Creating a First Responder Training Framework

International Association of Fire and Rescue Services

CTIF

Summary Presentation

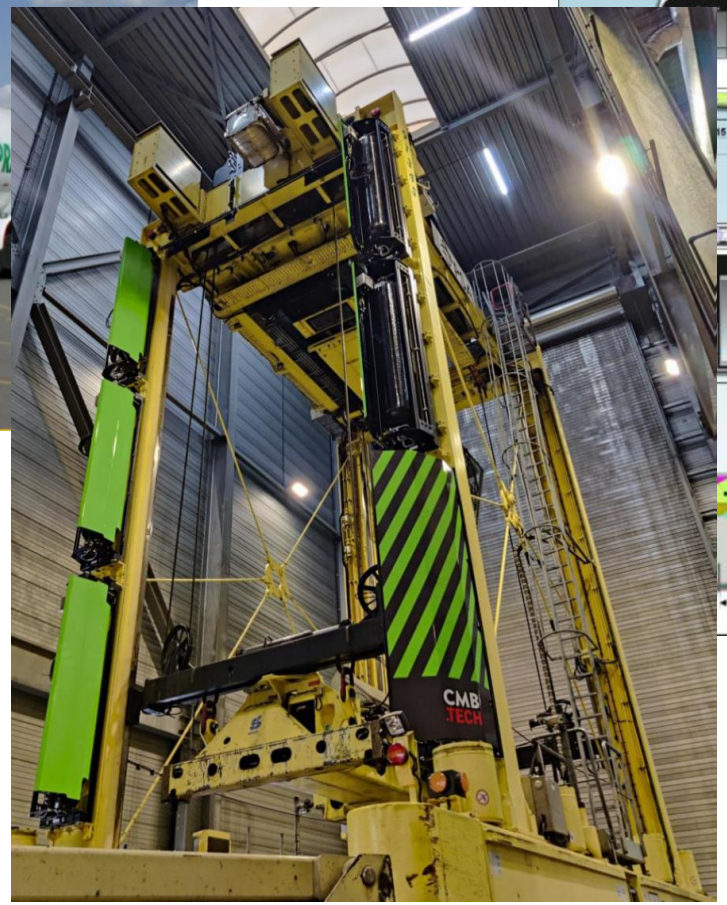


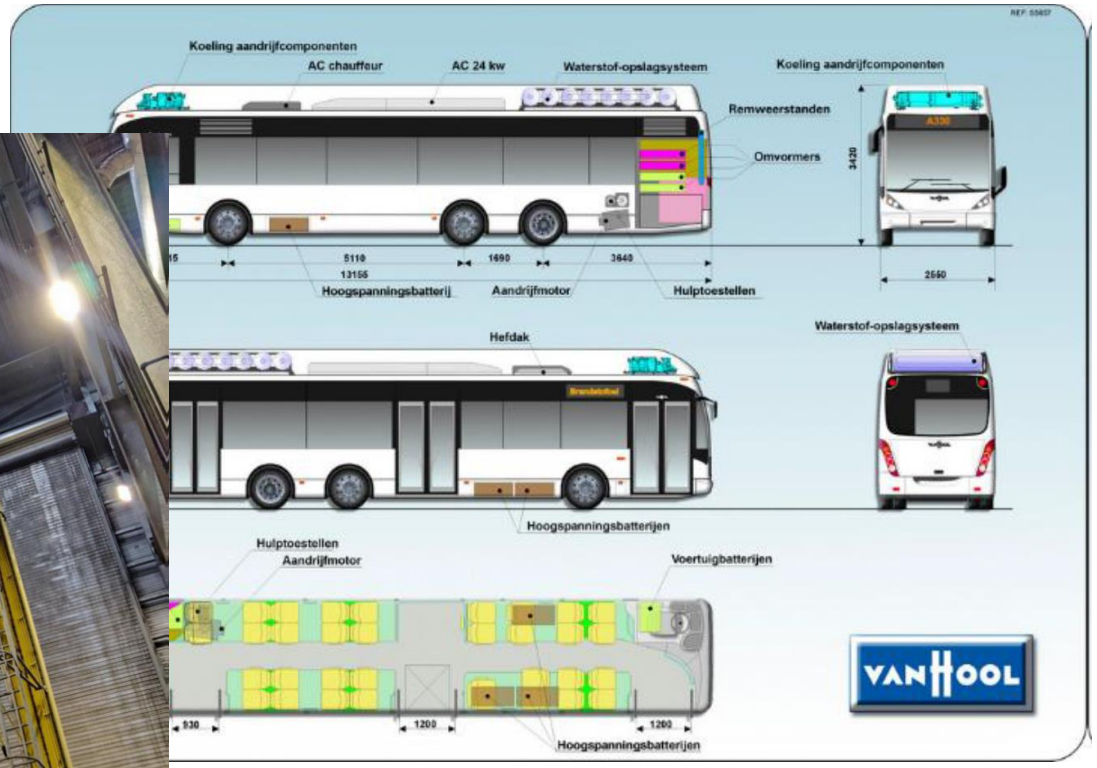


Why?

