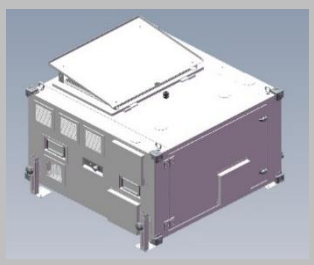
FLUIDYN-BFC

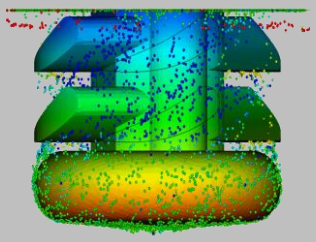
OPTIMIZATION AND RISK ANALYSIS

BATTERY AND FUEL CELL SIMULATION TOOL



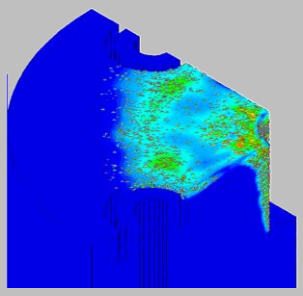
An integrated user-friendly versatile tool

FLUIDYN-BFC is a software dedicated to the 3D simulation of batteries and fuel cells, responding to the requirements of the electromobility sector and to the temporary energy storage systems.



For the energy storage constructors and academic research:

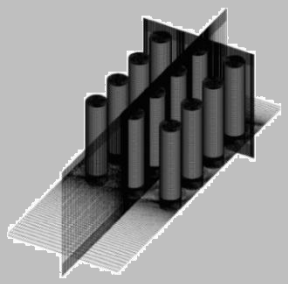
- Optimizing the dimensions of the electrochemical cell,
- May be used to conduct parametric studies to test different components, materials, or models.



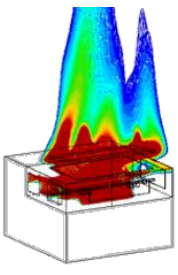
For industries and consultancies :

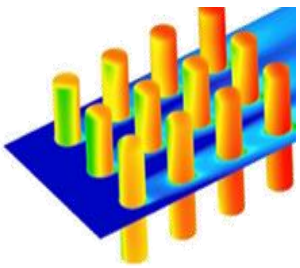
- Optimization of fuel cells and battery assembly layouts to maximize energy density and safety,
- Real time diagnosis and prediction of equipment health and automated output of technical reports,
- May be used in addition to BTMS (battery monitoring system) tools.

3D Simulation of the complete phenomena of batteries



- Electrochemical process modeling,
- 3D simulation of thermo-fluidic exchanges,
- Multiphase effects modeling (gas release…),
- Modeling physical mechanisms specific to each technology (dendrite formation, memory effect, water accumulation…),
- Modeling the aging and life cycle of batteries and fuel cells using PHM algorithms,
- Swelling, shocks, perforation by fluid-structure interaction,
- 3D simulations of accidental scenarios (thermal runaway, fire, explosion…)





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