Teledyne GMI

Teledyne GMI, part of the wider Gas and Flame Detection group within Teledyne Technologies Inc, is a global provider of safety solutions for hazardous environments, with decades of expertise in detecting flammable gases, including hydrogen. As hydrogen becomes a cornerstone of the global energy transition, Teledyne plays an important role in ensuring safety across its production, transportation and usage. Their advanced detection technologies are designed to identify hydrogen leaks and flames, which are often invisible and highly volatile. In Scotland, Teledyne GMI has been actively involved in supporting hydrogen initiatives, notably through collaboration with SGN on the H100 Fife project. Teledyne's GS700-Hydrogen instrument enables precise detection of both hydrogen and natural gas leaks, enhancing safety for emergency response and engineering teams.

Key Capabilities / Centres	Descriptions
Hydrogen leak detection, flame detection, production monitoring, storage and distribution safety, digital integration	Teledyne provides safety solutions across they hydrogen value chain, from production to end-use. In hydrogen production, their systems monitor electrolysis, reforming, and gasification processes, detecting hydrogen and associated gases with high precision. For storage and distribution, Teledyne offers fixed and portable detectors for compressed and liquefied hydrogen, designed to pinpoint leaks in pipelines and trailers. Their flame detectors and gas sensors support hydrogen applications in power generation, mobility, and industrial blending. Teledyne also enables digital integration through platforms like GDCloud™, offering real-time monitoring and predictive maintenance. Their technologies extend to hydrogen derivatives such as ammonia and methanol, and support emerging solutions like LOHC and underground storage, making them a key enabler of hydrogen safety and scalability.

Value Chain Areas	Testing & validation	Pilot manufacturing	Digital tools & simulation	Open innovation spaces	Skills development
Production	✓	X	✓	X	X
Networks	✓	X	✓	X	X
Storage	✓	X	✓	X	X
Transport	X	X	X	X	X
Industry	X	X	X	X	X
Power	X	X	X	X	X
Heat	X	X	X	X	X

*Tick = yes, O = potential, X = no

Collaboration opportunities

- **Joint Technology Development** Partnerships could be formed with Scottish utilities, research institutions, or hydrogen producers to develop next-generation safety tools.
- **Field Trials and Validation** Scottish hydrogen projects serve as testbeds for Teledyne's advanced detection technologies.
- **Training and Workforce Development** Teledyne could collaborate with Scottish colleges, universities, and training providers to deliver certified training programs on hydrogen safety etc.
- **Digital Integration and Data Sharing** Teledyne offers real-time monitoring and predictive maintenance capabilities. Scottish hydrogen operators could integrate these into their infrastructure, enabling data-driven safety management and collaborative analytics across the sector.

Hydrogen case studies

Trials, evaluations and initial customers include:

- Scotia Gas Networks (SGN): H100 & LTS Futures Projects
- Northern Gas Networks (NGN): H21 & Hydrogen Home
- DNV GL: Hydrogen Test Facility
- Liander Netherlands: Lochem Village Project
- Baxi / Bosch: Commissioning Hydrogen Combi boilers
- Steer Energy: Analysis of H2 room dispersion

Centre location

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Scottish Enterprise