

DOE Fuel Cell Summit  
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# ISO/TC 197 activities Hydrogen Technologies

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# ISO/TC 197

## Hydrogen Technologies

- **Scope:** Standardization in the field of systems and devices for the production, storage, transport, measurement and use of hydrogen

# ISO/TC 197 Membership

- **17 participating countries**

- Argentina, Australia, Belgium, Canada, Egypt, France, Germany, Italy, Japan, Libya, the Netherlands, Norway, the Republic of Korea, the Russian Federation, Sweden, Switzerland and the United States of America

- **13 observer countries**

- Austria, the Czech Republic, China, Hungary, India, Israel, Jamaica, Serbia and Montenegro, Spain, Thailand, Turkey, Ukraine, and the United Kingdom

# Published International Standards

- **ISO 13984:1999**  
*Liquid hydrogen - Land vehicle fuelling system interface*
- **ISO 14687:1999/Cor. 2001**  
*Hydrogen fuel - Product specification*

# Working groups that have completed their work – Documents to be published

- **WG 4**

*Airport hydrogen fuelling facility*  
(ISO/PAS 15594)

- **WG 7**

*Basic considerations for the safety of hydrogen systems*  
(ISO/TR 15916)

## **ISO/WI 15866** *Gaseous hydrogen blends and hydrogen fuel — Service stations*

- This work item was cancelled by the ISO Central Secretariat due to lack of progress. P-members could reinitiate this work by submitting a new work item proposal.

# Active working groups

- WG 1

*Liquid hydrogen - Land vehicle fuel tanks (ISO/DIS 13985)*

**Status**: The harmonization with the draft ECE regulation on liquid hydrogen road vehicles is completed. Third DIS is to be circulated soon.

# Active working groups

- **ISO/WD 17268** *Gaseous hydrogen — Land vehicle filling connectors*
  - ISO/TC 197 has recently received the authorization to use the SAE J2600 as the basis for the completion of the work. As a result, a working group meeting will be called in the next weeks. This working group will be transformed into a joint working group of ISO/TC 22 and ISO/TC 197, which will be under the administrative lead of ISO/TC 197 with Mr. Livio Gambone (Powertech, Canada) as the convener.

# Active working groups

- WG 6

*Gaseous hydrogen and hydrogen blends - Land vehicle fuel tanks (ISO/CD 15869 – 5 part standard)*

**Status**: The harmonization with the draft ECE regulation on gaseous hydrogen road vehicles is almost completed. First DIS is to be circulated soon.

# Active working groups

- **WG 8**

*Hydrogen generators using water electrolysis process (ISO/WD 22734)*

**Status:** Last meeting on 27-28 February 2003, New Haven, Connecticut

- **WG 9**

*Hydrogen generators using fuel processing technologies (ISO/WD 16110)*

**Status:** Last meeting on 14-16 April 2003, Amsterdam

# Active working groups

- WG 10

*Transportable gas storage devices -  
Hydrogen absorbed in reversible  
metal hydrides (ISO/WD 16111)*

**Status:** Last meeting on 7 March 2003,  
Washington

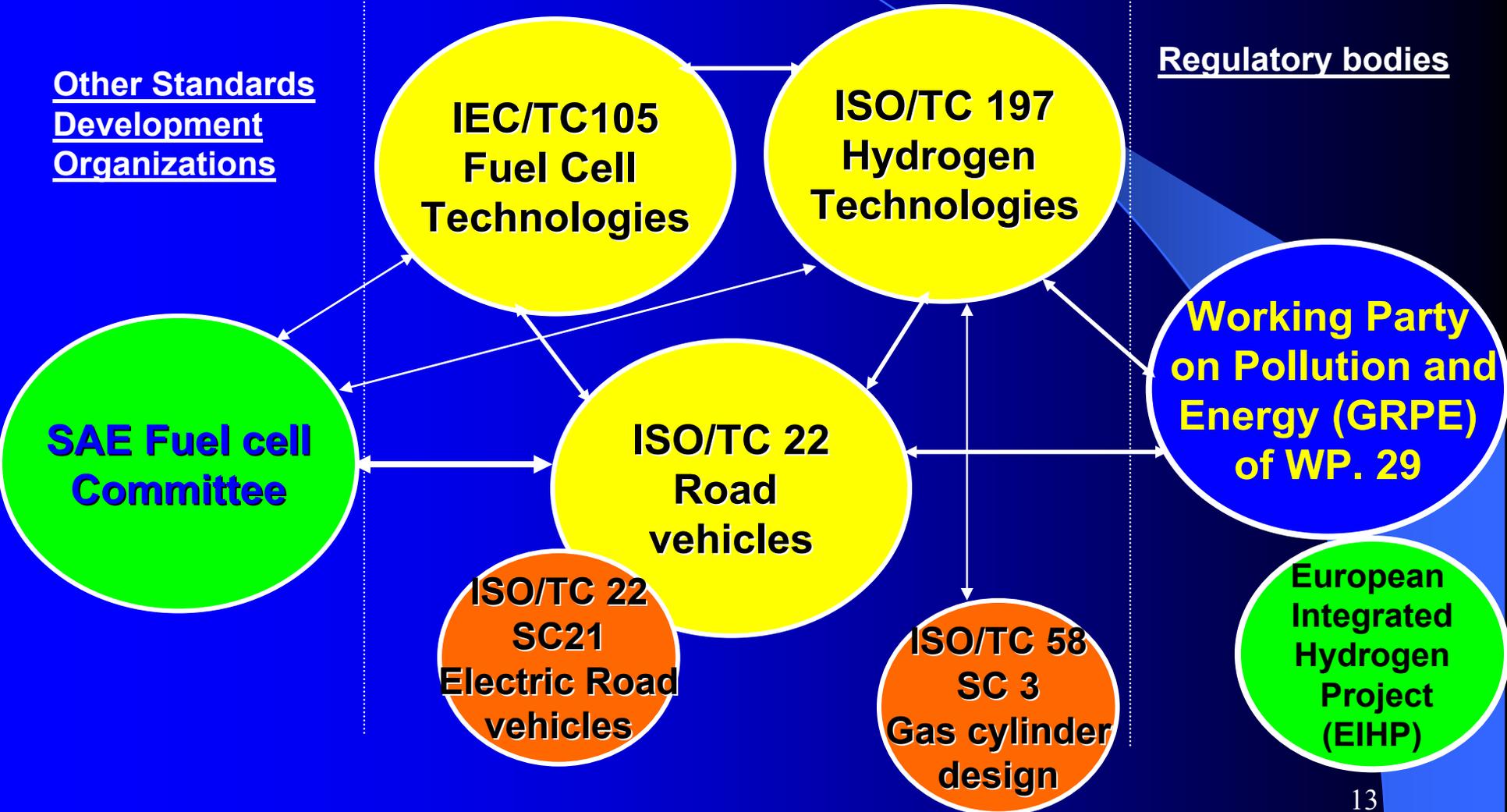
# Cooperation with other related Codes & Standards organizations

