

Bringing hydrogen buses to new cities across Europe



The hydrogen fuel cell (FC) bus is one of the few solutions capable of delivering zero-emission, high-performance public transport. Until recently, however, this solution had been demonstrated largely in a limited number of Western European cities, leaving much of the continent unfamiliar with its potential. With support from the Clean Hydrogen Partnership, the JIVE and JIVE 2 projects have changed that. Through a coordinated series of roadshows and regional outreach, they have brought fully operational hydrogen buses to new audiences across Central, Eastern, Northern and Southern Europe. These roadshows have been more than vehicle demonstrations - they have opened the door to future deployments by introducing the technology to new markets, raising public awareness, and providing concrete information to policymakers and transport operators on how to fund and scale FC bus fleets.

Promoting uptake through national roadshows

The JIVE/JIVE 2 roadshows have helped to close the gap in hydrogen technology adoption across Europe by taking fuel cell buses directly to countries where the hydrogen economy is still emerging. Each roadshow stop included a one-week local demonstration, where hydrogen buses were operated within public transport systems and displayed to the general public. These were paired with national workshops focused on financing and deployment options, targeted at key stakeholders, such as transport ministries, public authorities, municipalities and operators.

"Together, JIVE and JIVE 2 account for around 20% of all hydrogen buses in Europe, a share that has continued to grow since 2023. The projects have proved that clean, sustainable public transport is both achievable and effective."

Mirela Atanasiu, Head of Unit Operations and Communication, Clean Hydrogen Partnership

Fifteen countries and around 50 cities took part, including locations in Slovenia, Croatia, Hungary, Czechia, Slovakia, Romania, Greece, Bosnia, Bulgaria, Estonia, Latvia, Lithuania, Poland, Sweden and Finland. Media coverage was extensive, boosting visibility of hydrogen buses at national level. Notably, the demonstration at Tallinn Airport in Estonia received widespread attention and helped shape national policy discussions.

From visibility to adoption and beyond

The success of the JIVE and JIVE 2 roadshows can already be measured in concrete outcomes. Several cities placed orders for new hydrogen buses following the demonstrations, and in one case - Tartu, Estonia - even joined the JIVE 2 project.

Nevertheless, key challenges, such as high hydrogen prices, limited refuelling infrastructure, and a need for continued policy support, still hinder the broader market uptake. That said, the deployment of fuel cell buses across Europe is helping to prove their reliability and efficiency, while increasing public acceptance. Going forward, the lessons learned through JIVE's large-scale demonstrations will guide future policy, investment, and scale-up efforts, ensuring hydrogen-powered public transport remains a core part of Europe's decarbonisation strategy.

The goal To accelerate the uptake of hydrogen fuel cell buses by raising awareness, demonstrating performance, and supporting decision-makers and operators in regions where the hydrogen economy is still developing.

Key results The JIVE and JIVE 2 roadshows introduced hydrogen bus technology to a broad public audience, engaged national and local stakeholders, and helped trigger follow-up investments – helping to build the market for zero-emission buses in Europe.



KEY ACHIEVEMENTS

15 COUNTRIES

engaged across Central, Eastern, Northern and Southern Europe

50 CITIES

hosted bus demonstrations and national stakeholder workshops

TALLINN AIRPORT DEMONSTRATION

received national media coverage and policy impact

NEW CITY PARTICIPATION

Tartu joined JIVE 2 following its roadshow experience

IMPACTS

TECHNOLOGY ADOPTION

accelerated in new regions through direct outreach

FUNDING PATHWAYS

highlighted through workshops on EU support schemes

EUROPEAN HYDROGEN STRATEGY

supported through real-world deployment and citizen engagement

MARKET GROWTH

enabled by combining demonstration with procurement guidance

FOLLOW-UP BUS ORDERS

confirmed in multiple cities

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https://www.clean-hydrogen.europa.eu/projects-dashboard/projects-repository_en
<https://fuelcellbuses.eu/>



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