

## Unlock essential know-how on Design, Technologies, Materials Requirements and the Market Trends

In the landscape of future energy supply, technologies using hydrogen as energy carrier are a key-technology necessary for decarbonisation. One essential aspect of harnessing the potentials of Hydrogen as an energy carrier lies in storage and transport. This necessitates the development of large stationary pressure vessels, as well as mobile pressure vessels for use in automobiles, trucks, buses, rail transport, and aerospace.

The AZL engineering team boasts expertise and experience in the layout, design, and production concepts of new components and comprises the technologies for designing and producing hydrogen pressure vessels. As an engineering service provider and R&D centre for composite-based lightweight construction, hydrogen pressure vessels are the subject of numerous activities and projects.

We offer this Technology Access Booster Package to create a profound understanding of the impact of material, design and production technology on performance, costs and sustainability.

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### YOUR BENEFITS

- **Comprehensive know-how:** You understand the technology, its applications and market potential - even without prior knowledge.
- **Neutral overview:** The out-of-the-box view helps company insiders to review or further develop their strategies.
- **Gain strategic action points:** You will receive the basics to make well-founded decisions for the introduction of hydrogen pressure vessels in your company.
- **Individual discussion:** In a workshop, individual questions are discussed, an individual roadmap is drawn up and action points are explored.

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### OUR OFFER

#### Deliverables:

- **Workshop:** An interactive and hands-on workshop with AZL experts
- **Report:** Comprehensive documentation 500+ pages

#### The package includes:

- Market & industry insights
  - Share regulatory, standards & IP landscape info
  - Present latest design, materials & manufacturing state-of-the-art
  - Create reference designs for evaluating KPIs
  - Design and CAE analysis of thermoset and thermoplastic composite pressure vessels for the evaluation of:  
Cost | Weight | CO<sub>2</sub>-Impact | Recycling Options
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## CONTACT US NOW!



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We look forward to boost your innovation!

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## BACKGROUND

Since 2015, the AZL Composite Pipes & Vessels Workgroup has been fostering a collaborative platform that connects active partners from research, industry, and production and application development in the field of pipes and vessels. Through this network, the exchange of knowledge and technology insights takes place and focus studies on pressure vessels have been conducted. Within a Joint Partner Project with 25 industrial partners on the topic of "Trends and Design Factors for Hydrogen Pressure Vessels" AZL created a comprehensive knowledge base. The one-year project explored regulations, examples of state-of-the-art pressure vessels, design procedures, and software packages. Detailed designs were made using various materials, addressing hydrogen permeation, leakage, weight, cost, CO<sub>2</sub> footprint, and recycling options. AZL also offers customised support in the development of new designs, material and component testing and prototype production.

