



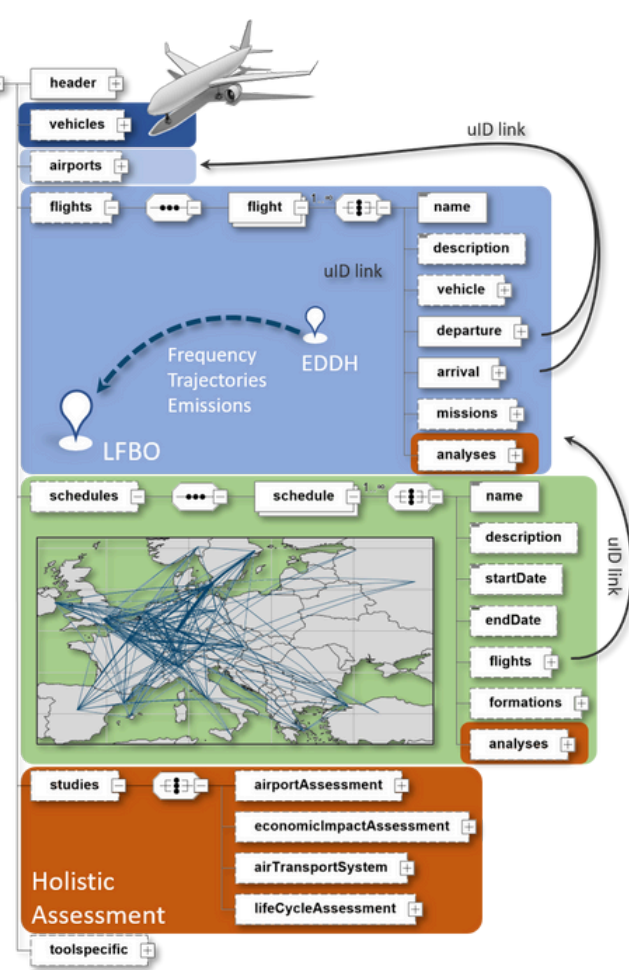
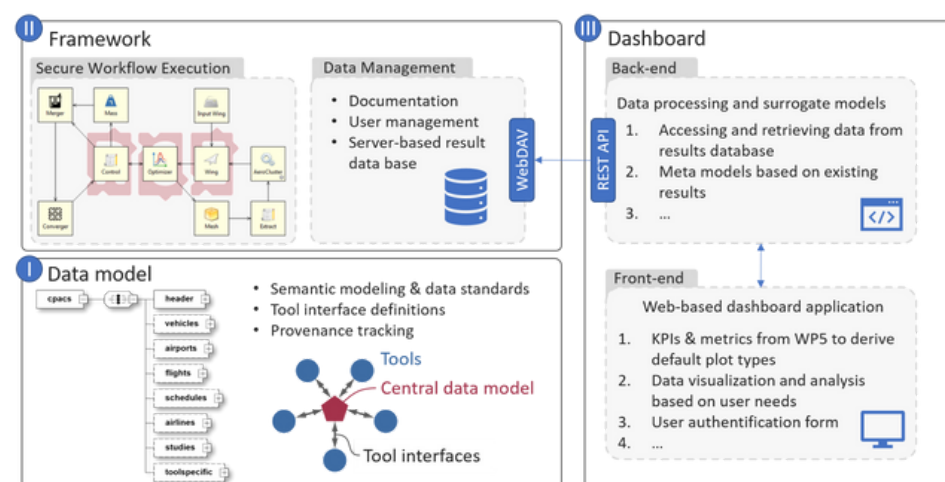
# IMPACT MONITOR



A System of Systems Approach to Aviation Impact Assessment

## COLLABORATIVE IMPACT ASSESSMENT FRAMEWORK & TOOLBOX

Definition of requirements for the key steps in performing holistic impact assessments and monitoring of European R&I in aviation, providing guidance, tips and best practices. Establishment of a scalable, open source, distributed, multidisciplinary, modular, and model-independent collaborative assessment framework.



