European Train the Trainer Programme for Responders

Fuel Cells and Hydrogen Joint Undertaking (FCH JU)
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Deliverable D5.3
Update on Dissemination, outreach and communication plan

Lead authors: Ulster University (S Brennan)
Contributing authors: CTIF (D Davis), SPFI (T Van Esbroeck),

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FUEL CELLS AND HYDROGEN
JOINT UNDERTAKING

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Disclaimer

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Summary

This deliverable outlines the strategy for dissemination, outreach and communication of the HyResponder activities. It is intended that the plan will support the sustainable implementation of the project outcomes and maximise their impact. Links to projects and networks have been established and communication and dissemination routes to promote the project have been identified. Since the initial plan the SAB has been significantly expanded. Progress against the plan will be continuously monitored, and new actions will be included as they project progresses with a formal update in M24 of the project. The next revision of the plan will include more detailed dates for activities.

Keywords

Communication, outreach, dissemination, exploitation

Table of contents

1. Introduction

This Dissemination, outreach and communication plan outlines the strategy to share the HyResponder outcomes and maximise their impacts. This version (D5.3) of the plan outlines the vision at M12 of the project, it will continuously monitored with updates in M24 (D5.8).

Covid-19 in 2020 has impacted upon potential dissemination events. However, it was expected that the majority of face to face activities within HyResponder will take place from M18 (June 2021) onwards and publications will also be targeted beyond this date. In the intervening period it was expected that greater emphasis will be placed on online activities. At the time of revision (December 2021) the ongoing pandemic had resulted in the cancellation of several planned in person activities.

1.1 Project overview

The aim of the HyResponder project is to develop and implement a *sustainable* trainer the trainer programme in hydrogen safety for responders throughout Europe, supporting the commercialisation of hydrogen and fuel cell technologies by informing responders involved in the permitting process, improving resilience and preparedness, and ensuring appropriate accident management and recovery. The specific objectives of the project include the development of clear and updated operational, virtual reality, and educational training for trainers of responders to reflect the state-of-the-art in hydrogen safety. The European Emergency Response Guide for responders will be revised to reflect advancements. The materials will incorporate identified intervention strategies and tactics for liquefied hydrogen applications. A Pan-European Network of responder trainers will be established and trainers from at least 10 European countries will attend a bespoke course in hydrogen safety pertinent to responders. Using feedback from the network on national specificities, educational training materials will be adapted where required to reflect regional peculiarities. The materials for responders will be translated and made available in 7 languages via an e-Platform. The translated materials will be utilised by the newly trained trainers to deliver workshops in 10 countries across Europe enhancing the reach and impact of the programme. National Training Clusters will be developed to consolidate links between the hydrogen safety and responder communities and to support the delivery of workshops at a national level. Through the establishment of an International e-forum for responders, and the integration of the translated materials in the e-Platform, it is anticipated that a sustainable pan-European training programme in hydrogen safety for responders will be developed, which will be recognised as the standard in hydrogen safety training across Europe.

1.2 Deliverable objectives

The nature of HyResponder is such that the activities directly impact upon a range of stakeholders through the National Training Cluster Workshops. However, the intention is that the plan will support the sustainable implementation of the project outcomes in several ways, including but not limited to:

- Identification and classification of the stakeholders from responder training organisations, and fire and rescue services, both in Europe and Globally, establishing their training needs, and identifying the most suitable strategy to support this.

- Presentation of project activities and results at regional and international gatherings to disseminate the project outputs, enhance public awareness and support wider implementation and usage of the training materials and e-Platform
- Publication of updated curriculum and training strategy in peer-reviewed journals and proceedings of international conferences.
- Direct dissemination the project results to stakeholders through the project workshops.
- Detection of relevant events and linking HyResponder to existing knowledge and technology transfer initiatives, e.g. International Conference on Hydrogen Safety, Fire and Rescue Symposia, CTIF training seminars etc.
- Pro-active use of members of Stakeholder Advisory Board (SAB) for the project outcomes dissemination, communication with their networks and public awareness.
- Collaboration with the National Training Clusters established through WP3 for outreach.
- Establish links with ongoing FCH JU projects, e.g. sharing of training materials through educational platform(s) to maximise outreach, dissemination and impact.
- Establish stronger links between first responders' activities research and educational projects, including but not limited to NET-Tools, TeacHy, PRESLHY, HyTunnel-CS, etc.
- Collaboration with relevant national projects and activities
- Collaboration with international regulatory bodies and SDOs.
- Collaboration with international research associations, e.g. International Association for Hydrogen Safety (IA HySafe), European Hydrogen Safety Panel (EHSP), etc.

