HyResponder

Train the Trainer

A programme in hydrogen safety for first responders
Hydrogen

$H_2$

Compressed Gas
Highly Flammable
Lighter than Air

HyResponder

Hydrogen Vehicle PRD Test

- Swain (2001) tests comparing hydrogen and gasoline vehicle fires (above).
<table>
<thead>
<tr>
<th>Participant No.</th>
<th>Participant organisation name</th>
<th>Country</th>
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<tr>
<td>1 (UU)</td>
<td>UNIVERSITY OF ULSTER</td>
<td>UK</td>
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<td>2 (AL)</td>
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<td>3 (ENSOSP)</td>
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<td>6 (LFS)</td>
<td>LANDESDEURWEHRSCHULE TIROL</td>
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<td>COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES</td>
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<td>9 (ZGZSFCP)</td>
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<td>Spain</td>
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<td>10 (DLR)</td>
<td>DLR-INSTITUT FUR VERNETZTE ENERGIESYSTEME EV</td>
<td>Germany</td>
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<td>11 (CTIF)</td>
<td>INTERNATIONAL ASSOCIATION OF FIRE AND RESCUE SERVICES</td>
<td>France</td>
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<td>12 (FSC)</td>
<td>FIRE SERVICE COLLEGE</td>
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<td>13 (URS)</td>
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<td>Italy</td>
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<td>MINISTRY OF THE INTERIOR OF THE CZECH REPUBLIC</td>
<td>Czech Republic</td>
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<td>16 (USN)</td>
<td>UNIVERSITY OF SOUTH-EASTERN NORWAY</td>
<td>Norway</td>
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HyResponder

Project Aim

Develop and implement

A. 1 Sustainable train-the-trainer programme in hydrogen safety for responders throughout Europe thus

B. Supporting commercialisation of Fuel Cell and hydrogen technologies by

C. Informing the participation of responders in
   • the initial permitting process
   • improving resilience and preparedness through enhanced emergency planning
   • ensuring appropriate accident management and recovery.
1. Identify intervention strategies and tactics
2. Develop operational, virtual reality, and educational training for trainers of responders
3. Establish a Pan-European Network of Responder Trainers
4. Train responder trainers from at least 10 European Countries
5. “Nationalise” teaching materials and translate into at least 7 languages.
6. Support new trainers deliver responder workshops in at least 10 countries maximizing the reach and impact of the training programme,
7. Ensure sustainability with translated materials on educational NET-tools e-Platform.
8. Update the European Emergency Response Guide to reflect state-of-the-art intervention strategies and tactics and make available online for all responders.
HyResponder

H2 vehicle fire with rupture TPRD
HyResponder

Tactics and Techniques
Dislocation of a hydrogen transport trailer
HyResonder

Leak Hydrogen Jet Fire
HyResponder

Simulations
HyResponder

Simulations
HyResponder

Simulations
HyResponder

Location of National Cluster Training Workshops
HyResponder

• 3 year project
• Project budget: 1 million
• 16 partners from across 10 countries
• Submitted to the Fuel Cell & Hydrogen Joint Undertaking call for proposals on 23rd April 2019
• Successful applicants will be notified in August 2019
• Consortium comprised of first responders, academia, and industry with Ulster University as the coordinator
• Builds on the hyresponse project (http://www.hyresponse.eu/) 2013-2016
CTIF Partner Role

CTIF will contribute to dissemination of the activities and provided input to the training programme.

The main role of CTIF is to lead a task: “Recognition of the responder training as European Standard”

Output of this task will be recommendations and a plan to ensure that the HyResponder training is utilised beyond the project and becomes the European Standard, effectively ensuring continuity and growth of the activities beyond the project close.