

**from Siemens Mobility GmbH and
the Helmholtz Institute Erlangen-Nuremberg
for Renewable Energy**

Berlin, 28th May 2021

Under Embargo until:

Monday, 31st May 2021, 00.01 am

Cooperation on the use of LOHC technology in rail transport planed

- **Memorandum of Understanding (MoU) signed**
- **Siemens Mobility and the Helmholtz Institute Erlangen-Nuremberg
for Renewable Energy agree on joint research for the use of
Liquid Organic Hydrogen Carrier (LOHC) technology in rail transport**

The use of hydrogen technology in rail transport is becoming increasingly important as a solution for reducing CO₂ emissions and helping to meet climate targets. In recent years, Siemens Mobility has developed a hydrogen-powered train, the Mireo Plus H. In this technology, hydrogen is tanked in gas form and must be kept under high pressure in order to achieve the required high density.

The Helmholtz Institute Erlangen-Nuremberg for Renewable Energy (HI ERN) is a leader in the field of so-called LOHC technology. In this process, an organic carrier liquid absorbs hydrogen and releases it only when needed. The hydrogen is thus chemically bound and can't escape in a gas form. This way, it can be prepared and stored safely, and transported inexpensively. Storage under high pressure or at low temperatures is no longer necessary. A special advantage of the technology: LOHC is also suitable for the on-board generation of electrical power in mobile applications like trains.

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Joint press release
**from Siemens Mobility GmbH and
the Helmholtz Institute Erlangen-Nuremberg
for Renewable Energy**

Albrecht Neumann, CEO Rolling Stock, Siemens Mobility: “Siemens Mobility is especially pleased to be entering into a partnership with the renowned Helmholtz Institute Erlangen-Nuremberg to develop Liquid Organic Hydrogen Carrier technology in rail transport. Hydrogen technology is a promising solution for making rail transport climate-neutral. And since sustainability has a very high priority for us at Siemens Mobility, we’re providing a Vectron locomotive for testing the LOHC technology.”

Prof. Dr. Peter Wasserscheid, Director at the Helmholtz Institute Erlangen-Nuremberg for Renewable Energy, agrees: “Siemens Mobility’s interest in the LOHC technology that we’ve decisively developed over the past few years at the Friedrich-Alexander-University Erlangen-Nuremberg and at the HI ERN is an excellent basis for a possible cooperation in the future. We share with Siemens Mobility the vision of developing a hydrogen technology that uses the existing fuel infrastructure to power large vehicles like trains.”

Through the prospect of providing the Helmholtz Institute with a Vectron mainline locomotive from Siemens Mobility, the two partners have the opportunity to work together to demonstrate the feasibility of the LOHC concept.

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A **press photo** is available at <https://sie.ag/3bRzPaw>

Further information on the topic of hydrogen drives can be found at

<https://press.siemens.com/global/en/feature/deutsche-bahn-and-siemens-enter-hydrogen-age>

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Siemens Mobility is a separately managed company of Siemens AG. As a leader in transport solutions for more than 160 years, Siemens Mobility is constantly innovating its portfolio in its core areas of rolling stock, rail automation and electrification, turnkey systems, intelligent traffic systems as well as related services. With digitalization, Siemens Mobility is enabling mobility operators worldwide to make infrastructure intelligent, increase value sustainably over the entire lifecycle, enhance passenger experience and guarantee availability. In fiscal year 2020, which ended on September 30, 2020, Siemens Mobility posted revenue of €9.1 billion and had around 38,500 employees worldwide. Further information is available at: www.siemens.com/mobility.

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