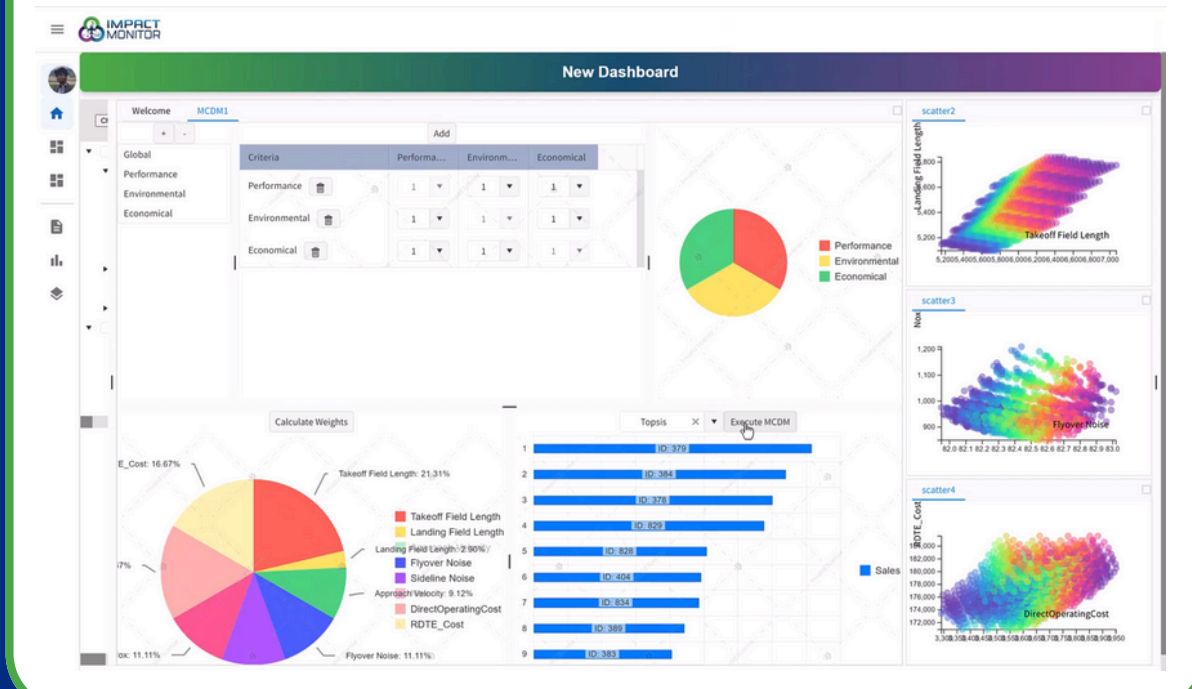
## DASHBOARD APPLICATION

A web-based application for performing real time visualizations and interactions, while also enabling the user to create a customized dashboard board from scratch, provided that has relevant data and familiarization with CPACS.

- Development of user intuitive Dashboard Application to serve the need for visualizations, interactivity, dashboard creation, what if analysis, multicriteria decision-making tool, etc.
- Integration with cloud storage to store and download CPACS and other relevant files for visualization.

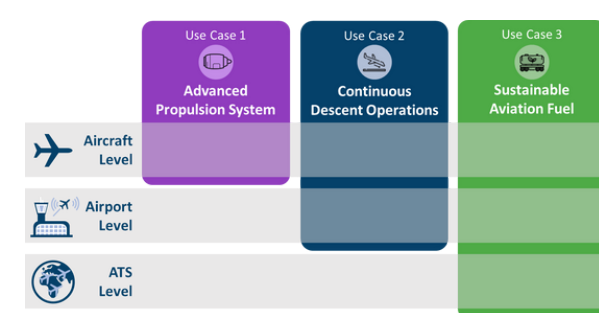
Features:

- Interactive Design Space Exploration
- Advanced Visualization Capabilities
- Comprehensive Trade-Off Studies



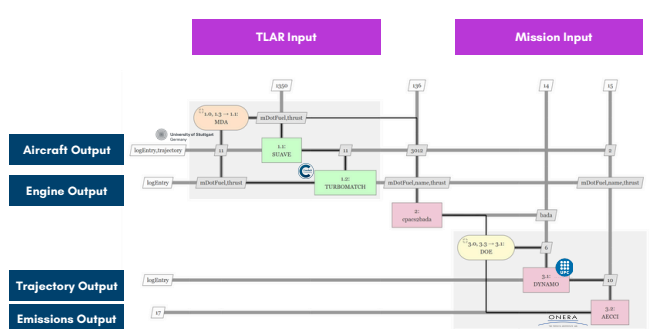
## MULTI-LEVEL, DEMONSTRATION USE CASES

Development of three example Use Cases (UCs) that aim to demonstrate the capability of the Impact Monitor framework on one or more assessment levels, with results accessible through the Impact Monitor Dashboard Application.



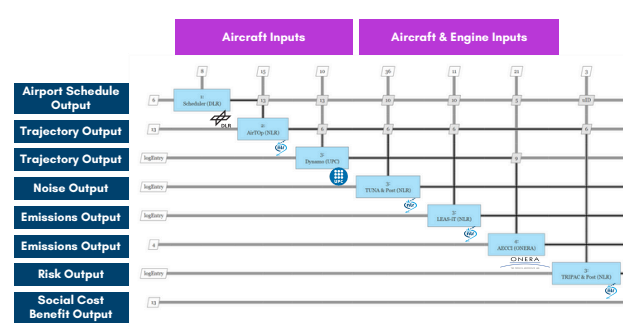
### UC1 - Advanced Propulsion System

Investigate the viability and competitiveness of future SAF fuelled long range aircraft concepts



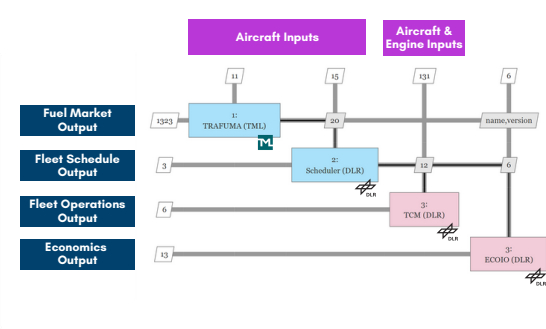
### UC2 - Continuous Descent Operations

Investigate the implementation of continuous descent operations at airports



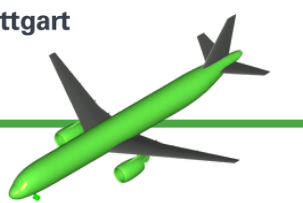
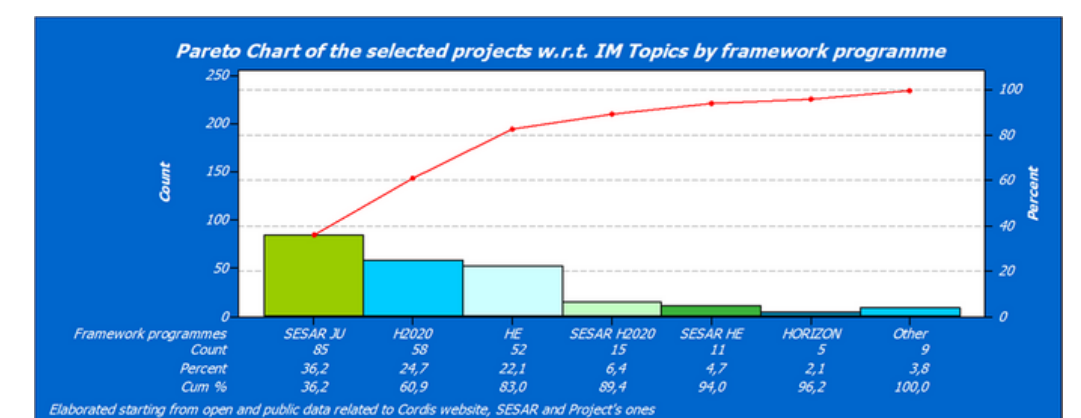
### UC3 - Sustainable Aviation Fuel

