope of CEN/TC 310 Advanced automation technologies and their applications.

The CWA does not conflict with CEN/TC 310 published standards or projects of standards under development.

Following CEN/CENELEC Guide 29, CEN/TC 310 has been consulted and has no objections to the CWA being launched.

3. Workshop proposers and Workshop participants

The workshop proposers are part of the members of the MONSOON Consortium, namely:

- ISTITUTO SUPERIORE MARIO BOELLA SULLE TECNOLOGIE DELL'INFORMAZIONE E DELLE TELECOMUNICAZIONI
- FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG EV
- ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS
- TECHNICAL UNIVERSITY KOSICE
- ALUMINIUM PECHINEY
- ASOCIACION ESPAÑOLA DE NORMALIZACION
- KUNSTSTOFF-INSTITUT FUER MITTELSTAENDISCHE WIRTSCHAFT NRW GMBH
- PROBAYES SAS

The Workshop participation will be open to all interested parties.

4. Workshop scope and objectives

The aim of the Workshop is to develop a CWA on Predictive management of intensive industrial processes, containing a methodology detailing the techniques that should be employed (machine/deep machine learning techniques or trend analysis techniques), through the different steps to be followed, and with the aim to predict process or equipment drifts and trigger alarms and potentially help to improve overall equipment effectiveness (OEE) or the workshop performances.

This CWA will not define requirements related to safety aspects.

The CEN/CENELEC Workshop Agreement is the proposed approach due to the following advantages:

- Agility: The time frames for the other standardization options do not match the planned schedule for this project.
- The Workshop Agreement provides the sought acknowledge of the industry across the EU by submitting the technical specification to the workshop process providing openness in process and visibility to all market players.
- The Workshop Agreement assures the involvement of the industry (laboratories, component and manufacturers, integrators, application developers) as the workshop is open to anyone, including non-European participants. The opportunity to participate is widely advertised in advance by CEN/CENELEC and its member bodies.
- The Workshop Agreement guarantees that the different views of the stakeholders interested in the document are considered.
- The Workshop Agreement ensures availability of information to all parties, enquiry among participants, involvement of CEN/CENELEC members during acceptance, and in summary a fully open and transparent process.

5. Workshop programme

The CWA will be drafted and published in English.

The planned timeframe for the CWA development is the following:

Description	Time	Place	Duration
Announcement of the CEN/WS on CEN website	April 2019	N/A	30 days' notice
CEN/WS Kick Off of Workshop	May 17th, 2019	Torino	1 day
First draft of the CWA deliverable	May 2019	N/A	N/A
Circulation of 1st Draft CWA and collection of comments	May 2019	N/A	15 days
CEN/WS 1st Plenary Meeting	June 2019	Teleconference	1 day
2nd Draft of the CWA deliverable	June 2019	N/A	N/A
Circulation of 2nd Draft CWA and collection of comments	June 2019	N/A	15 days

CEN/WS 2nd Plenary Meeting	July 2019	Teleconference	1 day
3rd Draft of the CWA deliverable	July 2019	N/A	N/A
Circulation of 3rd Draft CWA and collection of comments	July 2019	N/A	15 days
CEN/WS 3rd and final Plenary Meeting (final version/approval of deliverable)	September 2019	Teleconference	1 day
Publication of CWA deliverable after editorial check	October/November 2019	N/A	N/A
* The Time-plan is subjected to be modified in relation to the drafting process of the CWA and to the eventual decision on the submission of the document to 60-days commenting phase.			

6. Workshop structure

The Workshop will operate under the CEN/CENELEC rules for the CEN/CENELEC Workshop Agreement. A Workshop Chair will manage the Workshop. The Chairman will be appointed at the kick-off meeting.

The responsibility of the Workshop Chair is to preside at Workshop plenary meetings, to ensure the Workshop develops according to the Project Plan and to manage the consensus building process.

Under the responsibility of the Workshop Chair, the Secretariat will support the Workshop in all its activities.

7. Resource requirements

All costs related to the participation of interested parties in the Workshop's activities must be borne by themselves.

The workshop secretariat will be carried out by the Spanish Association for Standardisation, UNE.

8. Contact points

Proposed Chairperson:
Mr. Claudio Pastrone
Head of Pervasive Technologies (PerT) Area
https://it.linkedin.com/in/claudiopastrone

LINKS (Leading Innovation & Knowledge for Society) Foundation
https://linksfoundation.com/

Proposed Secretariat:
Mr. José Antonio JIMÉNEZ CABALLERO
UNE
Génova, 6. 28004 MADRID - SPAIN
Tel. (+34) 914 325 958. Fax: 913 104 596
jjimenez@une.org
www.une.org

Annex A
(informative)
Template for the self-assessment

Title of the proposed CWA:

Monsoon - Predictive management of data intensive industrial processes

1. Does the proposed CWA conflict with an EN or an HD for CENELEC?

☒ NO

☐ YES → **WARNING**: Work on the proposed CWA shall not be initiated.

2. Does the proposed CWA intend to define requirements related to safety matters?

☒ NO

☐ YES Is the proposed CWA within the scope of

- ☐ CEN? → The CWA proposal shall be submitted to CEN/BT for decision.
- ☐ CENELEC? → **WARNING**: Work on the proposed CWA shall not be initiated.

3. Is the scope of the proposed CWA within the scope of an existing CEN/CENELEC technical body?

☐ NO

☒ YES → The relevant CEN/CENELEC technical body shall be consulted on the CWA proposal:

- If this technical body responds positively and sees no harm in the CWA being developed, the CWA proposal may be processed.
- If the technical body is opposed to a CWA being launched, the CWA proposal shall be submitted to the CEN/CENELEC BT(s) for decision.

4. Does the proposed CWA intend to define requirements related to management system aspects?

☒ NO

☐ YES → The CWA proposal shall be submitted to the CEN/CENELEC BT(s) for decision.

5. Does the proposed CWA intend to define requirements related to conformity assessment aspects?

☒ NO

☐ YES → CEN/CENELEC Internal Regulations - Part 3, clause 6.7 applies.

If all these questions are answered NO, the CWA proposal may be processed.

If not, special conditions apply as given above.

PALOMA GARCÍA