

Fact Sheet of the Network of Excellence (NoE) HySafe

Contract number

SES6-CT-2004-502630

Project acronym

HySafe

Project name

Safety of Hydrogen as an Energy Carrier

Coordinator contact details

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Priority/ Priority component (e.g. Strategic Objective, etc.)

The HySafe network addresses the medium and long-term objectives of the Priority 6.1 “Sustainable energy systems”. In particular, the HySafe NoE is directly relevant to the objectives of research area 6.1.3.2.2 concerning development of a robust and reliable framework for assessment of the safety of hydrogen technologies.

Project logo



see also

Project website

www.hysafe.net

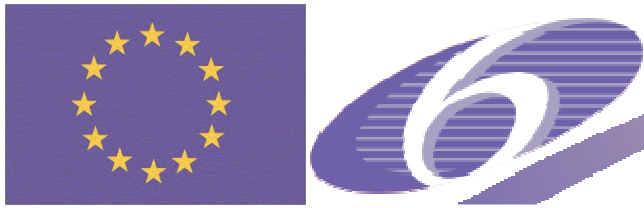
List of participants (organisation name, country)

Forschungszentrum Karlsruhe GmbH	DE
L'Air Liquide	FR
Federal Institute for Materials Research and Testing	DE
BMW Forschung und Technik GmbH	DE
Building Research Establishment Ltd	UK
Commissariat à l'Energie Atomique	FR
Det Norske Veritas AS	NO
Fraunhofer-Gesellschaft ICT	DE
Forschungszentrum Juelich GmbH	DE
GexCon AS	NO
The United Kingdom's Health and Safety Laboratory	UK
Foundation INASMET	ES
Inst. Nat. de l'Environnement industriel et des RISques	FR
Instituto Superior Technico	PT
European Commission - JRC - Institute for Energy	NL
National Center for Scientific Research Demokritos	EL
Norsk Hydro ASA	NO
Risø National Laboratory	DK
TNO	NL
University of Calgary	CA
University of Pisa	IT
Universidad Politécnica de Madrid	ES
University of Ulster	UK
VOLVO Technology Corporation	SE
Warsaw University of Technology	PL

EC funding (€)

7 Mio

EC(main funder) logo and actual framework programme 6 logo



Total budget (€)

13 Mio

Project main goal(s)

The overall goal of HySafe is to contribute to the safe transition to a more sustainable development in Europe by facilitating the safe introduction of hydrogen technologies and applications.

The objectives of the network include:

- To contribute to common understanding and approaches for addressing hydrogen safety issues
- To integrate the European experience, knowledge hardware and software tools relevant to hydrogen safety
- To integrate and harmonise the fragmented research base
- To provide contributions to EU safety requirements, standards and codes of practice
- To contribute to an improved technical culture on handling hydrogen as an energy carrier
- To promote public acceptance of hydrogen technologies.

Key issues

The IPHE recognised HySafe network focuses on safety issues relevant to improving and coordinating the knowledge and understanding of hydrogen safety and to supporting the safe and efficient introduction and commercialisation of hydrogen as an energy carrier of the future.

The research activities are structured along all levels of safety control and along all relevant applications mainly in the private sector.

The required long term integration will be provided by the European Hydrogen Safety Centre, which will be founded by the HySafe consortium during the subsidised phase.

Technical approach

Research fragments are reoriented and integrated in Internal Projects like “InsHyde” and “HyTunnel” following the research headlines:

Other activities (see <http://www.hysafe.net/WPlist>) are conducted in a highly collaborative manner grouped in activity clusters

Cluster “Tools”:

- Creation of a set of specialised research facilities
- Establishment of an open hydrogen incident and accident database
- Identification of a set of specialised complementary codes and models that can be used for consequence analyses and safety studies
- Developing, harmonising and validating methodologies for risk assessments

Cluster “Phenomena”

- Promoting fundamental research necessary to address hydrogen safety issues
- Extracting net outcomes from safety and risk assessment and the safety relevant experience gained in other EC funded projects

Cluster “Dissemination”

- Disseminating the results through a ‘HySafe’ website, the Biennial Report on Hydrogen Safety, and the Biennial International Conference on Hydrogen Safety (ICHS)
- Organising training and educational programmes on hydrogen safety, including on-line mode (e-Academy)
- Studies as input to EU-legal requirements, standards and codes of practice

Expected achievements/impact

- Progress in common understanding of hydrogen safety and risk
- Harmonised tools for safety and risk assessment, including a database for incidences and a Handbook for Hydrogen Safety
- Support the harmonisation of standards, by providing the unambiguous scientific basis, especially where the standards are designed for safe, robust and reliable solutions for hydrogen applications
- A framework for training and education
- A safety roadmap for future progress

All above integrated, maintained and disseminated by the European Hydrogen Safety Centre to be founded by the HySafe drivers.