Analysis of SAF policies at the air transport system level

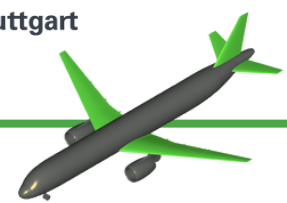


## INTERFACES WITH KEY STAKEHOLDERS

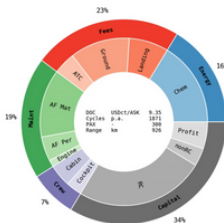
Identification of relevant R&I initiatives and stakeholder communication needs, creation of a comprehensive R&I projects dataset, and fostering stakeholder involvement.



Implementation of fuselage, engine & landing gear geometry, and test the robustness through design studies



Implementation of wing, horizontal & vertical stabilizer geometry, and test the robustness through design studies



Assessment of direct operating costs, and design of experiments for different technology and fuel combinations

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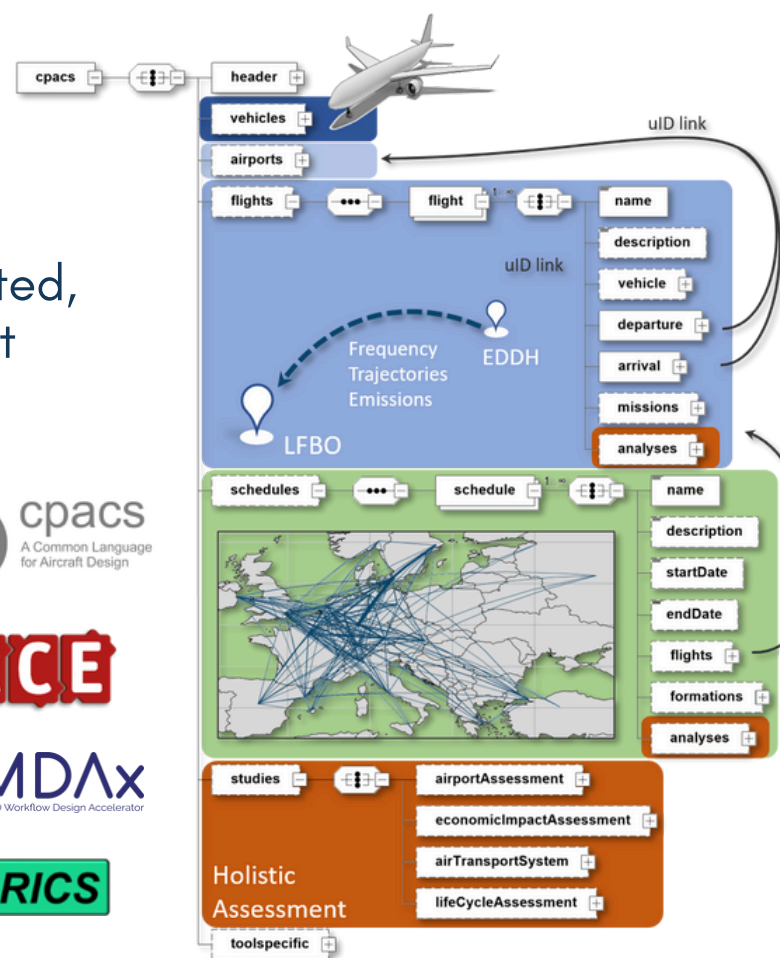
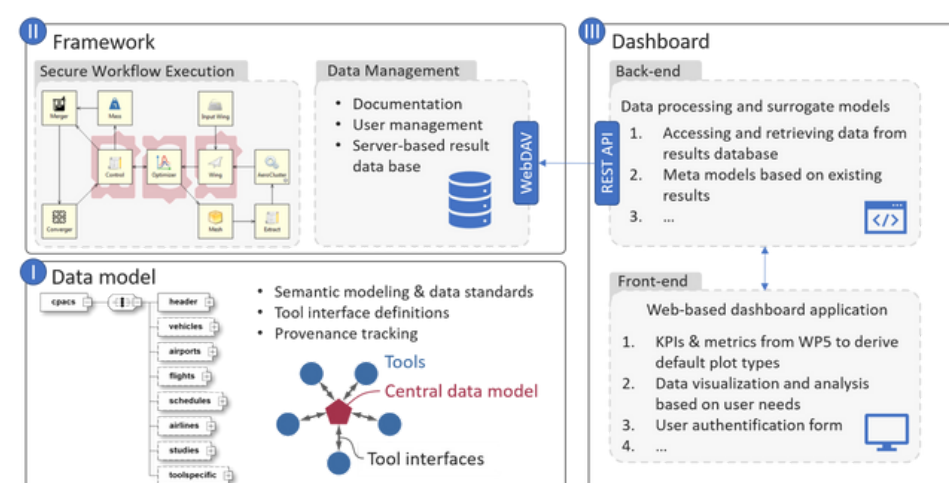