2. Communication activities

The communication strategy aims to keep all beneficiaries and associated partners, e.g. members of the Stakeholders Advisory Board (SAB) fully informed about the project status, planning and other issues of importance and to increase the synergy of the cooperation through the complementarities. Project meetings will play an important role. Internal and external communications will start at the outset, and continue through entire lifetime of the project.

2.1 Internal communication

A clear point of contact(s) for tasks in each organisation has been identified to facilitate sharing of information and clarify who will report on progress of activities within the project.

In the initial plan (D5.1) produced in M4, partners were using a collaborative tool Oroson (https://oroson.co/) has been used to facilitate communication and sharing of files, comments, links etc. whilst a members area of the website was developed. Members are now using a protected "members area" of the project website instead (Nextcloud platform). The area is administered by Ulster University and has been set up such that permissions vary for participants regarding access to shared folders. Two higher level directories have been created, one for consortium members only, and a second for SAB members. Consortium members can access all folders, SAB members

can only access the specific area. All members have permission to download and upload but not to delete. Administrators will delete permissions include the Ulster University team, and Persee who lead the SAB.

Figure 1 shows the HyResponder website homepage, indicating the members area.

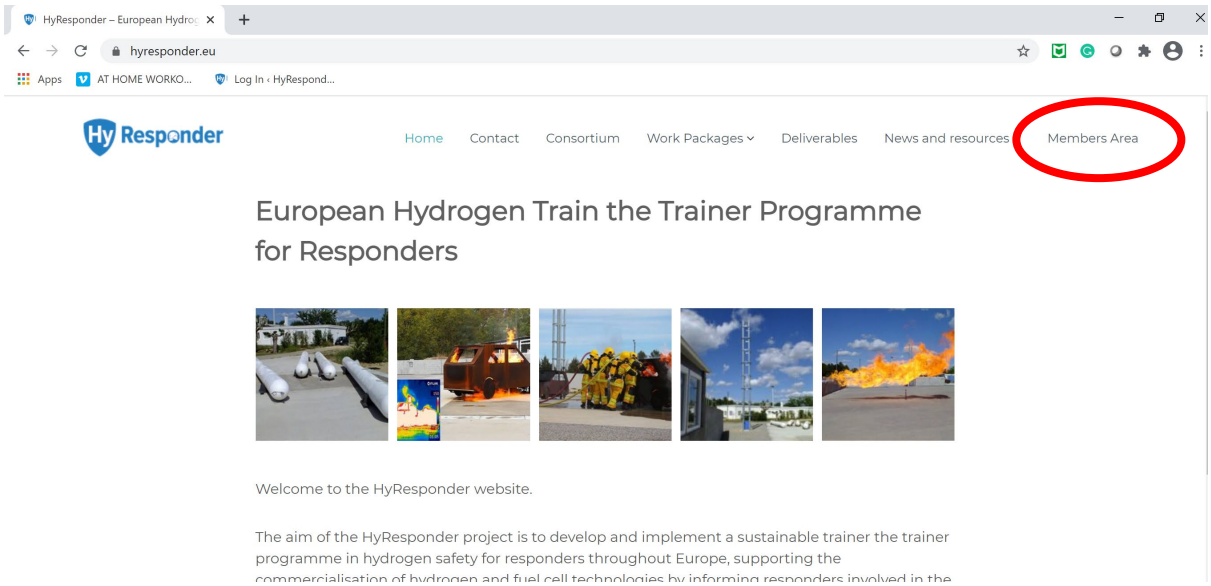

Figure 1 Accessing the members area from the HyResponder website

The higher level file strucuture is shown in Figure 2. Consortium members can access all files, SAB members can access the dedicated folder only. An example of the subfolder structure for the consortium folders is shown in Figure 3, each folder contains further subfolders.