Alternative Fuel
Widespread Transport Use

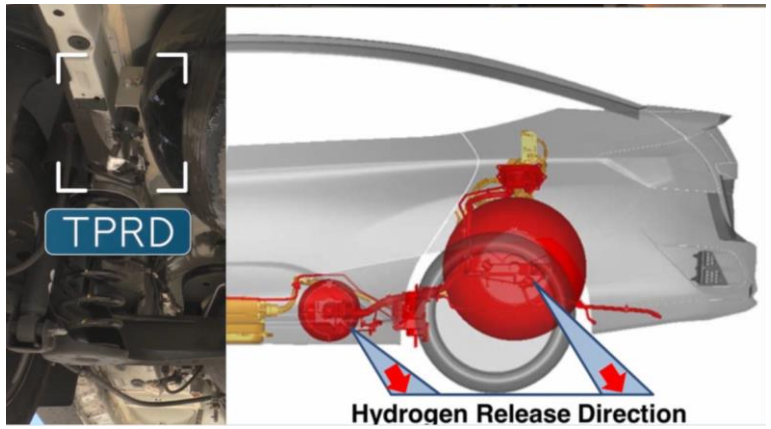
Why?

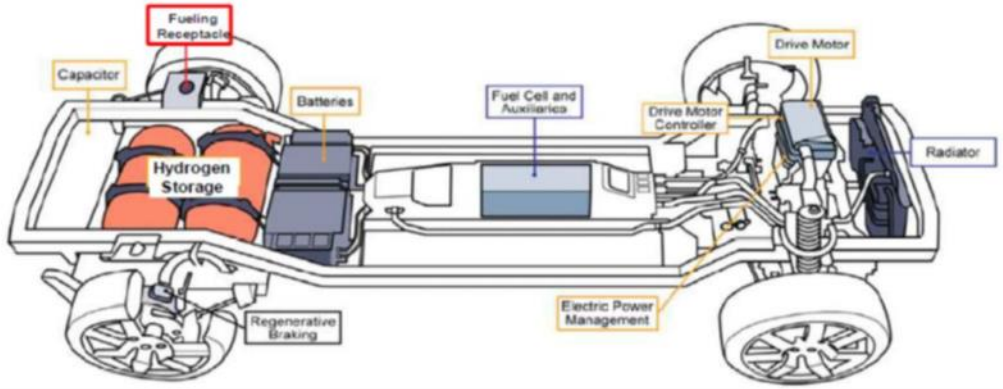

CMB
TECH

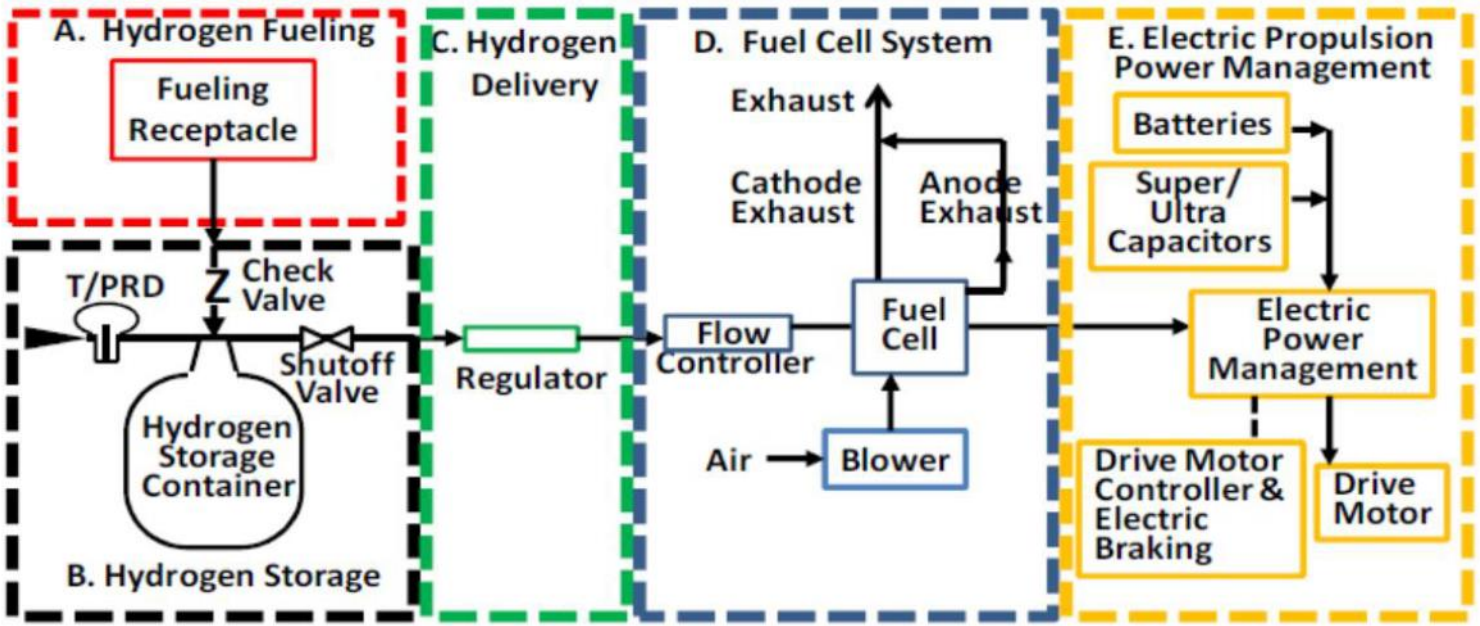

Koeling aandrijfcomponenten
AC chauffeur
AC 24 kw
Waterstof-opslagsysteem
Koeling aandrijfcomponenten
Remweerstanden
Omvormers
3420
5110
1490
3640
13155
2560
Hoogspanningsbatterij
Aandrijfmotor
Hulptoestellen
Hefdak
Waterstof-opslagsysteem
Hoogspanningsbatterijen
Hulptoestellen
Aandrijfmotor
Voertuigbatterijen
930
1200
1200
Hoogspanningsbatterijen
VANHOOL

