

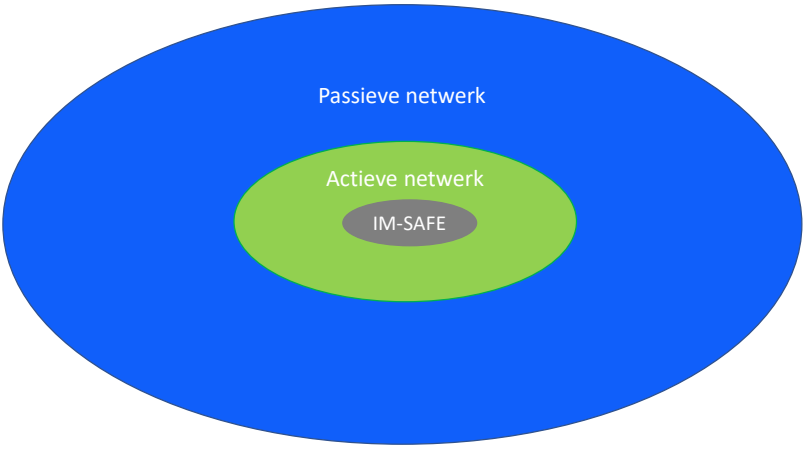


**IM-SAFE**.EU  
Nederlands CoP kick-off meeting

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1

# Welkom



Passieve netwerk

Actieve netwerk

IM-SAFE

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2

# Inhoud

Welkom

## Blok A - Introductie IM- SAFE project

1. Opzet en doel IM-SAFE project
2. Beoogde resultaten IM-SAFE project

## Blok B - Community of Practise IM-SAFE project

3. Doel en interactie met project
4. Werkwijze en betrokkenheid Nederlandse netwerk
5. Vervolg voor Nederlands netwerk

## Blok C - Contactinformatie

Afsluiting

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3

## H2020 CSA IM-SAFE

### Harmonised Transport Infrastructure Monitoring in Europe for Optimal Maintenance and Safety

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4

# H2020 CSA IM-SAFE context

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# H2020 CSA IM-SAFE context

**Standardisation in monitoring is a key enabler for optimal maintenance strategies, strengthening or retrofitting measures to be applied for ensuring the safety of the infrastructure.**

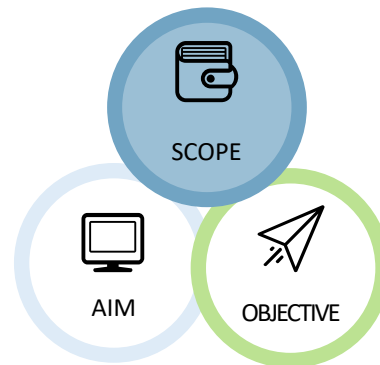
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## H2020 CSA IM-SAFE set-up

IM-SAFE aims to **support the European Commission and the European Committee for Standardization (CEN)** to prepare a **new standard in monitoring for optimal maintenance and safety of transport infrastructure** based on a comprehensive insight into the trends, challenges, best practices, and technology developments, including the integration of digital innovations.

IM-SAFE aims to **achieve broad acceptance for new standardization** and to **enable public authorities and industries to contribute to standardisation, roll-out, and implementation.**



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7

## H2020 CSA IM-SAFE set-up

IM-SAFE covers **bridges, tunnels and other large infrastructures on the road and railway networks**. IM-SAFE deals with the structural / civil engineering part of transport infrastructure and, where relevant, complementary other infrastructure elements, e.g. railway electrical



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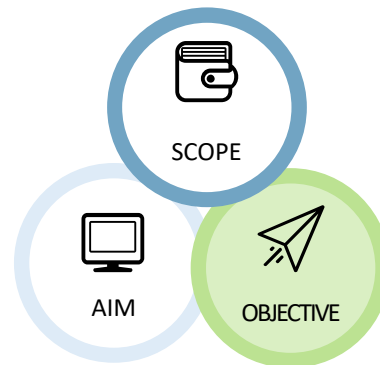
8

## H2020 CSA IM-SAFE set-up

New new and harmonised European standard for monitoring, including a standardized digitalisation approach provides for **meeting safety and availability demands and improved cost-effectiveness of transport infrastructure**.

IM-SAFE enables paradigm shift from the time-based/corrective maintenance towards **risk-based/predictive maintenance through data-informed decision-making**.

The **new standard is supported and implemented coherently** by the public authorities and the industrial stakeholders across Europe.