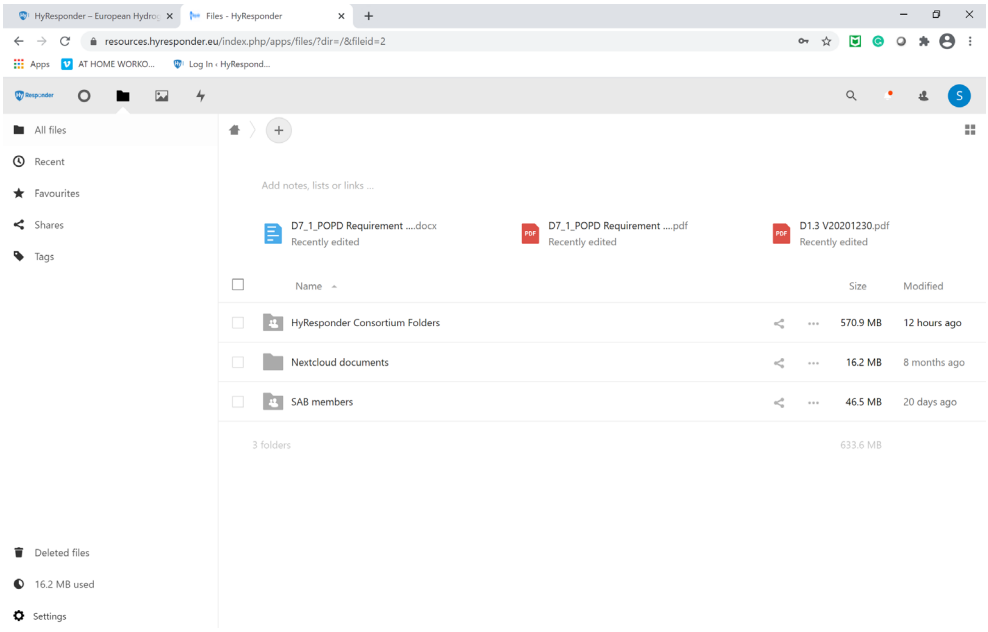

Figure 2 Higher level folder structure in member's area

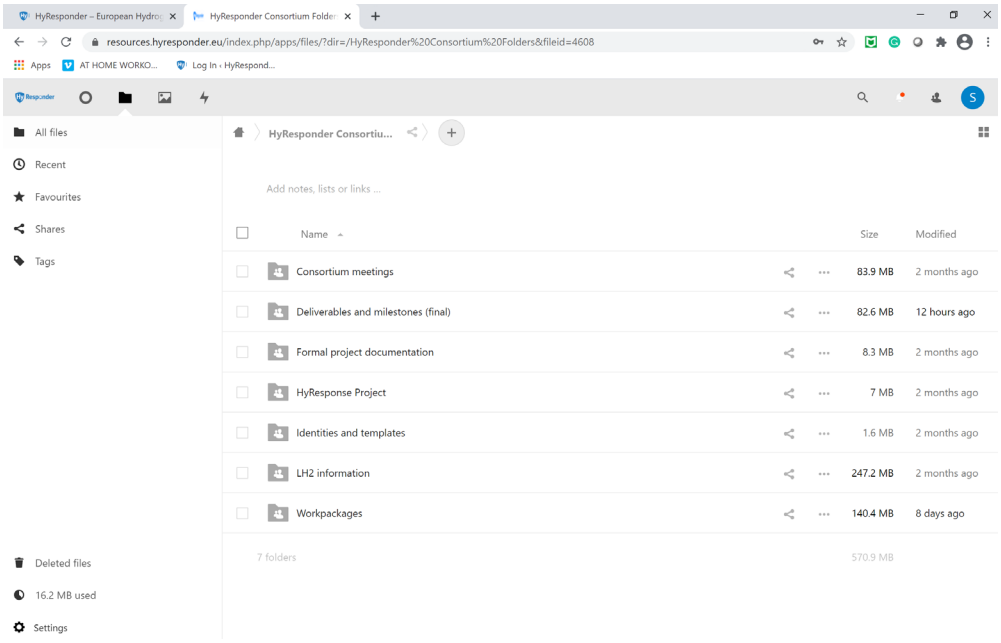

Figure 3 Subdirectories within Consortium folders

The members area of the website will be used to share available communication material to aid dissemination of the the project, for example: photographs, videos, documentation, press releases and graphics.

When accessing the members area from the project website, users are directed to the Nextcloud login (Figure 4).

