



FlexCHES

Flexibility services based on Connected and interoperable
Hybrid Energy Storage System

June 2026

FlexCHES delivers validated grid-flexibility results at its Final Event in Limassol

At PSCC 2026, the Horizon Europe project presented the CHES architecture, the FlexPlatform digital twin, blockchain-based flexibility trading and operational results from five European pilot sites, and set out clear pathways to market.

FlexCHES, the Horizon Europe project developing flexibility services based on connected and interoperable hybrid energy storage, has concluded its Final Event , “FlexCHES 2026: Flexibility for the European Grid” — presenting validated technical results and a clear exploitation roadmap to the European power-systems community. Held from 8 to 12 June 2026 at the St Raphael Resort & Marina in Limassol, the event combined a project booth at the 24th Power Systems Computation Conference (PSCC 2026) with a dedicated online session, engaging more than 100 researchers, industry representatives and distribution and transmission system operators (DSOs/TSOs) from across the globe.

PSCC 2026 was the first edition of the conference to be held in Cyprus and in the Eastern Mediterranean, giving FlexCHES a high-calibre international audience for the dissemination of its final results and for in-depth discussion of exploitation and replication.

The online session opened with a project overview summarising the FlexCHES journey, followed by a technical session presenting the project’s core results: the CHES architecture for aggregating connected hybrid energy storage; the Distributed Ledger Technology (DLT) framework underpinning transparent and traceable flexibility trading; the interoperability solutions that allow heterogeneous assets to operate as a single Virtual Energy Storage System (VESS); and the FlexPlatform, the project’s digital-twin engine for decision support and asset integration.



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These results respond to the objectives set at the outset of the project: to deliver an interoperable, easy-to-implement solution that reduces the payback period of hybrid storage installations by up to 10% (to under four years) and improves demand-forecasting accuracy to above 20%, while facilitating the integration of renewable energy into the grid

Under the theme “Pilot Site Outcomes | Real data. Real grid. Real impact”, four interactive panels presented findings from the project’s demonstration sites, drawing on real operational data and the lessons learned from field testing across Europe. FlexCHES validated its solutions at five pilot sites spanning different national contexts, market arrangements and asset mixes.

Visitors also experienced the FlexCHES Digital Twin live demonstration, which showed how the VESS optimises distributed hybrid energy storage in real time, from forecasting and flexibility provision to decision support and carbon reduction.



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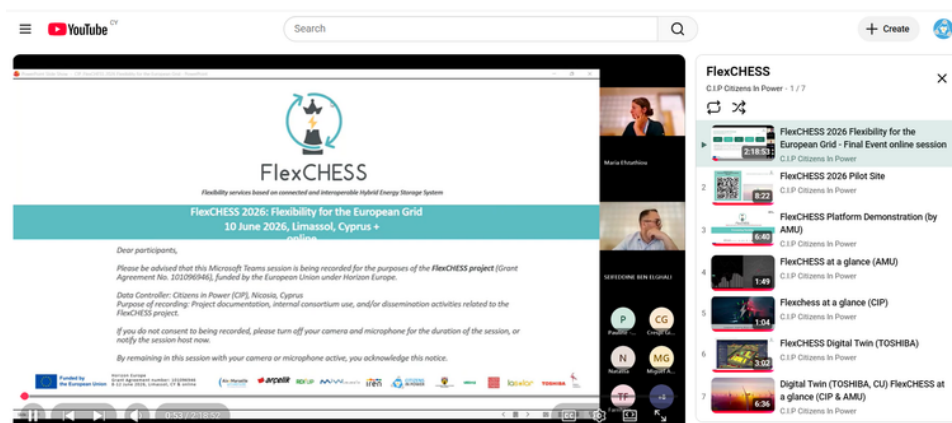
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A third session addressed exploitation and market pathways, together with potential follow-on activities beyond the project period. The consortium presented the “FlexCHES Factory”, the route from the project’s research outputs to replicable models and market-ready offerings, alongside the open resources released over the project lifetime. Participants completed a satisfaction survey and took part in an open question-and-answer session that generated substantive discussion on uptake by operators, energy communities and SMEs.

“Over three years, FlexCHES has moved the Virtual Energy Storage System from concept to validated, interoperable technology tested under real grid conditions. The results we presented in Limassol show that connected hybrid storage, coordinated through a digital twin and secured by distributed ledger technology, can deliver dependable flexibility to Europe’s distribution and transmission networks.”

Seifeddine Ben Elghali, FlexCHES Project Coordinator, Université d’Aix-Marseille (AMU)



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“The Final Event was not a closing point but a handover. With the FlexCHES Factory, our open resources and a clear set of market pathways, the project’s results are ready to be taken up by operators, energy communities and SMEs across Europe.”

Maria Efstathiou, Project Manager, C.I.P. – Citizens in Power

The three-day presence and the Final Event were made possible through the contributions of Uršula Krisper, Seifeddine Ben Elghali, Miguel Ángel Mena, Antonio Soler and Tim Franham, together with all FlexCHES partners who joined online.

About FlexCHES

FlexCHES (“Flexibility services based on Connected and interoperable Hybrid Energy Storage System”) is a 36-month research and innovation project funded by the European Union’s Horizon Europe programme under Grant Agreement No 101096946. Coordinated by Université d’Aix-Marseille (AMU), the consortium brings together ten partners — energy companies, utilities, research centres and universities — to improve the storage capacity and resilience of European smart grids through the Virtual Energy Storage System (VESS) concept, distributed ledger technology and a digital-twin platform.

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