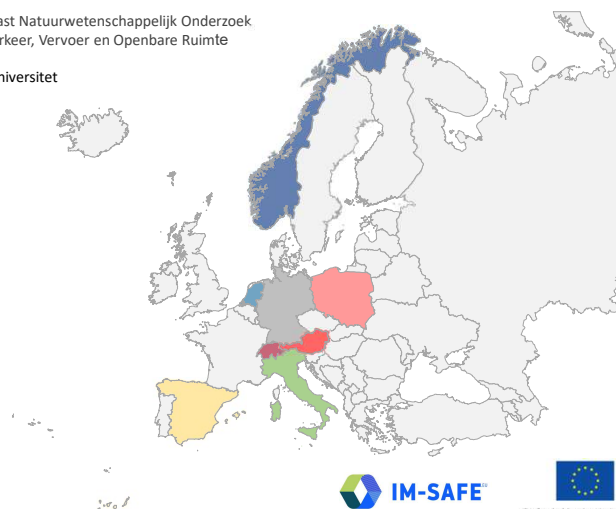
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## H2020 CSA IM-SAFE set-up

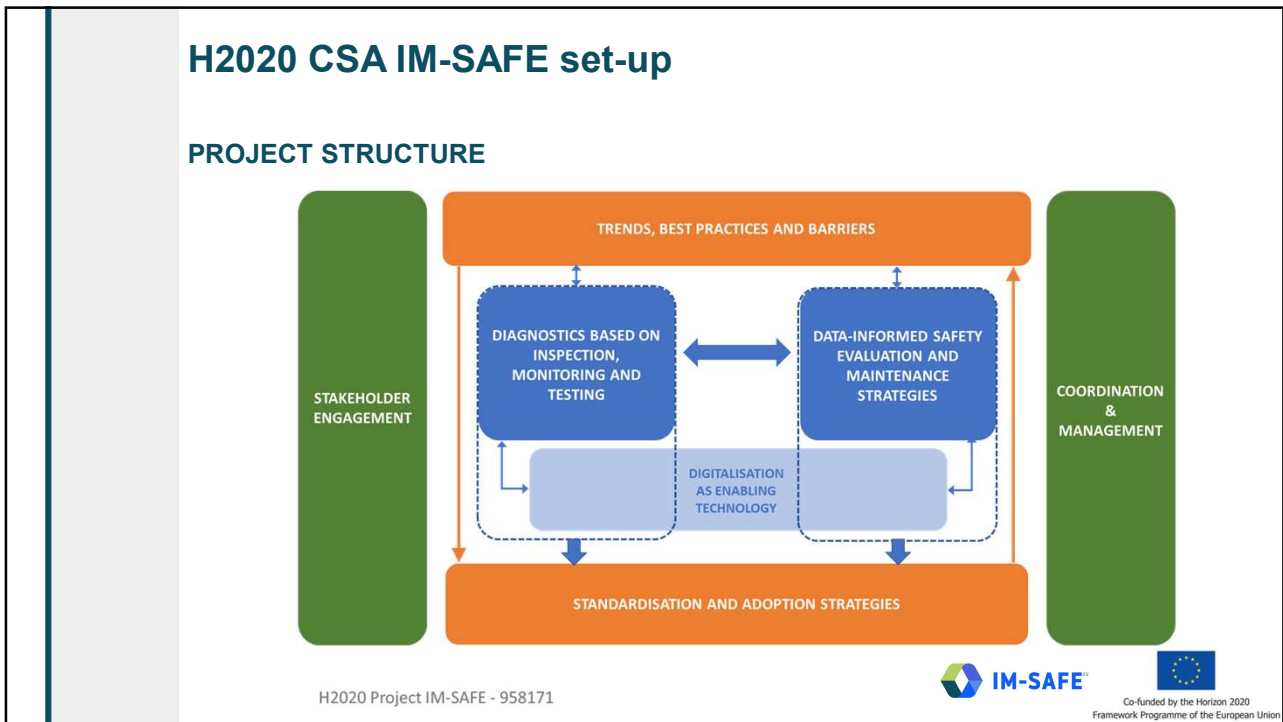
### PROJECT PARTNERS

- **The Netherlands**  
TNO Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek  
CROW Kennisplatform voor Infrastructuur, Verkeer, Vervoer en Openbare Ruimte
- **Norway**  
NTNU Norges Teknisk-Naturvitenskapelige Universitet
- **Spain**  
UVIGO Universidad De Vigo  
FER Ferrovial Agroman S.A
- **Austria**  
BOKU Universität für Bodenkultur Wien
- **Italy**  
SAC SafeCertifiedStructure Ingegneria S.r.l
- **Germany**  
AEC AEC 3 Deutschland GMBH
- **Switzerland**  
IBM IBM Research GmbH
- **Poland**  
MOW Mostostal Warszawa S.A.