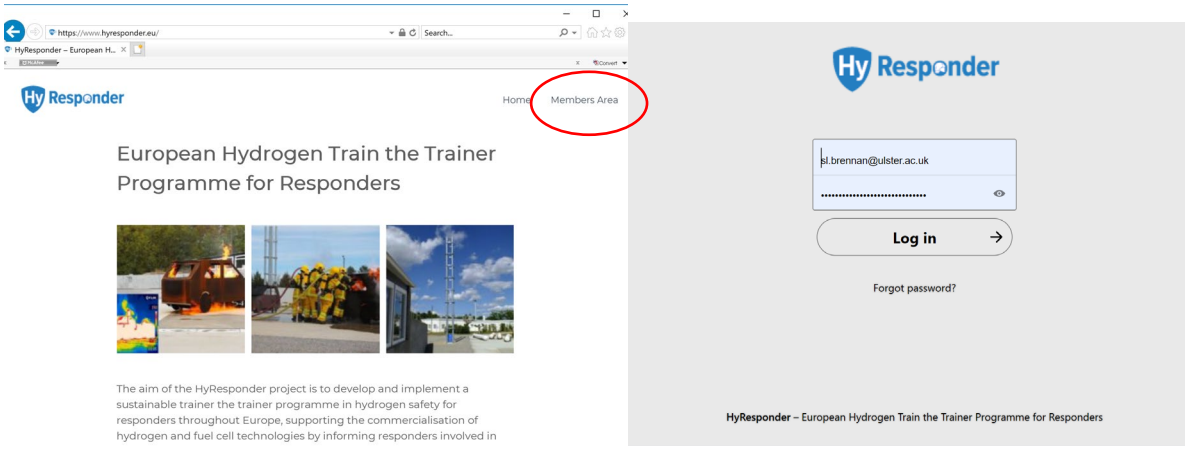

Figure 4 Members area on website leading to Nextcloud platform

Partners have been encouraged to utilise the members area for e.g. internal WP task documents, and traffic through the area has increased in recent months.

The coordinator takes the responsibility for the channelling of all relevant information to the consortium members. Project milestones and deliverables will be communicated to all partners upon validation. Deliverables then will be submitted by the coordinator to FCH2 JU.

Internal communication will be organised by emails and through the restricted access part of the project website administrated by the coordinator.

2.2 External communication

The project website (hyresponder.eu) will be vital in communicating the project outputs. Particularly the updated curriculum, materials and events. It is planned that each national workshop will be advertised on the website when finalised.

Sustainability of the project and establishment, growth, and utilisation of the e-platform are central to maximising the impact of HyResponder on stakeholders.

The 11 national training cluster workshops, communications and working together with members of SAB and the Pan-European Network of Responder trainers are the key communications outside the consortium.

The main communication channels for dissemination and outreach in HyResponder are discussed in more detail in Section 3.2 and include but are not limited to:

- HyResponder Stakeholder Advisory Board
- Pan-European Network of Responder Trainers
- Stakeholders identified through members of the National Training Clusters
- HyResponder website
- HyResponder e-Platform
- International and regional conferences and workshops (2022)
- Research Priorities in Hydrogen Safety Workshops organised by IA HySafe, 2020.
- FCH JU Review Days.
- Journal publications
- International Meetings of e.g. IEA HIA Task 37 Hydrogen Safety, and the European Panel of Hydrogen Safety.
- Higher education through academia partners URS, USN, and UU.
- Fire and rescue training (in addition to the National Cluster Workshops) at ENSOSP, FSC, LFS, SPFI, IFA, MICR and ZGZSFCP.

3. Dissemination

The target groups and the main communication channels and tools which will be used within HyResponder are outlined in the following section.

3.1 Target groups

The main communication channels for dissemination and outreach during the project, will aim to inform and reach out to different audiences of the society including but not limited to:

- HyResponder Stakeholder Advisory Board
- Fire and rescue services throughout Europe and globally
- Regulatory bodies
- Training bodies
- Approval bodies
- Pan-European Network of Responder Trainers
- Stakeholders identified through members of the National Training Clusters
- Hydrogen safety research community
- The general public (e.g. through press release)

3.2 Communication channels and tools

A number of communication channels and tools have been identified.

3.2.1 Project identities

The project visual identity was defined through the project logo shown in Figure 4. Templates for power point presentations, deliverables and milestones have been developed and distributed to the project partners.

