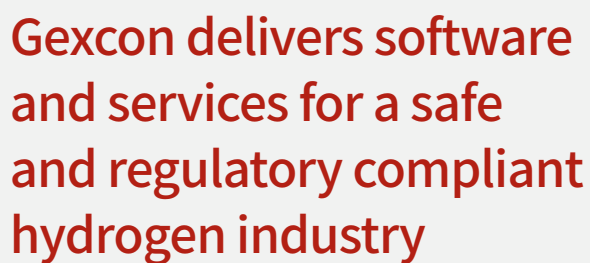


The title "Hydrogen Safety Solutions" is displayed in a large, white, sans-serif font within a dark blue speech bubble shape. The background of the entire page is a photograph of a hydrogen production facility, showing white storage containers with blue and yellow markings, wind turbines, and solar panels under a blue sky with white clouds.A white speech bubble containing the text "Gexcon delivers software and services for a safe and regulatory compliant hydrogen industry" in a red, sans-serif font. The background of the page is a photograph of a hydrogen production facility, showing white storage containers with blue and yellow markings, wind turbines, and solar panels under a blue sky with white clouds.

Gexcon hydrogen safety solutions are applicable across the hydrogen supply chain



Why choose Gexcon's hydrogen safety solutions?

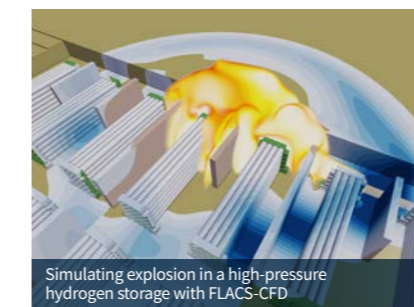
- We are actively participating within the global hydrogen safety research community, including HySafe, PRESLHY, HySEA, SH2IFT, Pilot-E and SAFEN.
- We have been involved extensively in large-scale experiments to understand the behaviours of gaseous and liquid hydrogen, jet fires, and deflagrations.
- We use the results from the large-scale experiments to validate our consequence and risk modelling software.
- We have years of experience in performing various safety studies across all hydrogen supply chain and different project lifecycle as well as conducting incident investigations.



Advanced Consequence Modelling and QRA Software

Gexcon offers a wide variety of software for modelling the accidental release of hydrogen to help understand its risks and assist in data-driven decision making.

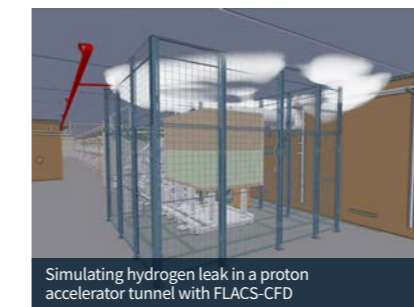
Our software portfolio is well-validated and well-suited for a range of hydrogen safety and risk studies.



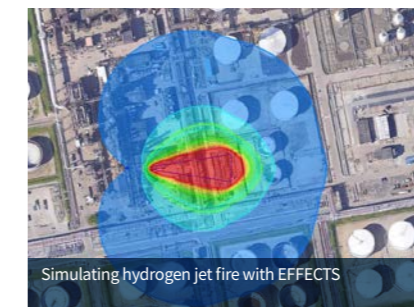
Simulating explosion in a high-pressure hydrogen storage with FLACS-CFD



Simulating hydrogen jet fire in a refuelling station with FLACS-CFD



Simulating hydrogen leak in a proton accelerator tunnel with FLACS-CFD



Simulating hydrogen jet fire with EFFECTS

Expert Consulting

Gexcon Consulting offers a full spectrum of safety studies for the hydrogen industry.

Our consultants have experience working with facilities across hydrogen supply chain and from all parts of the facility life cycle.

They are also expert users of the Gexcon software products and can advise on appropriate tools for your safety study.

Key services include:

- Early-stage risk analysis to identify potential hazards
- Complete facility risk analysis to map risk exposure on-site and off-site
- Verification of safety studies to ensure compliance with relevant standards and regulations
- Detailed modelling of hydrogen release and explosion consequences
- Quantitative risk analysis for siting and licensing purposes
- Verify structural response

X

FLACS-CFD
3D dispersion, fire and explosion modelling

X

EFFECTS
Advanced yet user-friendly consequence modelling based on TNO's Yellow and Green Book

X

RISKCURVES
Comprehensive QRA using EFFECTS models and based on TNO's Purple Book

X

Shell FRED
Consequence modelling featuring thermodynamic model

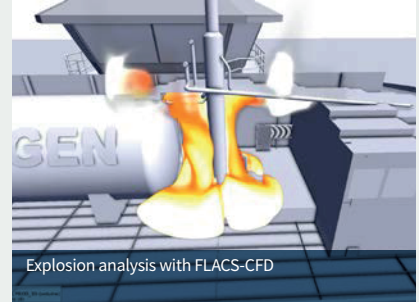
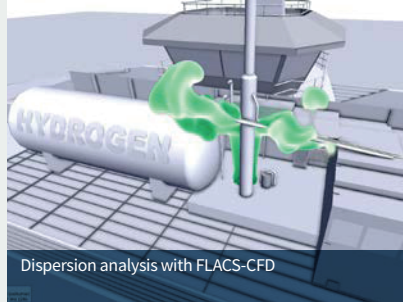
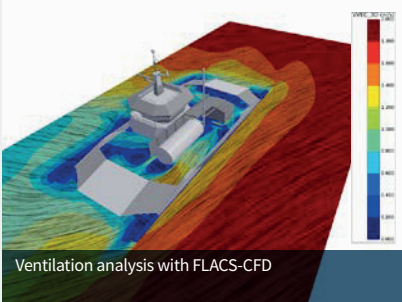
X

Shell Shepherd
Risk management across multiple assets

X

Shell PIPA
Pre-incident prevention and mitigation planning

Gexcon's hydrogen consulting capabilities cover various applications, including compressed and liquified hydrogen.



Incident Investigation

For more than 40 years, Gexcon has been involved in many incident investigations, including the Sandvika hydrogen production and refuelling station explosion in Norway.

We can help with all aspects of incident investigations, such as:

- Coordinating the investigation to conducting root cause analysis.
- Reconstruction of incidents with Gexcon's advanced consequence modelling software.
- Providing safety recommendations.
- Implementing strategies to prevent further incidents from occurring.
- Acting as expert witnesses in ongoing litigations and legal representation

Hydrogen Explosion Testing

- Laboratory-scale explosion properties testing for hydrogen and natural gas mixtures
- Testing and approval for mechanical equipment to be used in a potentially explosive atmosphere involving hydrogen
- Large-scale tailor-made hydrogen explosion testing



Gexcon is a world-leading company in safety and risk management and advanced engineering analyses.

We help our partners identify, prevent and mitigate toxic and flammable hazards in their facilities.

For more information and product enquiries:

Email: info@gexcon.com

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