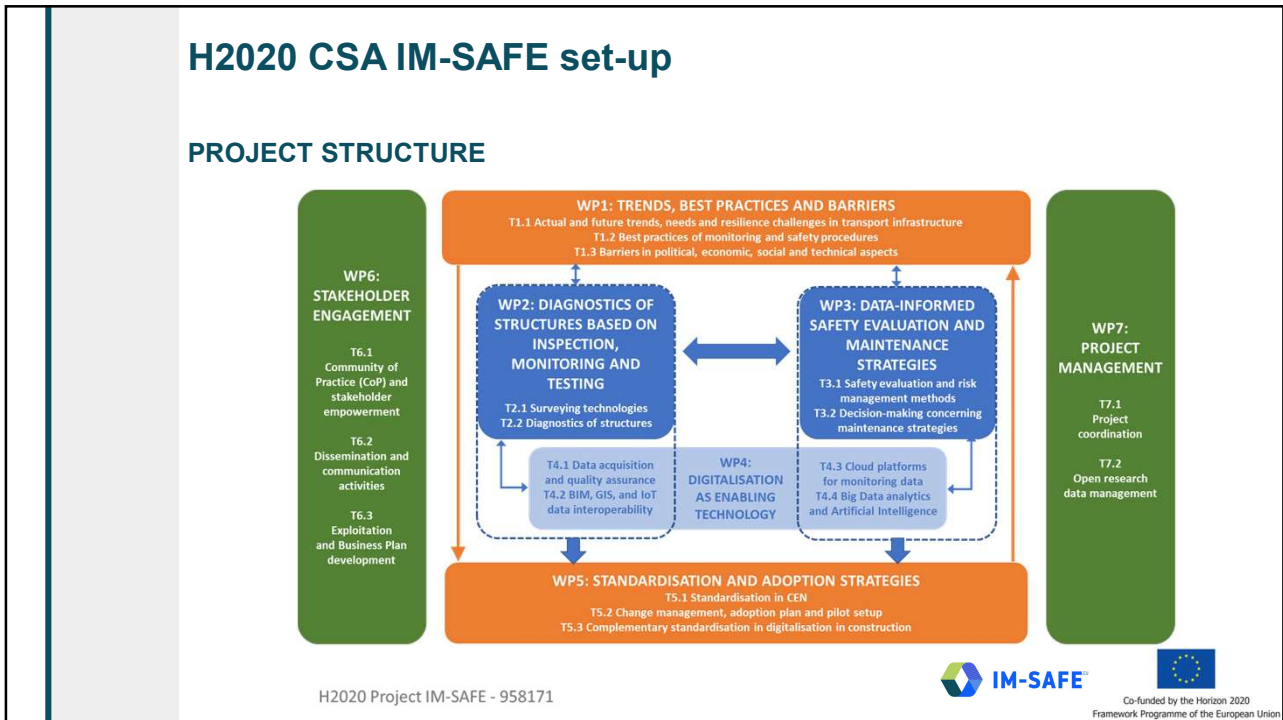


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11



12

## H2020 CSA IM-SAFE project team NL

COORDINATION &  
MANAGEMENT



dr. ir. Agnieszka Bigaj  
van Vliet

BEST PRACTICES &  
DIAGNOSTICS BASED  
ON MONITORING &  
INSPECTION



dr. Esra Bektaş

SAFETY EVALUATION  
& MAINTENANCE  
STRATEGIES



ir. Gerrie Dieteren

DIGITALISATION  
AS ENABLING  
TECHNOLOGY



dr. Rizal Sebastian

STANDARDISATION &  
ADOPTION STRATEGIES  
FOR CEN



dr. Diego Lorenzo Allaix

STAKEHOLDER  
ENGAGEMENT



Jos Wessels MSc, MBA



Trommel Reinier MSc



Francesco Cinquini, MSc



ir. Linda Abspoel



Prof. Ton Vrouwenvelder



Ir. Nesaneth van Slobbe

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13

## H2020 CSA IM-SAFE outcomes

### STANDARDISATION : project results

- To collect the technical input for EU standards for inspection, monitoring and testing, safety assessment, pro-active maintenance of bridges, tunnels and other relevant transport infrastructures
- To prepare the **mandate for CEN** that comprises:
  - **new standard on structural monitoring**
  - **new standard for condition-based and risk-based maintenance of transport infrastructures**
  - **further amendment to the existing EU standards** on safety assessment taking into account inspections, monitoring and testing
- To support CEN by:
  - proposing a plan of approach for the execution of the mandate by CEN
  - collaborating with the CEN working groups

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14



## H2020 CSA IM-SAFE outcomes

### STANDARDISATION: new standard on structural monitoring

Essential aspects:

- objectives of structural monitoring
- design of the monitoring system
- requirements related to the reliability of sensor systems
- requirements related to the methodologies used for translating data into useful and **meaningful information** relevant for diagnostics of structures, safety assessment and maintenance approaches
- best practices for transport infrastructure
- openness to innovations (sensing technology and data analysis methods)

