

HYDROGEN BUS: THE FUTURE OF CITY TRANSPORT

The final event of the presentation of hydrogen-powered buses in public city transport

Zagreb, 02.12.2022. - As part of the JIVE2 project, organised by the national coordinating body of the Croatian Hydrogen Association and the project partner, the Hydrocarbons Agency, the final event of the demonstration Central and Eastern Europe (CEE) bus roadshow was held on 01 December in the Nikola Tesla Technical Museum.

This is part of an important project that aims to encourage the commercialisation of hydrogen-powered buses through procuring 300 buses co-financed by the Clean Hydrogen Partnership. The project leader is H2LV - Latvian Association for Hydrogen, while the technical partners in the project are **Messer Group** and **CaetanoBus**.

Through the JIVE2 CEE bus roadshow project, the City of Zagreb and the city's public transport operator ZET got the opportunity to test these technologies in actual driving conditions and collect a large amount of data intending to make future informed decisions regarding the modernisation of the ZET bus fleet.

President of the Croatian Hydrogen Association, **prof. emer. Frano Barbir, PhD**, said that the transition of the vehicle fleet of public carriers across Europe from the existing fossil fuel-powered drive to clean energy sources such as hydrogen is still in its infancy, and he highlighted the lack of infrastructure that would support hydrogen-powered vehicles as the main problem.

As an energy carrier, hydrogen has excellent potential for decarbonising numerous sectors of the economy, especially where batteries are not technically possible or are a more expensive solution. One of these sectors is the public city transport sector, where hydrogen, used in buses with fuel cells, enables high performance and provides comfort for passengers without greenhouse emissions and other harmful gases, particles, and noise.

Bearing in mind that in May, the European Commission, through the "REPowerEU Plan", secured additional investments of 200 million euros available for the Partnership for Clean Hydrogen through the Horizon Europe programme and announced future measures for development, this is an opportunity to use the funds for the decarbonisation of public city transport.

The Republic of Croatia has taken a significant step in this direction by connecting with neighbouring countries to establish the **North Adriatic Hydrogen Valley**. The funds from REPowerEU strongly support the increase in hydrogen valleys and all the projects implemented within this initiative.

"This is the first step towards the implementation of the Croatian strategy for hydrogen, which we adopted in the spring of this year, and I am thrilled that we have already taken the first steps. We are highly honoured that the Croatian Hydrogen Association, as the national coordinator of the JIVE 2 CEE bus roadshow project, is part of the initiative to decarbonise the city of Zagreb", said **Dr. sc. Ankica Kovač**, vice president of the Croatian Hydrogen Association.

The president of the Agency for Hydrocarbons board, **Marijan Krpan**, emphasised that the Agency will form a team that will facilitate and speed up the attraction of money from the EU for hydrogen-related projects.

“Toyota is a partner at the pan-European level and in the Republic of Croatia. We took the opportunity to present today Toyota's global vision and the path to green transport where hydrogen plays a vital role”, stated the **director of Toyota Croatia, Krešimir Bago**.

Toyota is a partner in producing the hydrogen-powered Caetano bus, also presented in Croatia. Toyota's hydrogen technology, i.e., fuel cells, are integrated into the roof of all hydrogen-powered Caetano buses.

In the final part of the conference, ZET, as the operational partner of the project, presented the results of the testing of the hydrogen-powered bus that has been operating in Zagreb's urban and suburban areas for the past week. The test results gave excellent results, primarily in terms of efficiency in demanding operating conditions, which results in relatively low hydrogen consumption compared to the energy produced.

The course and speed of renewal of ZET's vehicle fleet in the direction of alternative fuels such as hydrogen depend, among other things, on-vehicle testing, the opening of financing sources, primarily European Union funds, and public procurement. In any case, we are rapidly starting this process right after the New Year - emphasised the **president of the ZET Management Board, Marko Bogdanović**.

The JIVE and JIVE2 projects are financed by the Clean Hydrogen Joint Undertaking under grant agreements no. 735582 and 779563. The Clean Hydrogen Undertaking receives support from the European Union's research and innovation programs Horizon 2020, Hydrogen Europe, and Hydrogen Europe Research.

About the JIVE and JIVE 2 projects: The JIVE and JIVE2 projects, which started in January 2017 and January 2018, respectively, will deploy 310 zero-emission fuel cell buses and associated infrastructure (under the MEHRLIN project) in 17 European cities and regions by the first half of the 2020s, which represents the largest implementation in Europe so far. The buses will be deployed in cities and regions in France, Germany, Italy, the Netherlands, Spain, and the United Kingdom.



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