Firefighter and Public Safety

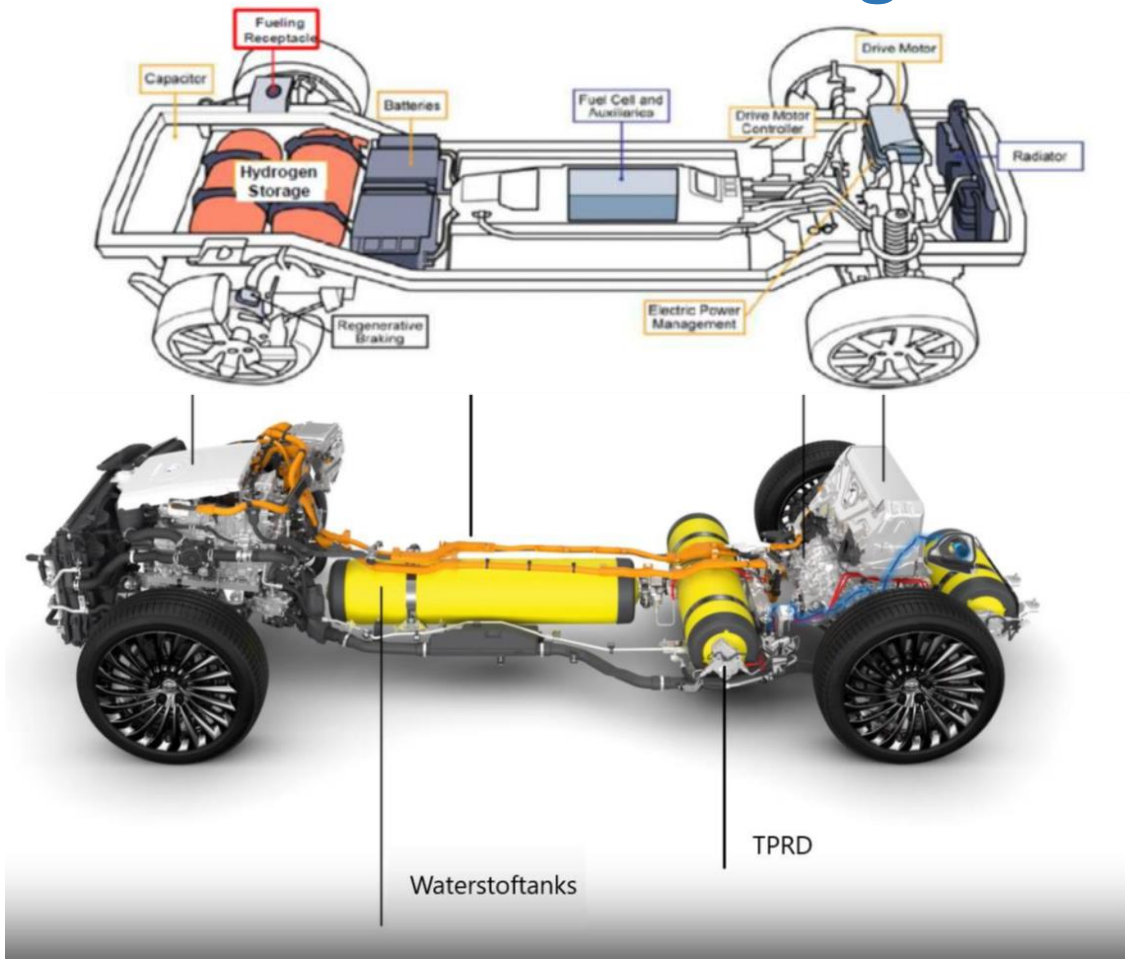
Firefighter and Public Safety

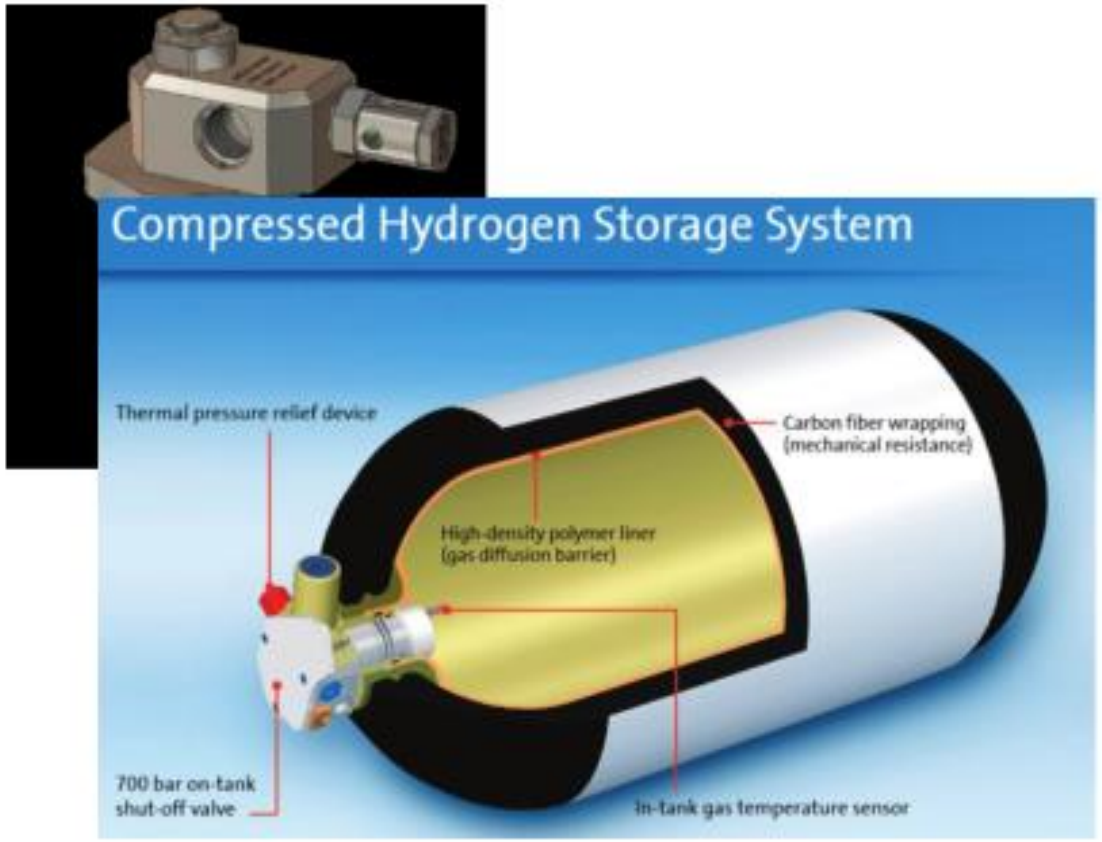






Firefighter and Public Safety

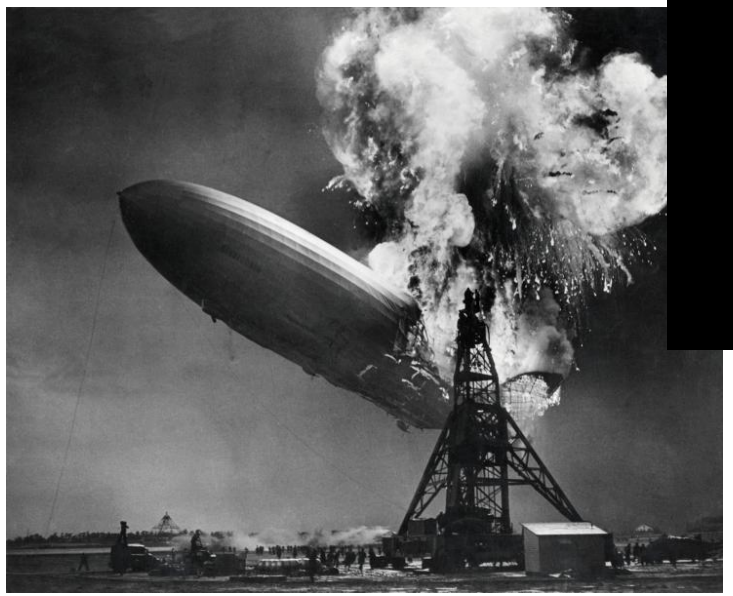


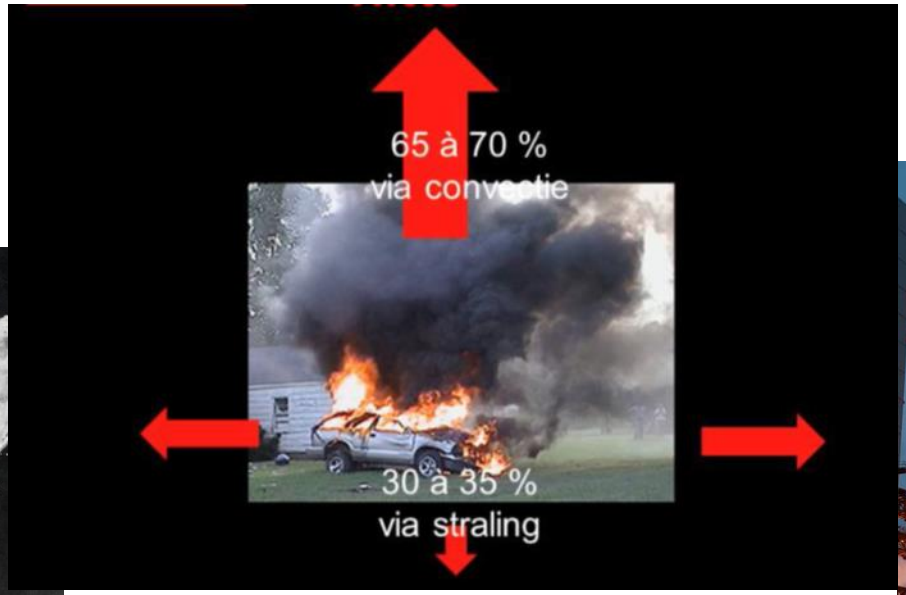


Firefighter and Public Safety

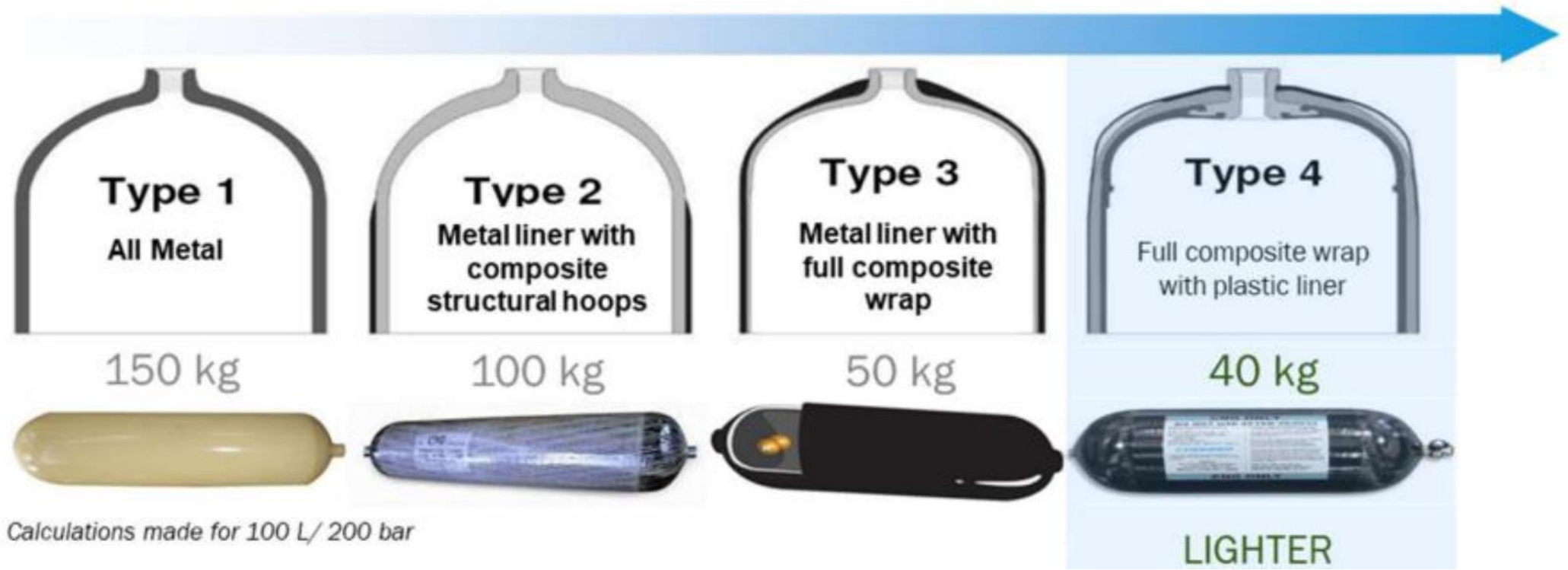
HyResponder 2023