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15

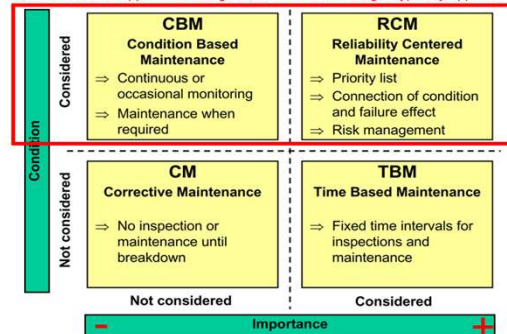
## H2020 CSA IM-SAFE outcomes

### STANDARDISATION: new standard for condition-based and risk-based maintenance of transport infrastructures

Objectives:

- transition from corrective and time-based maintenance approaches **towards the condition-based and risk-based approaches**
- standardization of **principles and requirements** for data-informed (inspection, monitoring and testing) decision-making
- to improve cost-effectiveness of transport infrastructure

*Context in which application of digital twins and monitoring is typically applied*



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16



## H2020 CSA IM-SAFE outcomes

### STANDARDISATION: further amendment to the existing Eurocodes

#### Objectives:

- to enable the **use of structure-specific data** in the safety assessment of existing structures
- to formulate the **framework for including information from diagnostics** of structures based on data from inspection, monitoring and testing
- to provide **background material to CEN** for translating the framework into practical clauses for the assessment at the semi-probabilistic level

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17

## H2020 CSA IM-SAFE outcomes

### STANDARDISATION : project activities


- Review of national guidelines and standards in all EU and international research activities related to monitoring of bridges and maintenance
- Evaluation of the gaps between the state-of-practice on inspection, monitoring, testing, safety assessment and decision-making with regard to pro-active maintenance in the EU.
- Development of the general frameworks for the implementation of data-informed safety assessment and maintenance based on information from inspection, monitoring and testing
- Preparation of the input for the mandate for the relevant European standardisation organisations
- Preparation of the technical background documents supporting the mandate for CEN
- Regular dialogs and consultations with the EC and CEN
- Coordinating the experts in the IM-SAFE Standardisation Advisory Group (SAG)

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18



**Q&A:**

- Opzet en doel IM- SAFE project
- Beoogde resultaten

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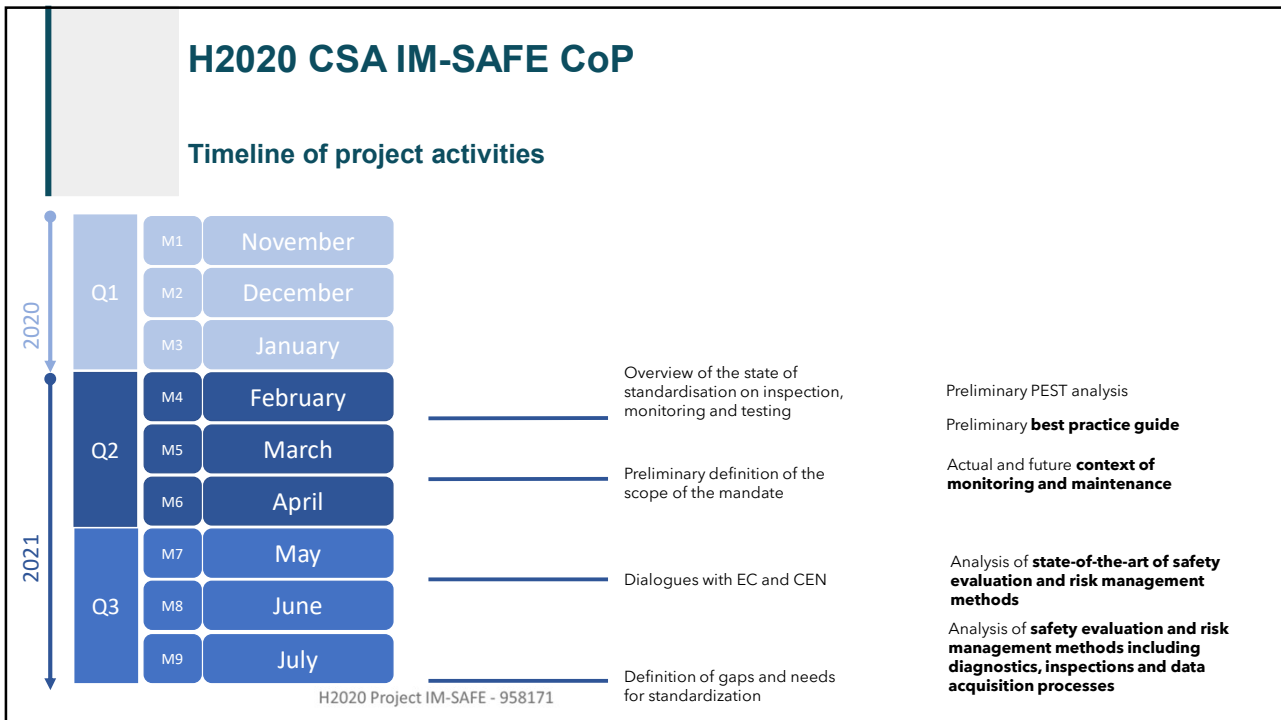
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**STAKEHOLDER ENGAGEMENT : CoP**