# International Cooperation

## Technical committees of International Standards Development Organizations

### Other Standards Development Organizations

### Regulatory bodies



# International cooperation between ISO and IEC technical committees

- ISO/TC 197 has special agreement for cooperation with ISO/TC 22 *Road vehicles*, ISO/TC 58/SC 3 *Gas cylinder design* and IEC/TC 105 *Fuel cell technologies*.

# International cooperation with other standards development organizations

- ISO/TC 22, ISO/TC 197 and IEC/TC 105 have links with the Society of Automotive Engineers (SAE).
- More specifically, means of cooperation with the SAE fuel cell committee are being discussed.

# International cooperation with the United Nations Economic Commission for Europe (UN ECE)

- ISO/TC 22 and ISO/TC 197 are cooperating with the Working Party on Pollution and Energy (GRPE) on the development of regulations for hydrogen vehicles.
- GRPE is one of the subsidiary bodies of the World Forum for Harmonization of Vehicle Regulations (WP.29) of UN ECE.

# Cooperation with World Forum for Harmonization of Vehicle Regulation (WP.29)

- ISO/TC 197 has been involved in the ongoing development of regulations for hydrogen road vehicles at WP.29. It is through this work that the activities aimed at achieving harmonization between the ECE draft regulations on hydrogen vehicles and the following ISO draft standards took place.
  - **ISO WI 13985** *Liquid hydrogen – Land vehicle fuel tanks*
  - **ISO WI 15869** *Gaseous hydrogen and hydrogen blends – Land vehicle fuel tanks.*

# Next steps

- Third DIS circulation of **ISO 13985** and first DIS circulation of **ISO 15869** are to follow shortly.
- The ECE draft regulation on road vehicles using liquid hydrogen was presented as an informal document at the 45th session of GRPE on 16-17 January 2003. It is now being submitted as a formal document (TRANS/WP.29/GRPE/2003/14) that was slated to be examined at the 46th session of GRPE on 22-23 May 2003.

# More Next Steps

- The ECE draft regulation on road vehicles using gaseous hydrogen will be presented as an informal document at the 46th session of GRPE on 22-23 May 2003.
- Further details on the WP.29/GRPE activities will follow shortly. The Chairman of ISO/TC 197 will soon be writing a report for the benefit of ISO/TC 197 members.

# Other ISO/TC 197 Liaisons

- **ISO/TC 20** *Aircraft and space vehicles*
- **ISO/TC 70** *Internal combustion engines*
- **ISO/TC 192** *Gas turbines*
- **ISO/TC 193** *Natural gas*
- **ISO/TC 203** *Technical energy systems*
- **ISO/TC 207** *Environmental management*
- **ISO/TC 220** *Cryogenic vessels*
- **NHA** *National Hydrogen Association (Cat. D)*
- **WSEC** *World Sustainable Energy Coalition*

# Issues

- Completed work items not yet available
- Minutes from June 2002 Plenary not out
- 2003 Plenary had been scheduled to be held in China. Due to SARS, other arrangements are being made.

# To get Involved

In order to become a member of an ISO TC 197 working group, you need to contact the administrator of the ISO/TC 197 mirror committee in your country

In the USA, you can contact Ms. Debbie Angerman at [dangerman@cganet.com](mailto:dangerman@cganet.com)).

# Contact Information

- [www.iso.ch](http://www.iso.ch)
- [www.HydrogenUS.org](http://www.HydrogenUS.org)
- [www.HydrogenSafety.info](http://www.HydrogenSafety.info)
- [www.eren.energy.gov/hydrogenandfuelcells](http://www.eren.energy.gov/hydrogenandfuelcells)