Press release

Enagás is driving technological innovation to strengthen the resilience of the energy system.

During the 'Enagás Innovation Day', held at the Enagás Corporate University in Madrid, twelve multidisciplinary teams worked on three technological challenges.

The winning proposals addressed the smart digitalisation of underground storage facilities, emissions reduction and predictive maintenance of the future hydrogen transmission network.

Enagás' Chief Executive Officer, Arturo Gonzalo, emphasised that "innovation and technological development are crucial to the energy transition, decarbonisation, and the fight against climate change".

Madrid, 10 November 2026. Enagás held the latest edition of 'Enagás Innovation Day' at its Corporate University in Madrid today, during which three innovative solutions were selected to help tackle technological challenges relating to energy infrastructure. The event brought together representatives from technology and research centres, universities, businesses, and other stakeholders in the innovation ecosystem to share knowledge and seek technological solutions to current and future challenges facing energy infrastructure.

These solutions were developed as part of the '2026 Technological and Digital Challenge', in which twelve multidisciplinary teams comprising professionals from Enagás, other companies, technology centres, and universities worked on three challenges: the smart digitalisation of underground storage facilities, the prediction and monitoring of fugitive methane emissions, and the predictive integrity of the future hydrogen transmission network.

The event was opened by Arturo Gonzalo, Chief Executive Officer of Enagás, alongside Laura Olcina, President of the Spanish Federation of Technology Centres (Fedit) and Managing Director of ITI, a technology centre specialising in ICT and recipient of the 2026 National Innovation Award. In his speech, Arturo Gonzalo emphasised that "innovation and technological development will be crucial to the energy transition, decarbonisation, and the fight against climate change". He stated that "we are going to create a major opportunity for Europe and for Spain: we have the capacity to become Europe's leading hub for green molecules. To this end, it is urgent to accelerate the industrial scaling-up of major solutions".

For her part, Laura Olcina emphasised that "the true value of innovation becomes apparent when knowledge is transformed into solutions that businesses can implement. That is precisely the role of technology centres: to develop and validate technologies, reducing the risks associated with their adoption and accelerating their introduction into industry".

In this regard, Olcina highlighted the value of collaborating with companies such as Enagás, noting that "sharing challenges and combining our capabilities enables us to move towards solutions that we would struggle to develop alone".

The conference addressed the role of innovation and technology in boosting industrial competitiveness, strengthening energy self-sufficiency and making progress towards decarbonisation. Technologies relating to renewable hydrogen, artificial intelligence, digitalisation, predictive models and future digital twins were analysed, among other areas.

Innovation applied to three key technological challenges

The twelve teams have been working to come up with solutions to three operational and business challenges. The work has focused on solutions with practical application potential that use digitalisation and advanced data analysis to strengthen foresight and improve the efficiency, reliability and safety of infrastructure.

The first challenge focused on smart digitalisation of underground storage facilities with the aim of creating an integrated digital environment capable of linking technical, operational, geological and integrity data, automating certain processes and facilitating data analysis and decision-making. The winning proposal was the one from Pandora 360, an integrated, interoperable and scalable digital platform that connects and contextualises operational, technical and documentary information currently spread across different systems. It enables the automation of processes and reporting, the generation of indicators and alerts, and the gradual integration of advanced analytics and AI to improve asset management and decision-making at Enagás.

The second challenge focused on reducing emissions by developing tools to link emissions to operating conditions, detect potential deviations early and prioritise mitigation measures. The selected proposal was that of MIP: a smart platform for predictive emissions management combining continuous monitoring via cameras, operational and meteorological variables, and AI models. It enables emissions to be detected and quantified, their possible causes to be identified, and future trends to be predicted. It also prioritises maintenance and LDAR actions according to risk.

The third challenge focused on the predictive integrity of the future hydrogen transmission network, exploring solutions that enable asset maintenance to be anticipated and monitored through technologies such as sensor technology, non-intrusive inspection, predictive modelling, AI, and future digital twins for integrity. The winning solution in this case was VIGÍA-H2, which combines a hybrid digital twin, damage models specific to hydrogen, relocatable sensors and AI. Furthermore, it generates dynamic maps of critical points to anticipate deterioration, estimate the remaining service life of components, and guide inspections and maintenance.

From research to industrial application

The event also provided an opportunity to learn about three success stories in R&D&I relating to the energy transition. The first is GHOST, which uses AI and digital twins to anticipate risks in energy infrastructure. GHOST was the winning entry in the Technology Challenge launched by Enagás as part of MeetechSpain 2025, organised by FEDIT.

The second is GREENH2-CM, which focuses on research and technological development in green hydrogen and fuel cells. Finally, there was digHy, a digital platform aimed at improving the design and operation of renewable hydrogen projects.

These success stories were presented by Igor Pagazaurtundua, Innovation and Technological Development Manager at Enagás; Rafael D'Amore, PhD-qualified Lecturer at the Polytechnic University of Madrid; and Brais Armiño, Co-founder and CEO of digHy.

The event included a round-table discussion entitled 'From challenges to solutions: innovation with impact', featuring Juan Manuel Muñoz Guijosa, Vice-Rector for Innovation, Entrepreneurship and Technology Transfer at the Polytechnic University of Madrid; Andrés Llombart, Managing Director of CIRCE; and Álex Oscoz, Chief Commercial Officer at Telespazio Ibérica. The panel was moderated by Susana de Pablo, Enagás' Engineering, Technology and Digitalisation General Manager. During the discussion, the experts agreed that "innovation requires coordination, collaboration, and the integration of different perspectives and skills". They also emphasised that for innovation to have a real impact, "projects must be scalable and provide tangible value to businesses and society".

Enagás has also announced a new call for proposals for 'Ingenia Energy', its open innovation and intrapreneurship programme launched in 2015. The programme will now become a permanently open initiative, featuring new developments to encourage the development of innovative projects and disruptive ideas.

An ecosystem for sharing knowledge

The Hydrogen Technology Observatory, launched by Enagás in 2024, is an ecosystem for sharing knowledge and a forum for exchanging technical information. It now has 116 leading partners from across the hydrogen value chain.

In conclusion, Susana de Pablo emphasised "the importance of generating new knowledge, developing new models, nurturing talent, anticipating the industry's needs and directing innovation towards future challenges". In this regard, she highlighted the capabilities of technology centres and companies, and the need to harness these through collaboration in order to tackle the major challenges that lie ahead.

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