Achievements so far

- Early IPHE recognition of HySafe
- On-line catalogue of all relevant European experimental facilities
- On-line Questionnaire, expert surveys and PIRT study to define research headlines and identify safety relevant knowledge gaps
- Draft Handbook for Hydrogen Safety to be issued late summer 2006
- Huge online database for hydrogen industries (>1000 entries) and hydrogen safety bibliography
- Successful organisation and IPHE integration of the International Conference for Hydrogen Safety (300+ participants)
- Successful initiation of the First Hydrogen Safety Summer School HYCOURSE and early stage training network HYSAFEST

- 4 further proposals for new projects to the EC (e.g. HYPER)
- Prototype of HIAD database with first 40 entries; public interface late summer 2006
- Organisation of 4 special workshops/information exchange meetings on experiments and instrumentation
- Highly dynamic website www.hysafe.net with several communication features

Organisational Structure: 15 Work Packages in 4 Clusters

Work package / project title	Work-package / project no	Lead contractor
Cluster Phenomena		
Hydrogen release, mixing and distribution	WP8	NSCRD
Hydrogen ignition and jet fires	WP9	HSL
Hydrogen Explosions	WP10	FZK
Mitigation	WP11	NH
Material Compatibility and Structural Integrity	WP18	INASMET
Cluster Tools		
Integration of Experimental Facilities	WP2	FZJ
Numerical Tools	WP6	FZK
Risk assessment methodologies	WP12	DNV
Cluster Dissemination		
Biennial Report on Hydrogen Safety	WP1	INERIS
Hydrogen Incident and Accident Database	WP5	DNV
Conference on Hydrogen Safety	WP14	UNIP
E-Academy	WP15	UU
Contribution to Standards and Legal Requirements	WP16	INERIS
Cluster Management		
Strategies	WP7	CEA
Management (incl. PMO)	WP17	FZK
Internal Projects		
InsHyde	IP.1	NCSR
HyTunnel	IP.2	BRE

Some pictures



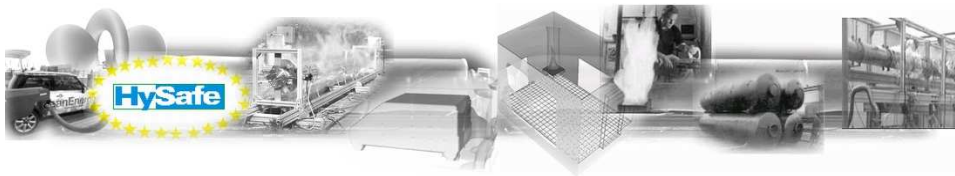
At the Kick-Off Meeting at the Bruchsal Castle, Germany



Internal Project “InsHyde” Meeting



Audience at the 1st Int Conference on Hydrogen Safety in Pisa (organised by WP14)



Background for presentation slides

Navigation: » [HySafe Home](#) Site map

HySafe Home

<p>Menu:</p> <ul style="list-style-type: none"> • Network Summary • Participants • Advisors • Supporters • Work Packages • Links • Documents • News, Meetings, and Events • E-Academy • International Conference on Hydrogen Safety • Job opportunities • Contact 	<h3>Safety of Hydrogen as an Energy Carrier</h3> <p>The EC funded Network of Excellence (NoE) HySafe[®]) contributes to the safe transition to a more sustainable development in Europe by facilitating the safe introduction of hydrogen technologies and applications.</p> <p>The HySafe network will bring together competencies and experience from various research and industrial fields (automotive, gas and oil, chemical and nuclear). Much effort has been concentrated on the hydrogen safety issues relevant to the nuclear industry during the past 20 years, including comprehensive safety studies and the development of innovative mitigation techniques. At the same time industry and research dealing with today's fossil energy carriers are now confronting issues associated with everyday use of the technology by the general public.</p> <p>Synthesis, integration, and harmonisation of these efforts is expected to break new ground in the field of hydrogen safety and contribute to the increase of public acceptability of hydrogen as an energy carrier.</p>
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HySafe homepage www.hysafe.net



Partner logos