The HyResponder logo will be used on all project communications. The HyResponder logo, the FCH2JU logo and the EC logo must be present in all publications, presentations and equipment funded by the project:

Figure 5 HyResponder logo

3.2.2 HyResponder website

The HyResponder website will be used as the public "landing page" of the project providing static information. It will include links to the e-Platform once developed by Persee. It is envisaged that the website will be supported for at least 5 years after the project unless it is migrated before this time to the e-Platform.

Public deliverables will be made available on the website once approved, and promotional material developed through the project, such as press releases and flyers will be online. The homepage and members area of the website was developed and established by UU in M4 and can be accessed at www.hyresponder.eu

In addition to dissemination of events and outputs it is expected that the website may be used for other purposes such as to grow the SAB or to distribute questionnaires. The overall responsibility of designing, updating and operating the website will be with Ulster and all partners will be asked to validate the website specifications and to contribute to its content development.

3.2.3 Social media

The importance of a social media presence has been highlighted by the SAB. Ulster University will create both a HyResponder twitter and LinkedIN account in advance of the 3rd Consortium meeting on the 19-20 January 2021. The consortium will be asked to provide content and feedback.

3.2.4 Press and media

Press releases are key in reaching the general public. It is planned that these will occur around national training events or other meetings where appropriates, and they began with the kick off in January 2020. They will be included in local and regional news outlets, partner websites and social media.

The HyResponder project was mentioned in an Irish Science Television Programme "10 things about" in December 2020. An episode on Hydrogen included the work carried out at Ulster University.

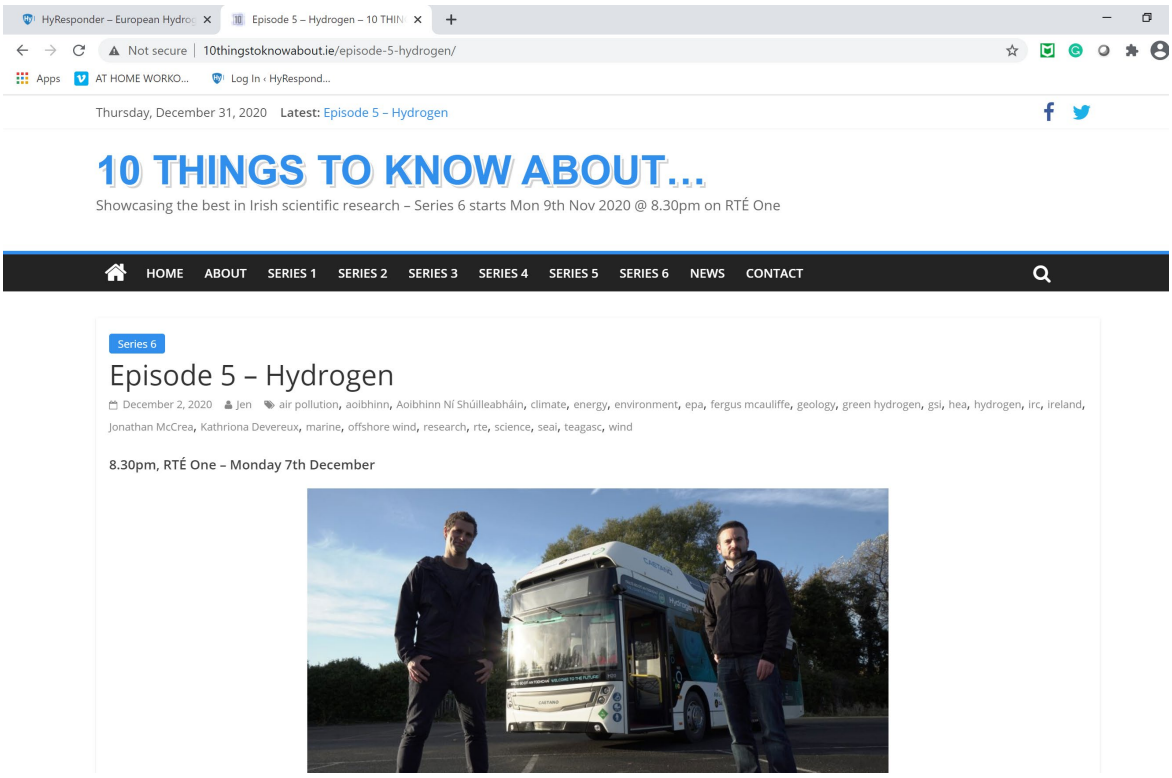

Figure 6 10 Things to know about hydrogen

3.2.5 Flyer and poster

A flyer and poster were expected to be printed and distributed in advance of relevant dissemination events. However, the absence of in-person events have meant that a focus will be on an electronic format. The flyer is envisaged to provide description of the project and key outputs.

