

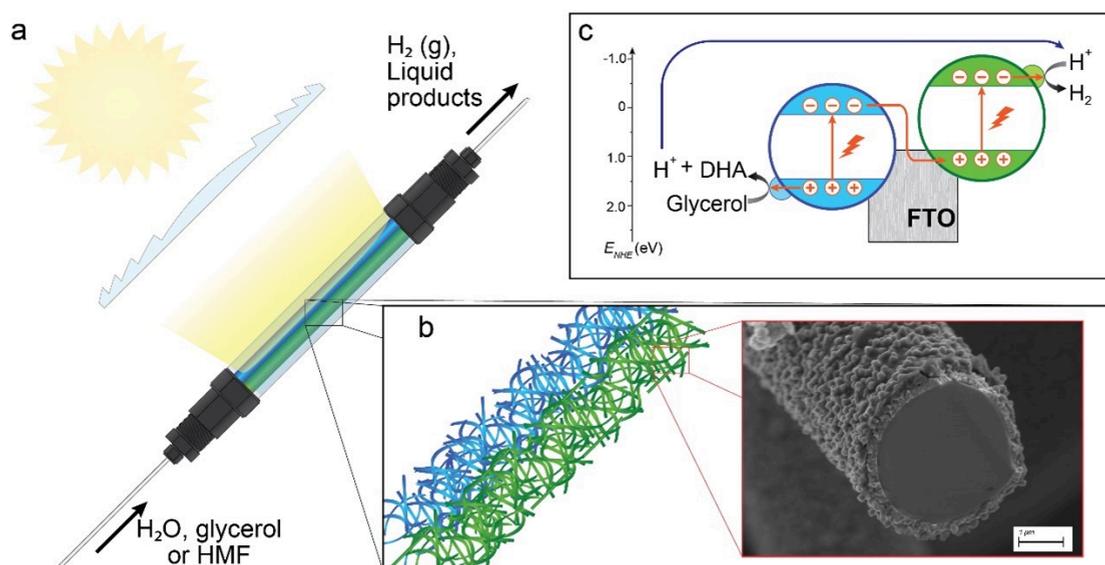
Dear PH2OTOGEN readers,

We're excited to bring you the latest updates on our progress, innovations, and key milestones. Don't forget to follow PH2OTOGEN on [X](#) and [LinkedIn](#) to stay informed about the latest developments in green hydrogen technology.

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Latest news

Successful tandem operation demonstrated in a Z-scheme configuration



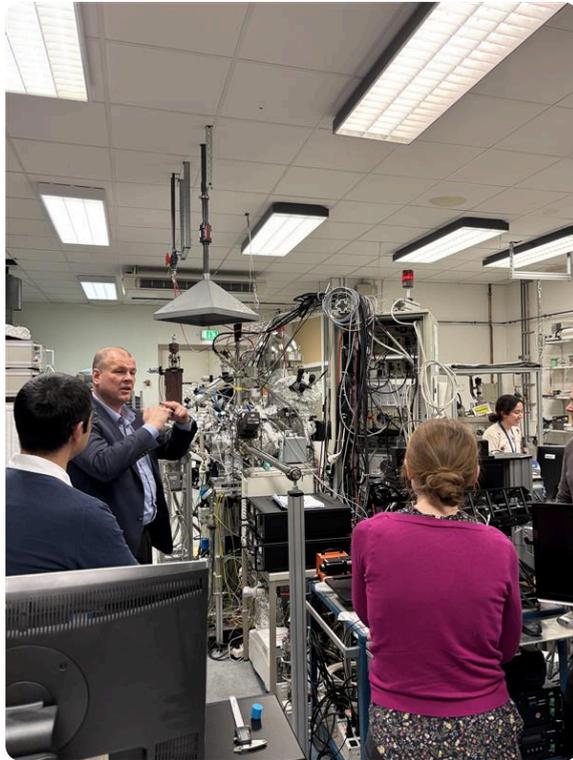
PH2OTOGEN concept

In the first phase of the project, PH2OTOGEN has focused on benchmarking various semiconductor candidates for the hydrogen evolving particle and the glycerol oxidation particle. In a major milestone, PH2OTOGEN has now successfully demonstrated tandem operation of the two best-performing semiconductors in a Z-scheme configuration, achieving milliampere-level photocurrent densities and stable operation for over an hour. This confirms

that the developed materials can work together towards bias-free solar hydrogen production, a critical step towards the flow reactor demonstrator.