Firefighter and Public Safety

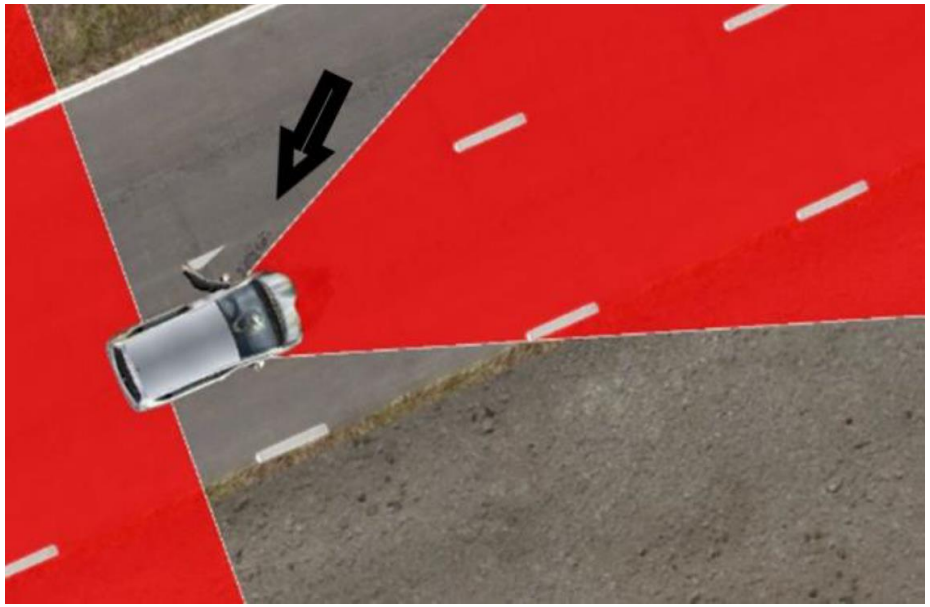


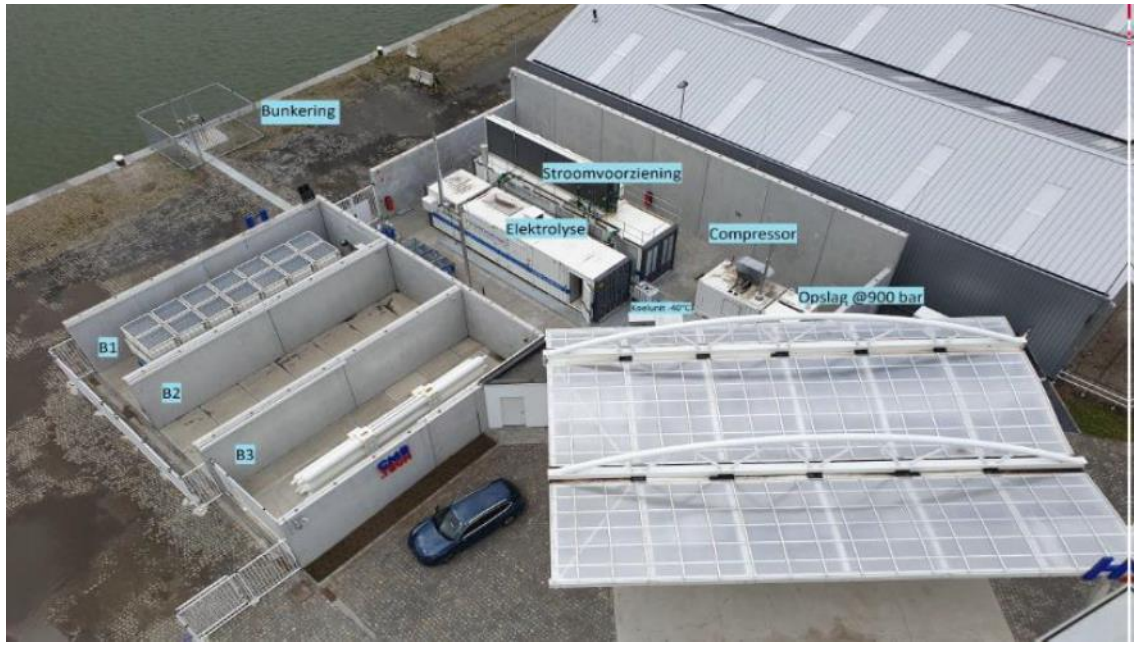


Firefighter and Public Safety



Firefighter and Public Safety





Key Elements

European Emergency Response Guide

Training Materials

Virtual reality training

Operational training

e-Laboratory of Hydrogen Safety

Languages:
Czech, Dutch, English, French, German, Italian, Norwegian, Spanish

Framework

Framework not a standard.
Defined expectations for:
trainee, trainer and training centre.
Attention to:
Knowledge and awareness of hydrogen
Behaviour and risks (Reading Lectures)
Videos of actual performance
Tactics and their objectives (Videos-VR)
Tactical operations (car-wet & live)
VR reality scenarios (if possible wet & live)

Brief Review

Objectives

Recommend a plan for Pan-European recognition and sustainability

Role Stratification and Learning Expectations

First Responder (Firefighter)	EQF 2 Basic knowledge cognitive and practical skills
Crew Commander	EQF 4 Factual and theoretical knowledge in broad context
Incident Commander	EQF 5 Comprehensive factual and theoretical knowledge
Specialist	EQF 5 Specialist factual and theoretical knowledge

Curriculum and Delivery

Structured, progressive programme, built around modules of defined outcomes

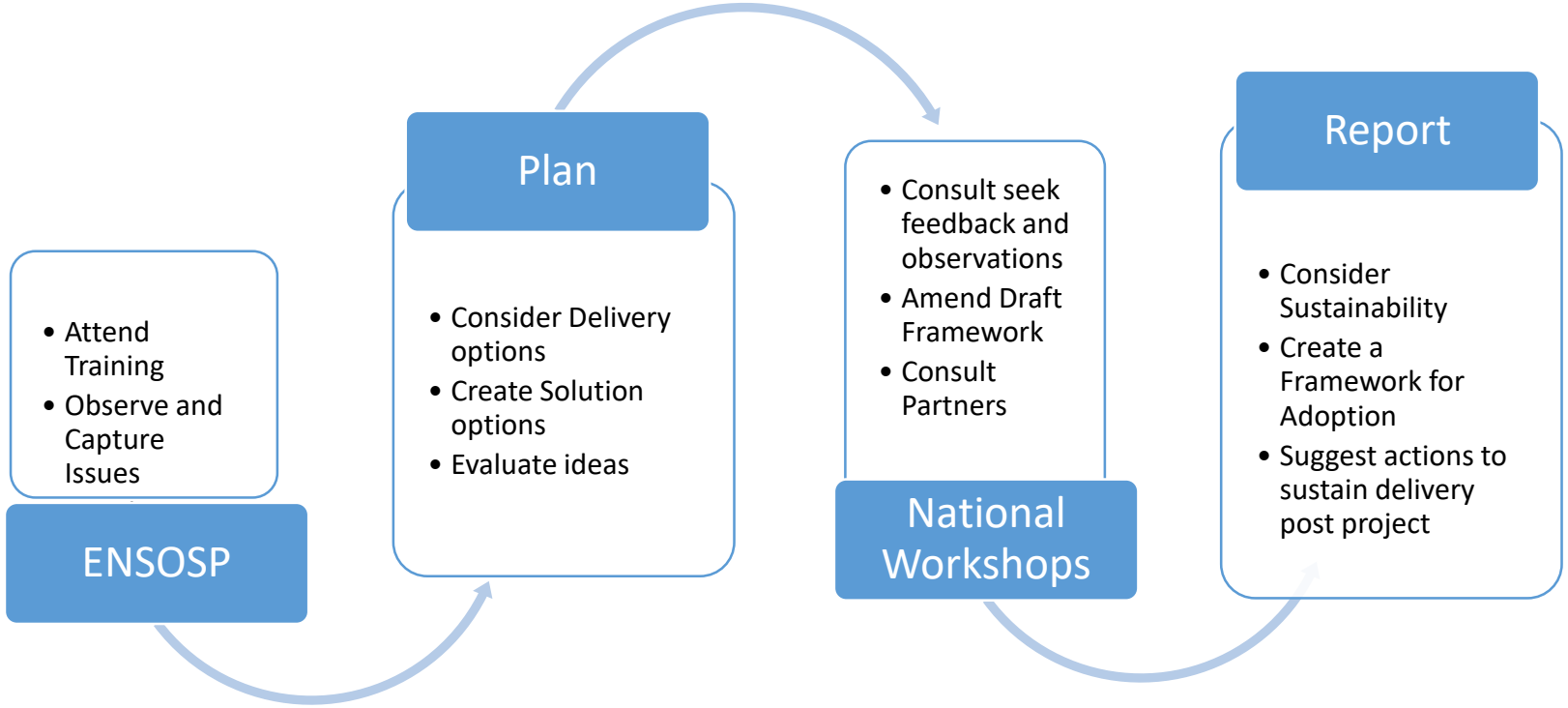
Supported with materials and teaching methods using available technologies and training facilities