A system of systems approach to Aviation Impact Assessment

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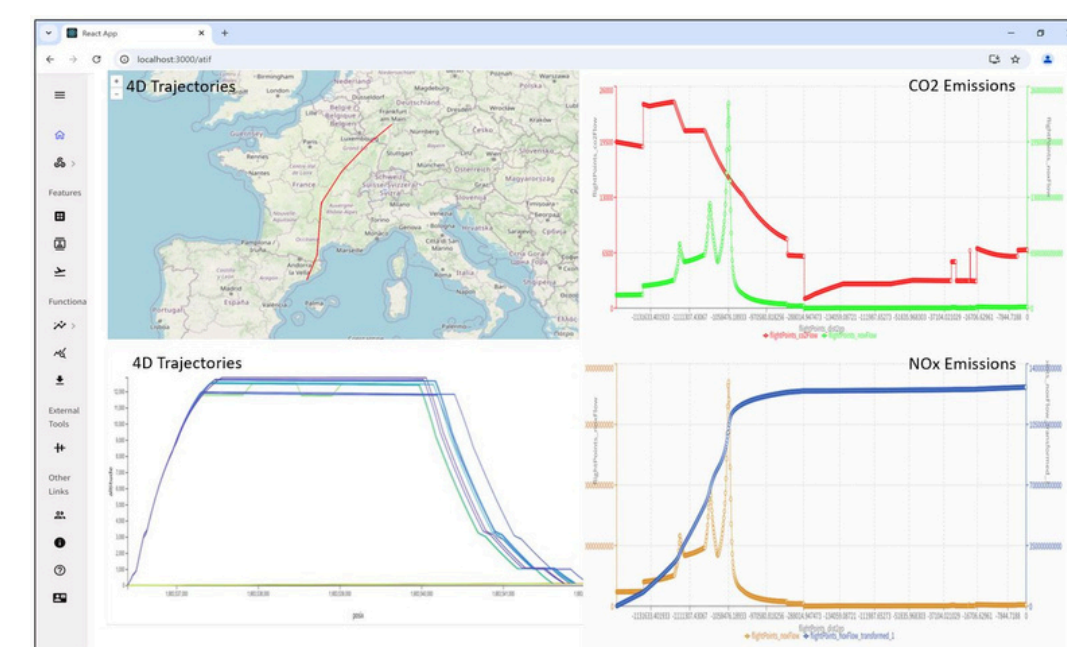
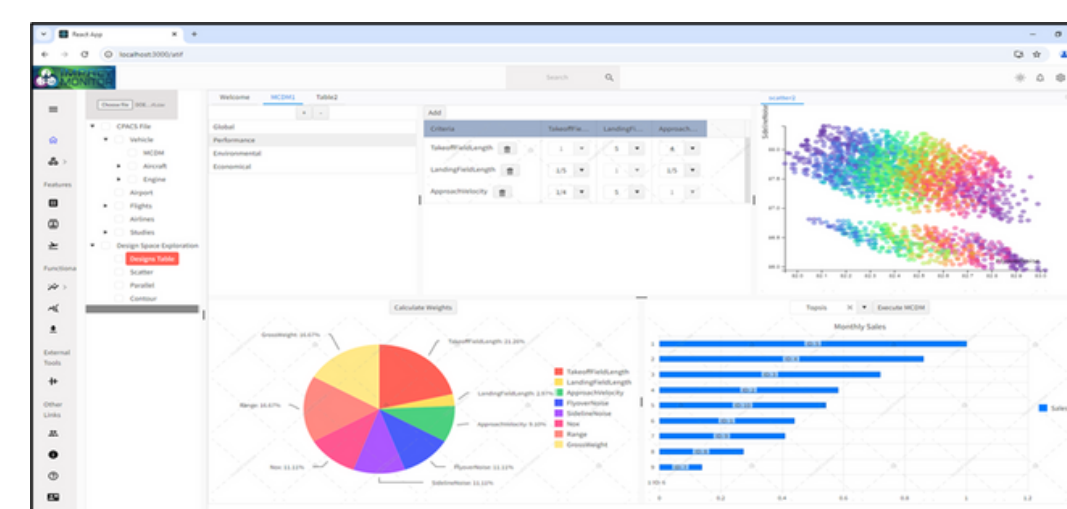
Establishment of a scalable, open source, distributed, multidisciplinary, modular, and model-independent collaborative assessment framework.



