



# ABOUT

IRON LIQORNE is an Austrian FFG co-funded research project to develop a liquid hydrogen aircraft fuel system. Central to this objective is the dimensioning, modeling and testing of the generated concept which includes the complete fuel system until combustion.



## Project Partner

FH JOANNEUM GmbH,  
Combustion Bay One e.U.,  
AIS (Austrian Institute for Icing  
Sciences)



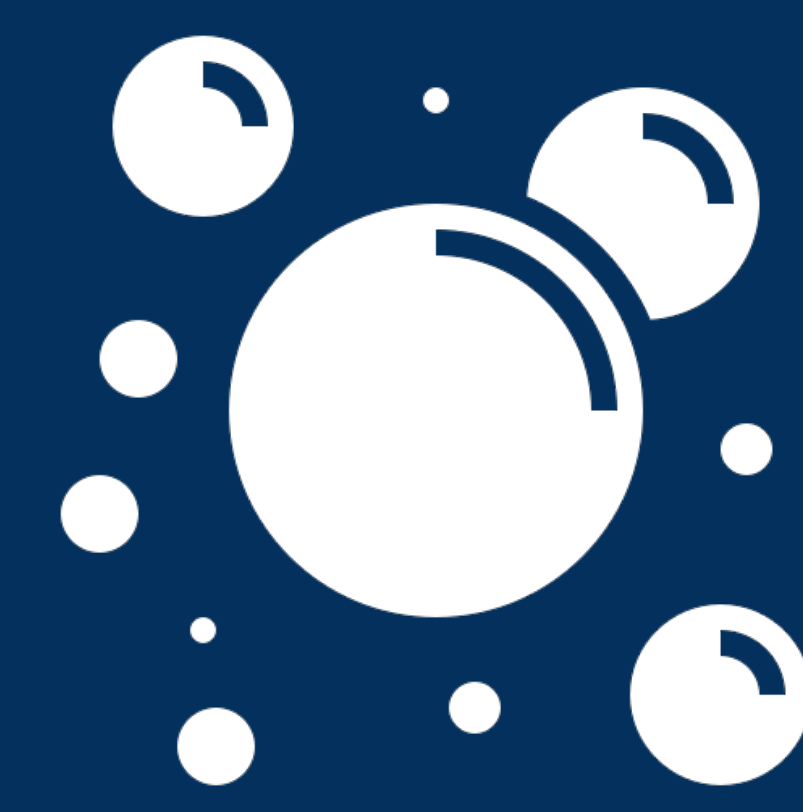
## System Modeling

Development of a comprehensive aircraft fuel system model for component dimensioning, behavior analysis, and validation through experimental comparison.



## Combustor with cryogenic feed

Design of a 40 kW burner with cryogenic feed and development of a heat exchanger concept with efficient gaseous injection.



## Condensation and Icing

Numerical and experimental simulation of condensation and icing processes. Analysis of the boil-off system behavior under different conditions.



## Cryogenic LN2 Fuel System Testing

Developing an Iron Bird test setup for the fuel system with liquid nitrogen as a surrogate cryogenic fluid, while establishing security concepts.



## Environmental Impact & Utilization

Evaluation of system performance, considering environmental impacts, industrial property, and the university's dissemination and educational initiatives.



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