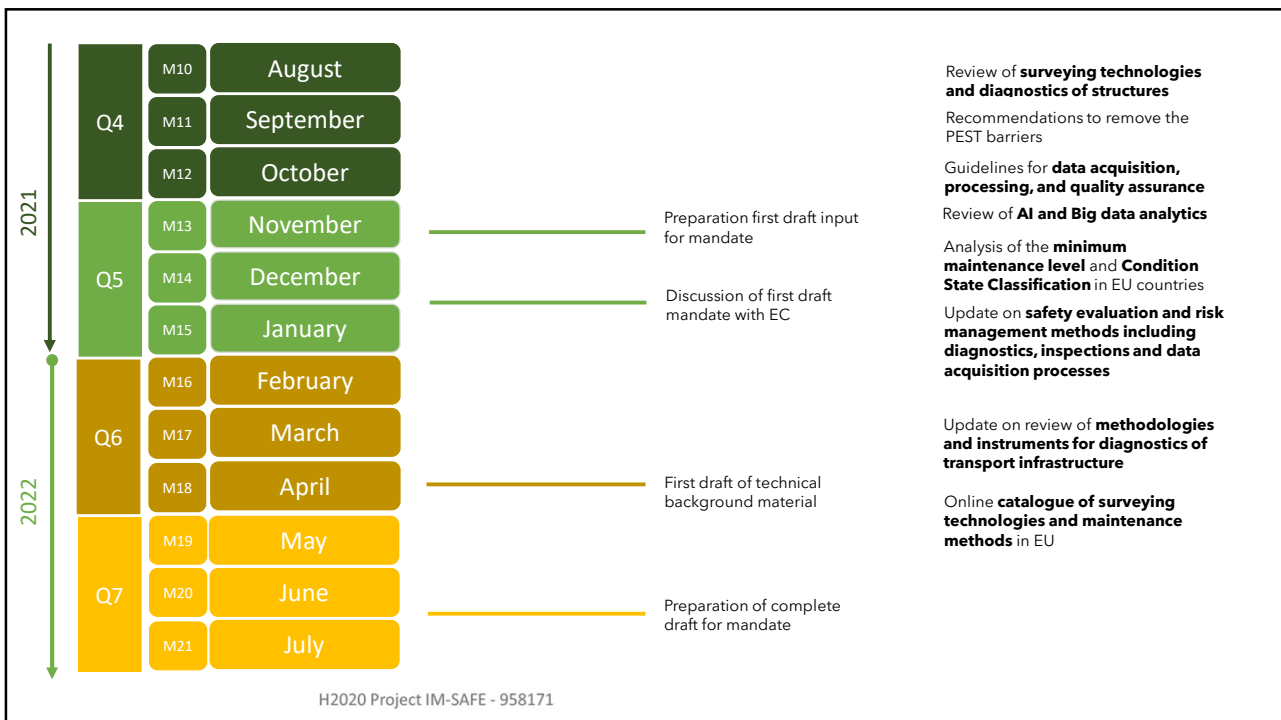
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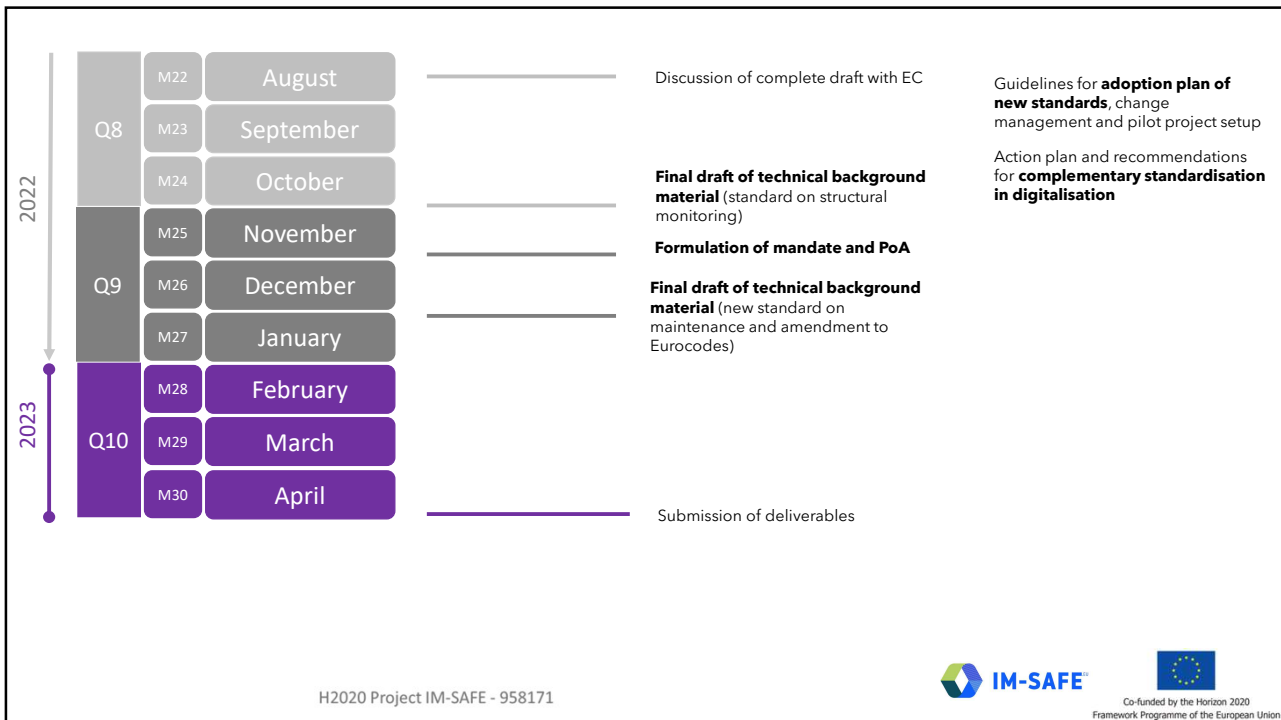
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21