See the science behind the milestone

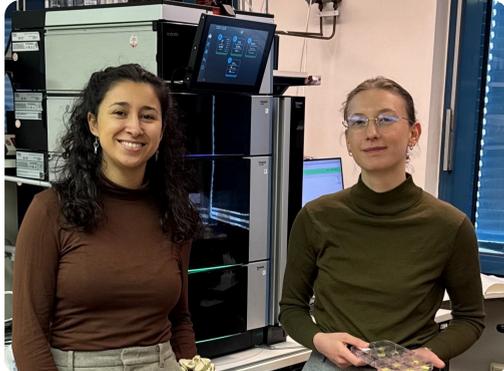
The consortium gathers in Berlin



At the two-year mark, PH2OTOGEN partners gathered in January at Helmholtz-Zentrum Berlin (HZB), bringing together all eight organisations. The meeting provided space for cross-team collaboration, with partners sharing advances in areas such as material optimisation, reactor flow development, and lifecycle assessment while addressing practical challenges.

Discover the progress

Shared protocols, shared progress: collaboration at the heart of PH2OTOGEN



Making the most of the consortium meeting, Coral from Toyota Motor Europe (TME) came in advance to work alongside Anna from the HZB team. She brought a co-catalyst previously synthesised at TME to study its stability and selectivity using HZB's specialised high-performance liquid chromatography (HPLC) equipment.

When every component must work together in series, collaboration becomes essential. Discover how partners are aligning protocols and scaling up processes through hands-on exchanges, from spray-coating sessions to standardised HPLC analysis methods.



This shared approach is accelerating progress and building the common foundation needed for real-world solar hydrogen technology.

Explore the behind-the-scenes

Publications & project outputs

Curious about the science behind PH2OTOGEN? Our peer-reviewed publications and public deliverables share the latest findings from across the consortium:



Our latest publications:

- [Resolving Peak Overlap in HPLC Analysis of Glycerol Oxidation Products by Utilizing Various Detectors: Application to BiVO₄ Photoanodes](#) | ACS Omega | Marco Favaro

and Roel van de Krol (HZB) - with OPH2ERA project

- [Sustainable upgrading of biomass: a thermodynamic approach to fine-tuning product selectivity for glycerol oxidation](#) | Chemical communications | Marco Favaro and Roel van de Krol (HZB) – with OPH2ERA project
- [A polymer bilayer hole transporting layer architecture for high-efficiency and stable organic solar cells](#) | Joule Cell Press | Thomas Heumüller and Christoph Brabec (FAU)

Discover all publications and deliverables

PH2OTOGEN partners take the stage

Conference season keeps the consortium busy and connected. Throughout 2025, PH2OTOGEN partners have been travelling throughout Europe to share project findings with fellow researchers working on hydrogen and photocatalysis technologies.



The year kicked off with EPFL's poster presentation at **ModVal 2025** in Karlsruhe in March, followed by CEA's contributions to the international **MOMENTOM** congress in Paris in May.

Spring continued with DIFFER presenting at **ECNS** in Utrecht and CEA sharing research in Strasbourg at **E-MRS** for an oral presentation.

June brought EPFL to the **International Symposium on Radiative Transfer (RAD-25)** in Kusadasi, Turkey, while September featured a strong PH2OTOGEN presence at the **International Solar Fuel Conference** in Newcastle with DIFFER, CEA, and EPFL delivering a keynote, poster, and oral presentations.

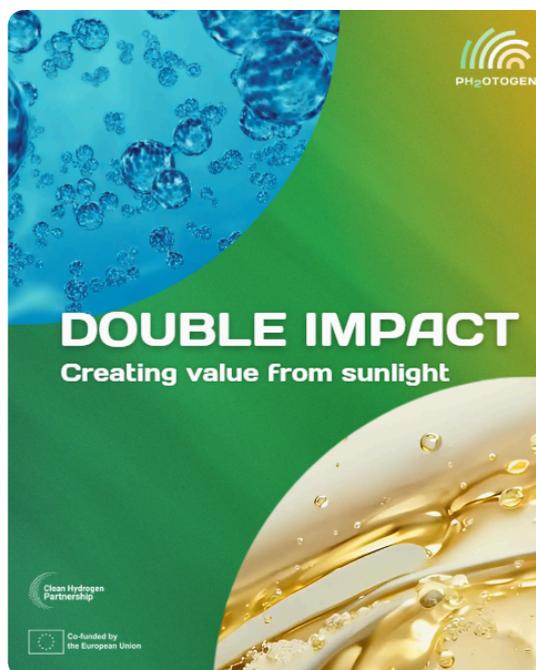
Most recently, CEA presented at **Plénières FRH2** in Annecy in November.

Beyond the slides and posters, these gatherings are where real conversations happen: comparing approaches, discovering complementary research, and building the networks that turn individual projects into collective progress.

Beyond hydrogen: discover our latest awareness campaign

PH2OTOGEN isn't just about clean fuel, it's about rethinking solar chemistry. Our new social media awareness campaign, launching in the coming weeks, will spotlight the products generated by the photoelectrochemical device, including hydrogen, dihydroxyacetone (DHA) and other glycerol oxidation products. We'll explore their applications and explain why co-production matters for making sustainable technologies economically viable in Europe's green transition.

Follow us on [LinkedIn](#) and [X](#) to join the conversation!



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