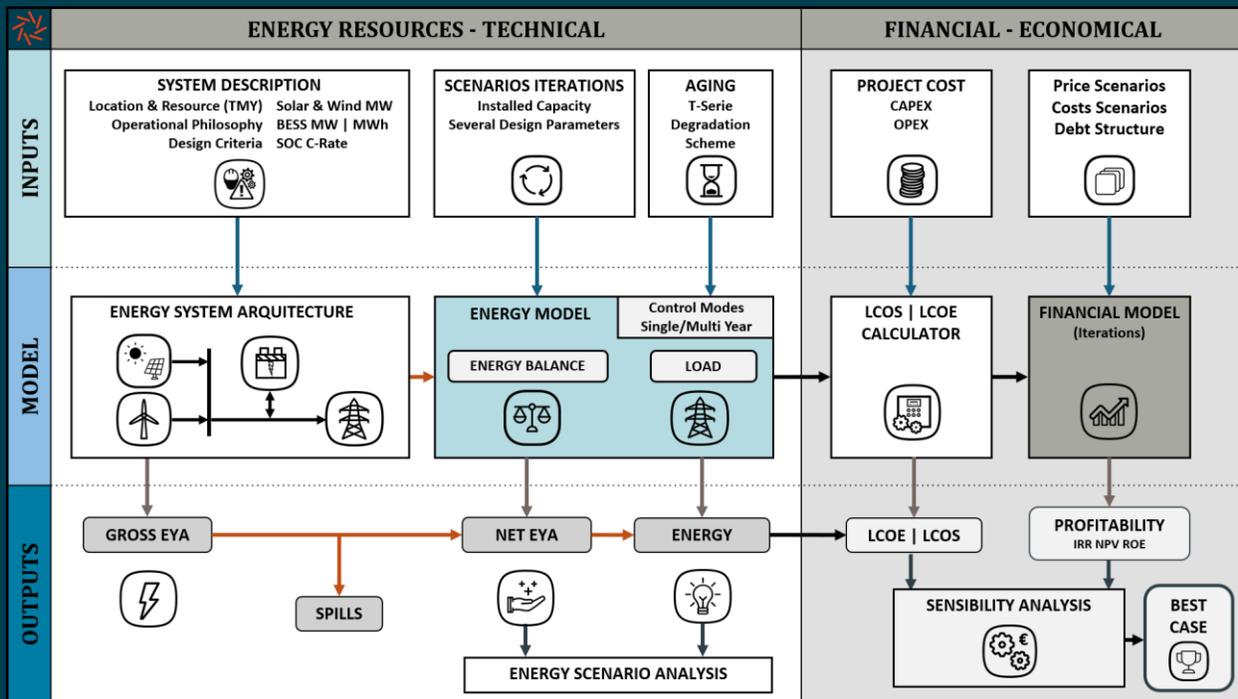


SIMUBATT+: Techno-Economic Intelligence for Hybrid Energy Projects



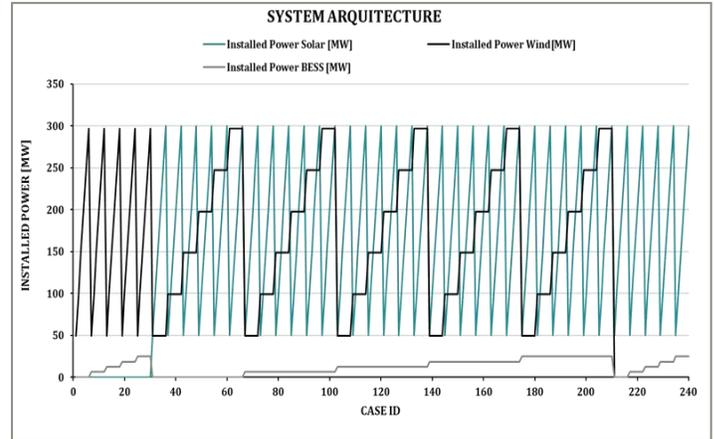
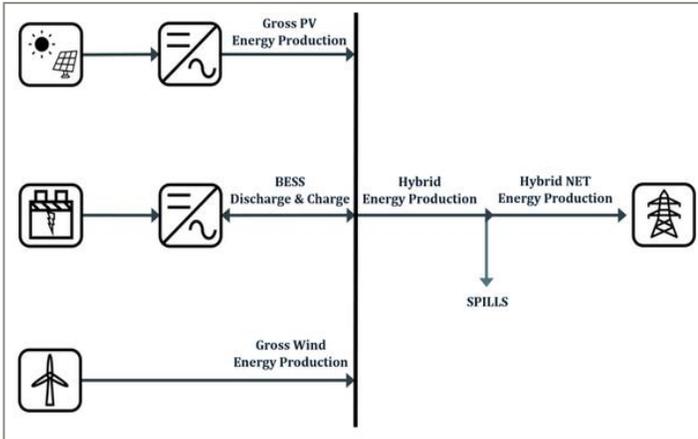
SIMUBATT+ combines iterative energy scenario simulations with financial modeling to provide a comprehensive techno-economic assessment of hybrid energy projects. Our in-depth analysis guides clients in identifying the optimized solution from both economic and technical perspectives. The calculation methodology follows this block diagram structure:



The process uses an iterative, high-level analysis to explore various options, identify behavioral patterns, support design decisions, and determine the most cost-effective solution. Key phases are:

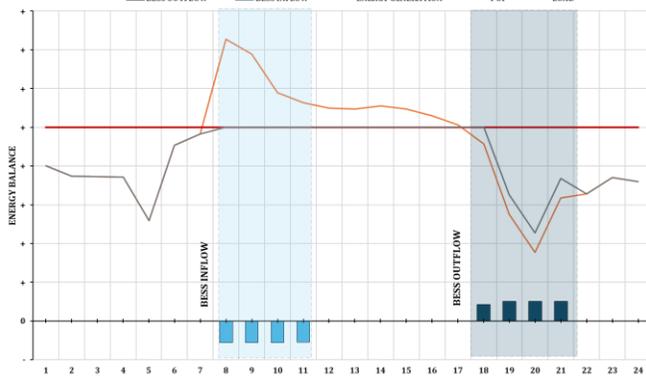
- **Energy Analysis** (visualized over a white background): It forms the foundation of the evaluation process, and it uses an Enertis Applus+ proprietary MATLAB-based simulation tool to perform energy performance assessments across multiple iterative scenarios combining different generation and storage technologies.
- **Economic Analysis** (visualized over a grey background): Conducted after the energy simulations, it evaluates the financial viability of each scenario. It identifies the most cost-effective configurations by analyzing key economic indicators and comparing the financial performance of the various energy setups.

A wide range of system architectures can be assessed, considering diverse energy generation and storage technologies and their optimal combinations

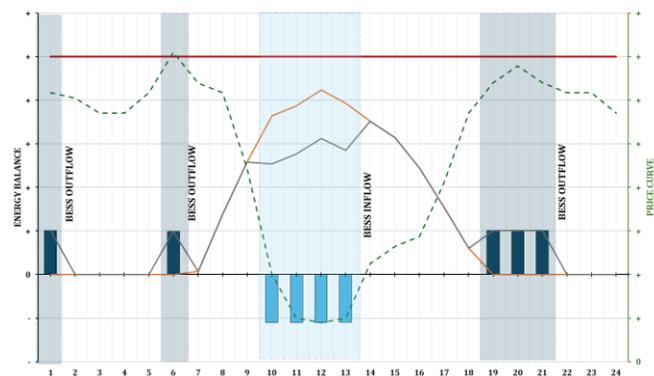


Flexible control and dispatching solutions designed to maximize system efficiency while adapting to each client's requirements among others