22



23

## H2020 CSA IM-SAFE CoP

**Stakeholder engagement is essential for Coordination and Support Actions**

**OBJECTIVE OF IM-SAFE CoP**

- Organizing and empowering Communities of Practice at national, regional and pan-European level.
- Creating long-term cooperation between the national, regional and pan-European CoP, so they will remain after the IM-SAFE project for continuing development and implementation of the new standards.
- Compiling the state-of-the-art information with the CoP members
- Performing stakeholder validation prior to submitting the input and recommendations to EC & CEN
- Disseminating the results and information to the wider communities beyond the CoP networks
- Ensuring the visibility of IM-SAFE in all important umbrella associations and standardization platforms.

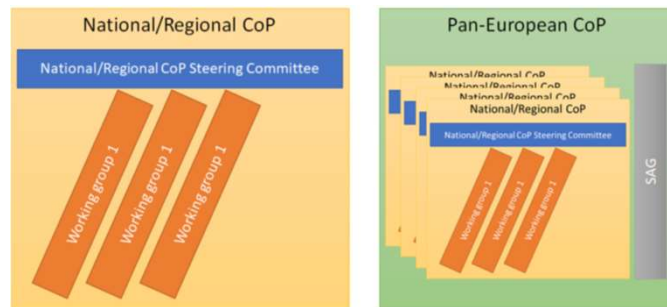
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24

## H2020 CSA IM-SAFE CoP

### INTERACTION WITH CoP – pan-European and national



- Targeted audiences will be reached via existing pan-European networks, e.g. CEDR (policy makers, asset owners and asset managers), ENCORD (large building companies), FIRM (research institutes), TRA (all stakeholder groups), EUROSTRUCT (i.e. consultants, owners, students), national normalization institutes (all stakeholders), ETCP.
- Targeted national audiences will be reached via existing national networks → Q&A