## DASHBOARD APPLICATION

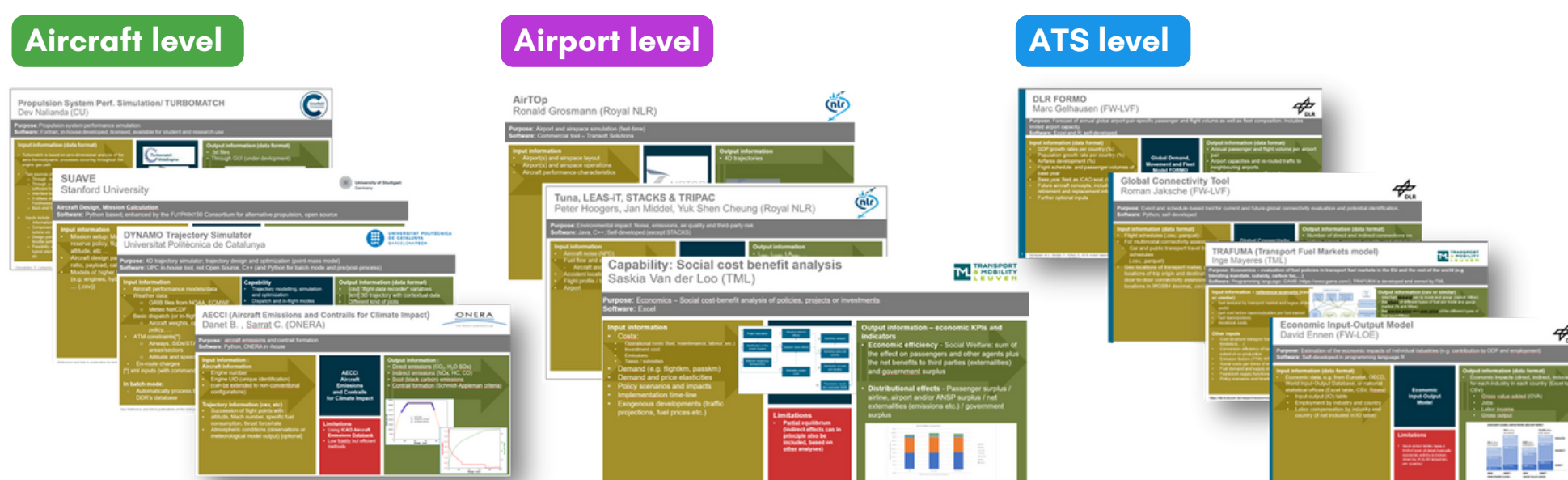
Design of a novel web-based, multi-layered environment for analyzing and visualizing data from simulation workflows. It enables comprehensive analysis at various levels and supports what-if scenarios and trade-off studies.