3.2.6 Collaboration with relevant projects

Links to relevant national and European projects, will be established to add value to the project. The outputs from HyResponder will in turn be used to inform the research projects, where feedback on the "usability" of the outputs by responders ensuring teaching materials are fit for purpose, will be vital.

Collaboration has been ongoing in recent months, the HyResponder project was presented at the HyTunnel-CS responder workshop (5-6 October 2020), and there will be presentations from both HyTunnel-CS and PRESLHY at the January 2021 HyResponder consortium meetings.

A sample of the links established to date is given in Table 1.

Table 1 Ongoing projects where a link has been established

Name of project	Web link or description	Role/link
PRESLHy (FCHJU)	https://preslhy.eu/	Partner Content directly utilised in teaching materials
ENABLEH2 (FCHJU)	https://www.enableh2.eu/	AB Air Liquide
HEAVEN (FCHJU)	https://cordis.europa.eu/project/id/826247826247	Partner (Safety) Air Liquide
SH2IFT Norway	https://www.sintef.no/projectweb/sh2ift/	Member of JIP (Safety) Air Liquide
MARHYSAFE Norway	http://hrf.no/wp-content/uploads/Kent-%C3%85ge-Solem-Regelverk-og-gr%C3%B8nne-klassenotasjoner.pdf	Member of JIP (Safety) Air Liquide
CRADA (DoE - US)	Cooperative Research and Development Agreement Work with Sandia National Lab on calculation tools comparison (HyRAM-SNL vs ALDEA-AL) and study on RAMAN as a technology for H2 releases detection https://www.energy.gov/sites/prod/files/2019/12/f69/fcto-fcs-h2-scale-2019-workshop-2-satyapal.pdf	Member of "JIP" (Safety) Air Liquide
Iso project of the CTIF Commission For Extrication and New Technology	https://www.ctif.org/index.php/commissions-and-groups/ctif-iso-17840	SFI- chair of this Commission
SAFED	https://www.safed.info	Partner (UNIZAR, BMBZGZ)
HyTunnel-CS	https://hytunnel.net/	UU, coordinator Experience of Responder workshops to be utilised
NET-Tools	https://www.h2fc-net.eu/	partner
TeacHy	http://www.teachy.eu/index.php	partner
HYLANTIC	https://www.hylantic.com/	partner
H2FS SUPERGEN Hub	http://www.h2fcsupergen.com/	partner
EPSRC Centre for Doctoral Training in Sustainable Hydrogen	www.sustainablehydrogen-cdt.ac.uk	partner

3.2.7 Collaboration with relevant networks and professional organisations

In order to maximise the reach of HyResponder and ensure that the materials and e-Platform are fit for purpose and utilised, communication and feedback from related networks is key. Examples are given in table 2.

It is envisaged that collaboration with relevant networks will become increasingly important in year 2 of the HyResponder project. Particularly in the revision of the European Emergency Response Guide, potentially in collaboration with the European Hydrogen Safety Panel (EHSP).

Table 2 Links to national and international networks and forums relevant to the project