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## H2020 CSA IM-SAFE CoP

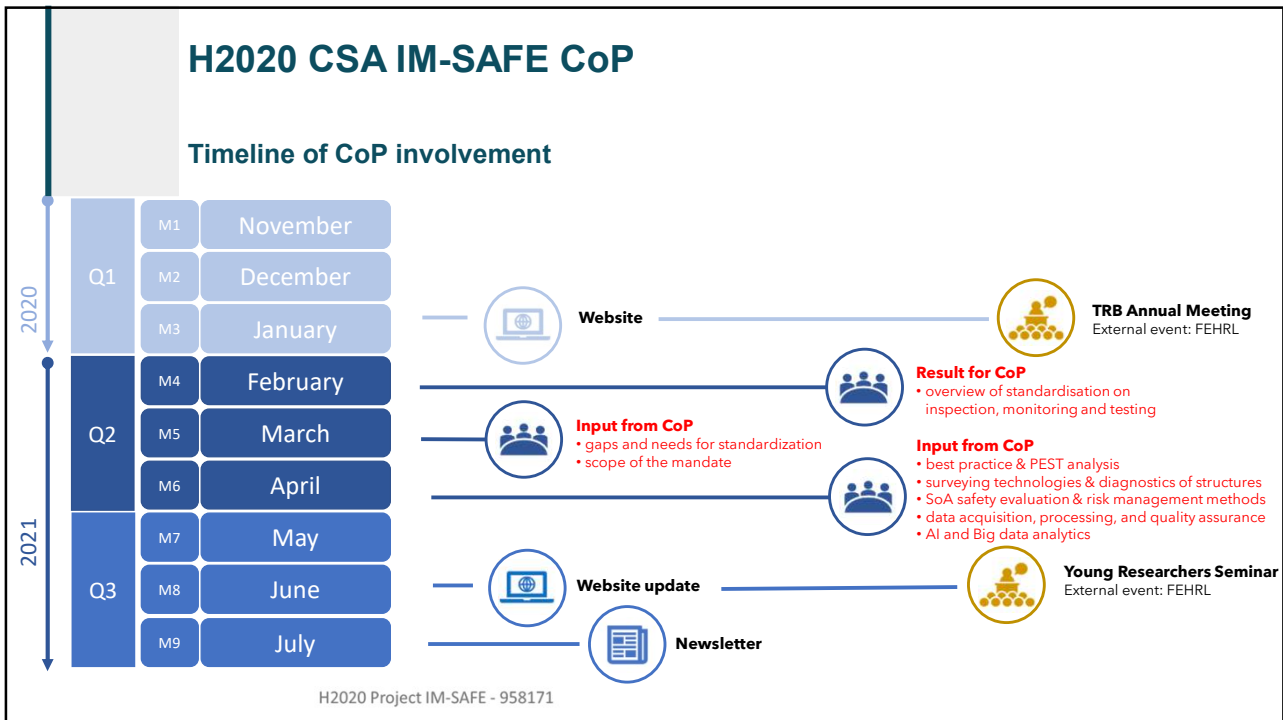
### INVOLVEMENT IN COMMUNICATION & DISSEMINATION ACTIVITIES

- |                     |  |
|---------------------|--|
| <b>CoP meetings</b> | BIM and other ICT user forums en communities |
| Conferenties        | Journals                                     |
| Website berichten   | Social Media                                 |
| Nieuwsbrief         | Onderwijs & Netwerken                        |