- Interactive Design Space Exploration
- Advanced Visualization Capabilities
- Comprehensive Trade-Off Studies



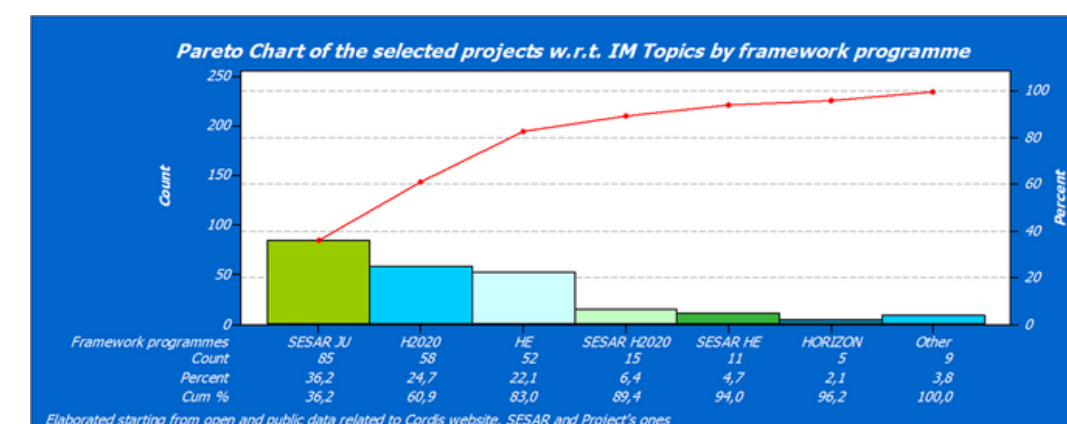
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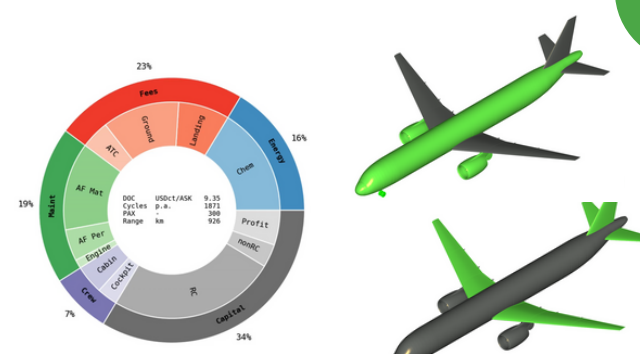


## INTERFACES WITH KEY STAKEHOLDERS

Identification of relevant R&I initiatives and stakeholder communication needs, creation of a comprehensive R&I projects dataset, and fostering stakeholder involvement.



Employment of Master's students in the scope of 6+ months collaboration, to develop impact assessment models focused on aircraft/airport/air transport system levels, under the supervision and support by the project partners.



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