Capable of inclusion through adaptation with vocational competence assessments

Specifically recognises volunteer fire and rescue services

Process

Provide input to training and develop recommendations for a route to ensure the training developed in HyResponder is the recognised training framework for first responder training in Hydrogen Safety throughout Europe



ENSOSP Train the Trainers Workshop

ENSOSP Train the Trainers

- Attend Training
- Observe
- Capture Issues
- Develop Solutions

ENSOSP

Capture Issues

Lectures offered significant technical background and scenarios explored tactical considerations

Discussion highlighted call for simplification and application of science and common templates to set context of scenarios

Multiple questions and examples around knowledge and practices resulted call for clarity of core 1st response criteria (ERG)

Identified usefulness of “rule of thumb” guides and consolidated online tools to aid risk assessments to assist action prioritisation

Process Development

Capture Issues

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Firefighter?

Target Audience

Standardisation

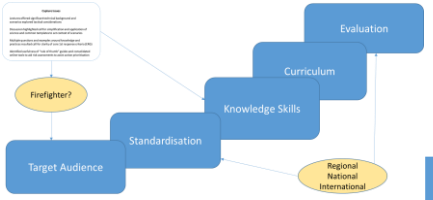
Knowledge Skills

Curriculum

Evaluation

Regional
National
International

Elements of Design



NEXT STEPS Develop Common Solutions FRAMEWORK		
1	Scope	Code of Practice for Firefighter Training
2	Hydrogen	Chemical and Physical Properties
3	Products	Manufacture Use Storage and Transportation
4	Risk Assessment	Assessment Tools and Guidance from Research
5	First Response	Emergency Action Codes and Immediate Deployment
6	Tactics	Scenarios and Safe Practices
7	Resources	Materials Assets and Templates
8	Support	*e* platform and Resources
9	Evaluation	Assimilation Measures and Parameters
10	Promotion	Dissemination to Practitioner Networks

Features of Framework Design

1. Create a structured, progressive programme, built around defined modules
2. Support this programme with developed materials available on website
3. Recognise the lessons of the Pandemic and application within independent jurisdictions
4. Capture developed work
5. Develop online VR with possible short self-assessment programme
6. Investigate sustainable platform for content and programme
7. Capable of recognition with vocational competence assessments
8. Work with local and national authorities
9. Demonstrate quality through a comparable approach
10. Create a composite programme to help facilitate adoption

Supporting the Training Framework

Initial firefighter knowledge requires clearest understanding of Hydrogen: the flammability range, non-visual flame, noise of high pressure release by TPRD, cryogenic properties, vaporisation with water, etc.

A network to support trainers (who might require some form of attendance certification).

Establish design criteria for a series of suggested facilities to use with modules framework

The Framework

Unit	Description
1	First Responder Safety
2	Properties
3	Storage
4	Compatibility with Materials
5	Liquefied Releases
6	Threat for people and property
7	Ignited Releases and Prevention
8	Unignited Releases
9	Hazard Distances
10	Explosions
11	Confined Spaces
12	Refuelling Stations A
13	Standard Operating Practice
14	Fuel Cell Vehicles
15	Fuel Cell Buses
16	Fuel Cell Trucks
17	Fuel Cell Trains
18	Trailers
19	Refuelling Stations B
20	Generation Plant