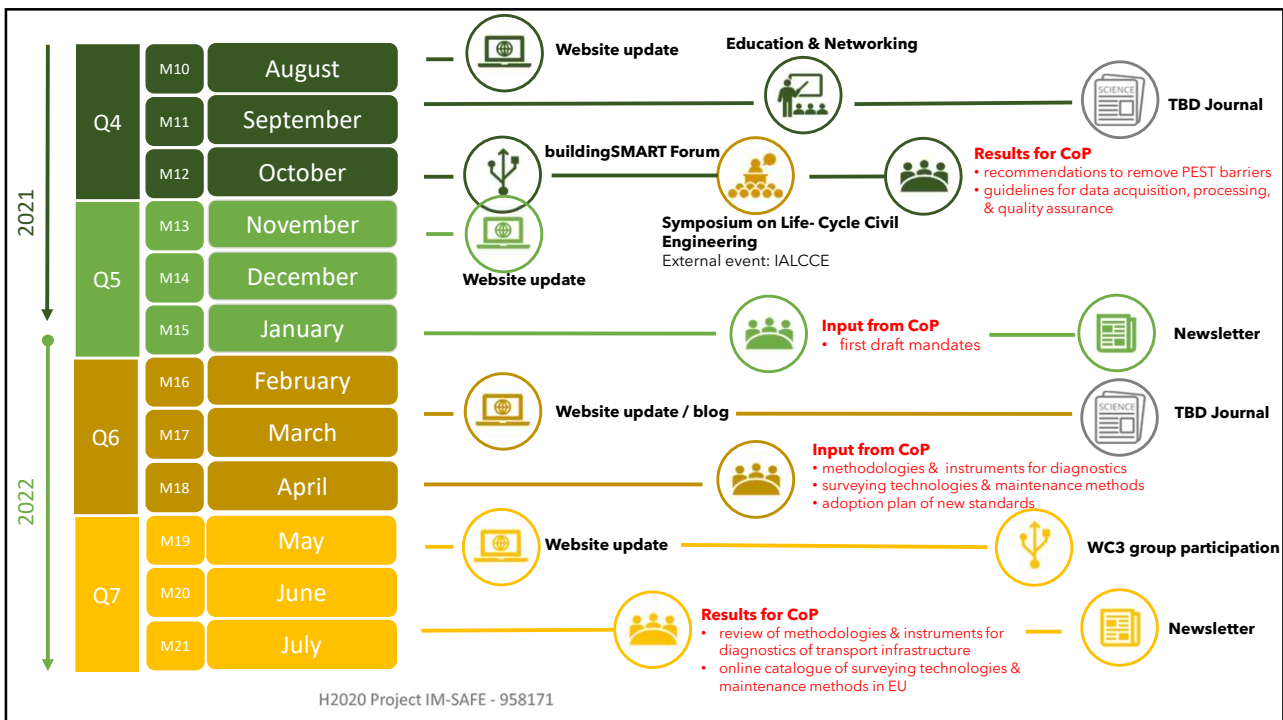
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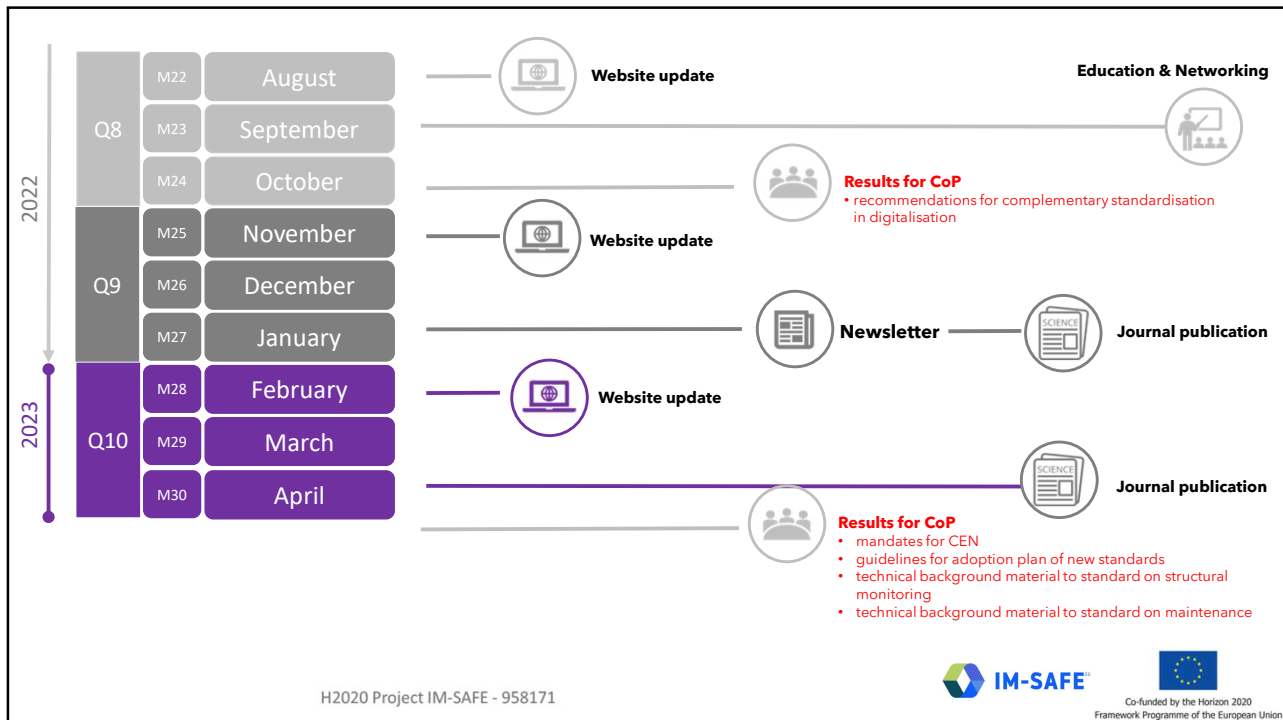
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27



28



29

## H2020 CSA IM-SAFE CoP

### INTERACTION WITH CoP – planning Q1 2021

- January 2021 : **First National CoP meeting introduction IM-SAFE project**
  - organization and CoP purpose
  - feedback from participants, expectations and interest
  - candidates for active participation in CoP (incl. SAG)
  - program of the CoP for the coming months
- January 31, 2021 : **Communication & Dissemination plan delivered**
  - organisation of C&D on national and international level
  - target group identification
  - project communication channels (website, social media, newsletter, share, ...)
  - list of target events for C&D
  - list of target journals for publications
  - list of target partnering organisations (and proposed cooperation)
- February 2021 : **First pan-European CoP meeting**

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## Q&A:

- **Doel en interactie CoP's**
- **Werkwijze en betrokkenheid Nederlandse netwerk**
- **Vervolg voor Nederlandse netwerk**

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31

## H2020 CSA IM-SAFE contactinformatie

	Naam	Mail adres
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<b>Voor specifieke vragen</b>		
Overall content, coordination & management	Agnieszka Bigaj-van Vliet	agnieszka.bigajvanvliet@tno.nl
Standardisation and adoption strategies for CEN	Diego Allaix	diego.allaix@tno.nl
Stakeholder engagement	Jos Wessels	jos.wessels@crow.nl

**IM-SAFE project website :** [www.IM-SAFE-project.eu](http://www.IM-SAFE-project.eu)




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**Nederlandse IM-SAFE team**

**TNO** innovation for life      kennisplatform **CROW**

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33



**TOT ZIENS !**

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34