

“Trends and Design Factors for Hydrogen Pressure Vessels” – project start with industry partners for new technology study and concept development

AACHEN, September 11 2023 — AZL Aachen GmbH, a recognized innovator in lightweight technologies research and industry collaboration, announces the initiation of a new project titled "Trends and Design Factors for Hydrogen Pressure Vessels". Resulting from in-depth discussions at the recent AZL Annual Partner Meeting, the project aims to address industry needs surrounding hydrogen storage, a critical component in the energy transition and decarbonization efforts.

Hydrogen has gained significant attention as a key technological solution for decarbonization, with high-pressure storage and transportation emerging as vital components. Its applications extend from stationary storage solutions to mobile pressure vessels employed in sectors such as transportation and energy systems. The AZL team, renowned for its high reputation in providing market- and technology insights as well as developing component and production concepts in the format of Joint Partner Projects seeks for companies along the whole composite value chain interested in further developing their application know how in this economically highly relevant field.

Dr. Martin Kerschbaum, R&D Manager in the Material Engineering Division of Toyota Motor Europe explains *"Toyota is a pioneer in fuel cell technology, being active in this field for 30 years. Our goal is to further expand our hydrogen technology and thereby contribute to carbon neutrality, also in applications beyond our famous hydrogen powered cars. By being a part of the consortium brought together by AZL's Joint Partner Project approach, we expect gaining inspiration, both in terms of high-pressure storage technology but also for enlarging our network of partners for future developments."*

The project will provide an in-depth exploration of market insights, regulatory standards, and intellectual property landscapes. Beyond this, there is a dedicated focus on staying updated with state of the art and advancements in design, materials, and manufacturing techniques.

An integral component of the project involves the creation of reference designs by AZL's engineering team. The reference designs will encompass a variety of pressure vessel configurations and will consider a diverse range of materials and production concepts.

"The findings from developing and analysing the reference designs will guide participants in making informed decisions on their business- and technology development by in-depth-understanding of the relationship between requirements of pressure vessels, the characteristics of various materials, the techniques used in production, cost, weight, CO2 footprint and recyclability factors.", says Warden Schijve, Design Leader at AZL.

With the scheduled project start in October 2023, and a project timeline of approximately nine months, AZL encourages companies active across the composite value chain to participate. This initiative should provide a valuable platform for knowledge exchange, industry networking, and collaborative analysis.

Companies interested in participating or seeking further information should reach out directly to the AZL expert team.

Contact

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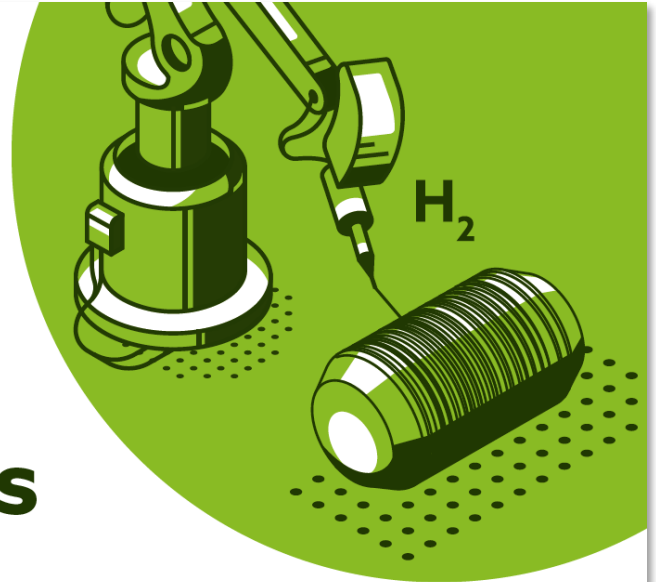
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Joint Technology & Concept Study

Trends and Design Factors for Hydrogen Pressure Vessels



About AZL Aachen GmbH

AZL stands for excellence in lightweight production. As one-stop shop for market and technology know-how, the senior staff of AZL supports companies of the entire value chain, in the development, benchmarking and improvement of design methodologies, manufacturing techniques and products. Located in the heart of one of the leading high-tech ecosystems, RWTH Aachen University, AZL assist in experimental evaluation of all relevant technologies related to composite-based multi-material technologies with decades of technology expertise and cutting-edge infrastructure.

In addition to individual cooperation, the AZL Partnership framework offer access to services and a network of 80+ international companies along the lightweight value chain. With three pillars advisory, engineering and partnership network, the AZL develops competitive innovations for economically highly relevant market segments and finds suitable partners for industrial implementation and establishment in the market.

www.lightweight-engineering.de

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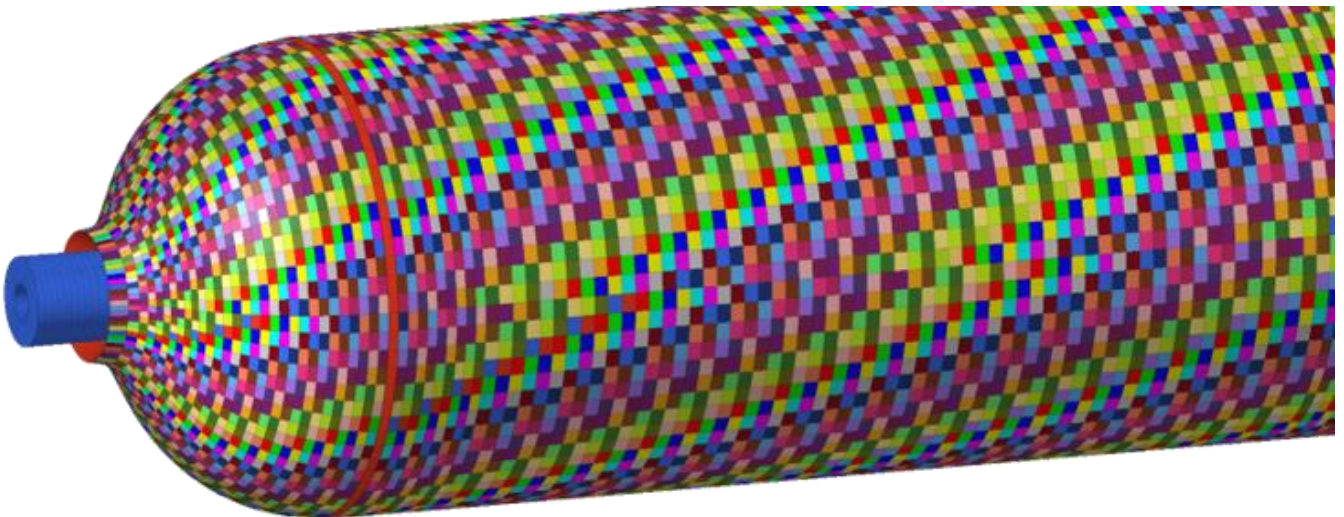


Image 1: Pressure vessel FEM model - fiber layup sections



Image 2: Example of pressure vessel from a finished project



Image 3: Portrait of project leader Warden Schijve, Design Leader at AZL Aachen GmbH