Name of network or forum	**Web link or description**	**Role/link to consortium**
European Hydrogen Safety Panel (EHSP)	https://www.fch.europa.eu/page/european-hydrogen-safety-panel The EHSP is composed of a multidisciplinary pool of safety experts grouped in ad-hoc working groups (task forces) according to the tasks to be performed and to expertise.	UU and SPFI are represented here, SPFI will endeavour to harmonise activities on the Emergency Response guide
Working Group on Hydrogen (Center of Expertise – KCCE - Brussels	Belgian Working Group on Hydrogen (Center of Expertise – KCCE - Brussels) planned for the beginning of 2021. Projects that are directly linked and fixed topics on the agenda include 'HyResponder' and also 'HyTunnel-CS'. Through this WG HyResponder ouputs will be disseminated and local training for the fireschools in Belgium will be developed.	SPFI are members
'IFV' – Institute for Safety in The Netherlands	Dedicated working group 'Community of Practice' on Hydrogen. IFV and KCCE are also having a special relationship and work together in different ways	Representation through SPFI
ÖBFV subject area 4.6 - Hazardous Materials	This group of persons deals with Hazardous Materials and provides instructions for safe handling.	Member Landes-Feuerwehrschule Tirol
ÖBFV subject area 5.7 Training	This subject area develops methods and defines contents for training topics. It is also responsible for the train the training for instructors of the Austrian fire brigade schools.	Member Landes-Feuerwehrschule Tirol
AFHyPAC	https://www.afhypac.org/ French association around H2 use	Working group maritime and other WGs Air Liquide
Kommandanten-Forum	https://www.ifa-swiss.ch/tunnel/wissen/einladung-forum-2021 German website only	Organiser IFA
CTIF	www.ctif.org	Regular newsfeeds
CTIF	www.ctif.org	Belgium is member state of CTIF, via SPFI
EFSCA	www.efsca.org	Belgium is member state of EFSCA, via SPFI
Belgian Federations: Netwerk Brandweer, Brandweer Vereniging Vlaanderen, Beprobel, Fédération	www.netwerkbrandweer.be, www.brandweervlaanderen.be, www.beprobel.be www.frcspb.be	Official partners of SPFI in Belgium

Royale des Corps de sapeurs-pompiers belges		
The Spanish Association of Fire Fighting	https://www.aself.org	Partner involvement
Professional Association of Fire Technicians	https://www.aptb.org	Partner involvement
Zaragoza City council Social network	https://www.zaragoza.es/ciudad/noticias/ https://twitter.com/zaragoza_es	Partner social media
Bomberos de Zaragoza	https://www.zaragoza.es/sede/portal/bomberos/ https://twitter.com/BomberosZGZ	Partner social media
Universidad de Zaragoza	https://www.unizar.es/ https://twitter.com/unizar	SAB social media
FHa Social Media	https://hidrogenoaragon.org/ https://www.facebook.com/fundacionhidrogenoaragon https://www.linkedin.com/company/fundacion-hidrogeno-aragon?trk=tyah https://twitter.com/HidrogenoAragon https://www.youtube.com/user/hidrogenoaragon?feature=mhee	SAB social media
The hydrogen and fuel cells research SUPERGEN Hub	http://www.h2fcsupergen.com/	UU (V. Molkov) is member of management board, leader of Hydrogen Safety Work Package
Hydrogen Europe Research	https://hydrogeneurope.eu/member/hydrogen-europe-research	UU is a member of WG Cross-Cutting issues (V. Molkov), member of WG Transport (D. Makarov)
International Energy Agency (IEA) Hydrogen Task 37 (Hydrogen Safety)	http://ieahydrogen.org/Activities/Task-37-Hydrogen-Safety-Task.aspx	UU is a contributor to the forum
Fire and Blast Information Group (FABIG)	http://www.fabig.com/	UU is a member of the group
UK Hydrogen and Fuel Cell Association	http://www.ukhfca.co.uk/	Partner involvement
Irish Hydrogen Association	http://hydrogenireland.org/	Partner involvement
Mozees	https://mozees.no/	Partner involvement

3.2.8 Project workshops

In addition to operational training, HyResponder will facilitate the delivery of 10 National Training Cluster Workshops, where trainers will utilise experience gained through "trainer training" at ENSOSP. They will use the experience, and supported through consortium will create tailored local training allowing for local language, country specific national regulations and established practices. The national workshops will take place in the second half of the project and external stakeholders will be invited where relevant.

3.2.9 Newsletters

Newsletters are planned from year 2 of the project, these will be prepared and circulated in electronic format. They will include a presentation of the project along with the progress achieved to date. A "sign-up" area or other method will be made available based on SAB feedback. A link to previous newsletters will be made available on the project website.

3.2.10 International conferences meetings and events

Participation in conferences and international meetings will be used to disseminate the project results. However, it should be noted at the time of preparation (December 2020) the ongoing global Covid-19 pandemic has led to the cancellation or postponement of many events. Events with definite planned participation are listed in Table 3. It should be noted that this will be extended as travel restrictions ease.

In addition, HyResponder dissemination events will commence from June 2021, further details will be made available from March 2021 on the HyResponder website and through the project deliverables.

Table 3 Planned attendance at external events in coming months

Type of event (i.e. exhibitions, conferences, demonstration, political event, public outreach event, other)	**When**	**Where**	**What** (i.e. stand presentation, demo, visit, etc.)
Interschutz 2022	June 2022	Hannover (Germany)	stand presentation IFA Verbal presentation CTIF
CTIF Seminar on New Technologies	October 2020	Oslo (Norway)	Presentation
General Assembly EFSCA	May or June 2021	Minsk (Belarus)	Presentation
French CBRNE event	May 2021	Lille, France	Presentation
Colloque BSSP	May 2021	France	Presentation
Congrès National	October 2021	Marseille, France	Presentation
10th Int. Seminar on Fire and Explosion Hazards	22-27 May 2022	Oslo, Norway	Acknowledgement
H2FC Supergen Hydrogen Research Conference	Winter 2020-2021	TBC	Acknowledgement
H2FC Supergen Hydrogen Research Conference	Winter 2021-2022	TBC	Acknowledgement
H2FC Supergen Hydrogen Research Conference	Winter 2022-2023	TBC	Acknowledgement

3.2.11 Scientific publications

Scientific publications in peer-reviewed journals, such as the International Journal of Hydrogen Energy, will be the main channel for disseminating the knowledge generated by the project to the scientific community, along with presentations at the conferences mentioned above.

3.2.12 Stakeholders advisory board

The SAB will be ambassadors of the project in their countries. Members of the SAB will be invited to attend the training at ENSOSP and National Training Cluster Workshops where applicable, to provide expert input, feedback and support as required. Members have been identified for the expertise, and ability to both enhance the delivery of the project and to support disseminated of the activities at a European level and beyond. The SAB will reinforce the relevance of HyResponder activities various groups of stakeholders, including responders, training providers, regulators and decision-makers, SDO, etc. The SAB involves practitioners and experts from different countries from Europe and beyond, providing outreach far beyond the consortium. The project partners and the SAB members with work closely using their complementarities to build synergies in quality of project outcomes and dissemination of generated knowledge to as wide audience of stakeholders as possible. HyResponder will contribute towards the objectives and activities of the Hydrogen Innovation Challenge, thus the importance of promoting international collaboration

It should be noted that the SAB has been expanded significantly in months 8 – 12 of the HyResponder project. It is the intention of the consortium to maximise the input of the SAB in the review of teaching materials, including the emergency response guide and in the ePlatform to ensure its sustainability. Persee have organised two "on-boarding sessions" in December 2020 to ensure that SAB members are aware of all details of the project and to identify member expertise and requirements. Responder organisations in particular have been targeted for membership. It is intended that the SAB will grow further, as countries without representation have been identified.

4. Sustainability

Sustainability of the training programme will be ensured through the availability of translated materials on an educational NET-tools e-Platform It is envisaged that the SAB and responders forum will form the basis of an International e-Forum for responders which will remain beyond the project. Recommendations will be developed on a pathway to establish the HyResponder training as the recognised standard in Europe beyond the project.

5. Deliverables and milestones

A timeline for dissemination and sustainability activities was defined at the project preparation stage. Table 4 below outlines the deliverables, milestones, responsible partner, timing and status.

Table 4 Timeline of activities

D/M	Name	Lead	Due	Done
M5.1	List of proposed members for the SAB	Persee	M2	X (expanded since)
D5.1	Dissemination, outreach and communication plan	UU	M4	Complete
D5.2	Minutes of first SAB meeting	Persee	M6	Complete
D5.3	Update of dissemination, outreach and communication plan	UU	M12	Complete
D5.4	Minutes of second SAB meeting	Persee	M12	Jan meeting
M5.2	List of contacts and plan for Pan-European network of trainers	UU	M12	Complete
D5.5	Minutes of third SAB meeting	Persee	M18	
D5.4	Publications list and plan	UU	M20	
D5.6	Establishment of Pan-European Network of trainers	UU	M24	
D5.7	Minutes of fourth SAB meeting	Persee	M24	
D5.8	Second update of dissemination, outreach and communication plan	UU	M24	
M5.3	Outline plan for delivery and operation of e-Forum	Persee	M24	
M5.5	Preliminary recommendations on the Pan-European recognition and continuation of hydrogen safety training for responders	CTIF	M24	
D5.9	Minutes of fifth SAB meeting	Persee	M30	
D5.10	Minutes of sixth SAB meeting	Persee	M36	
D5.11	International e-Forum for responders	Persee	M36	
D5.12	Recommendations on the Pan-European recognition and continuation of hydrogen safety training for responders	CTIF	M36	