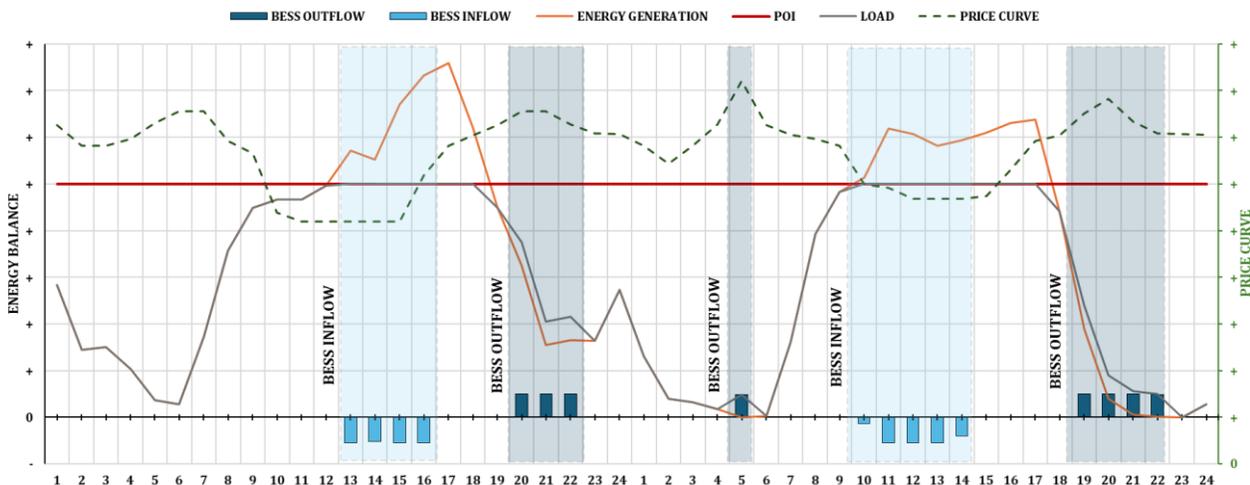
CLIPPING



TRADING



CLIPPING + TRADING



Multiple energy scenarios are iteratively simulated, **adjusting the system architecture** to explore different configurations of resource integration and **operational feasibility**.



MODEL LOGIC & STRUCTURE

- Energy System Architecture
- Operational Philosophy
- BESS Controllers



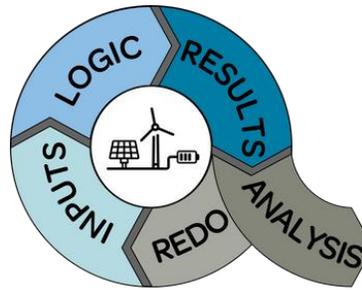
SIMULATION RESULTS

- System Performance Metrics
- Energy Flow Validation
- Operational Feasibility



ENERGY RESOURCES

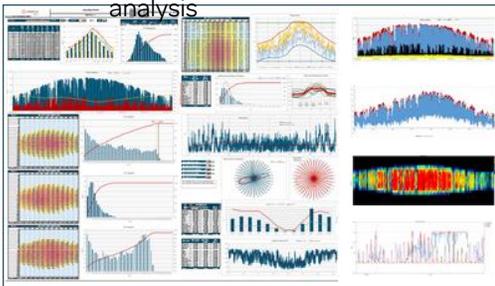
- Solar & Wind Resources
- Site Environmental Analysis
- Physical, Environmental & Governmental Limits



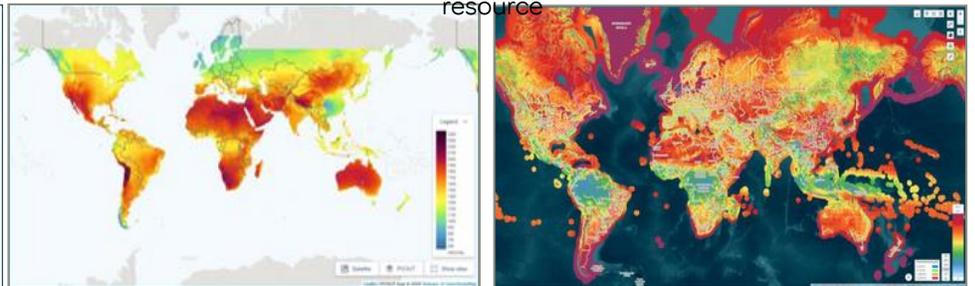
DATASET ANALYSIS

- Structuring Large Datasets
- Data Processing & Validation
- Detecting Trends & Correlations

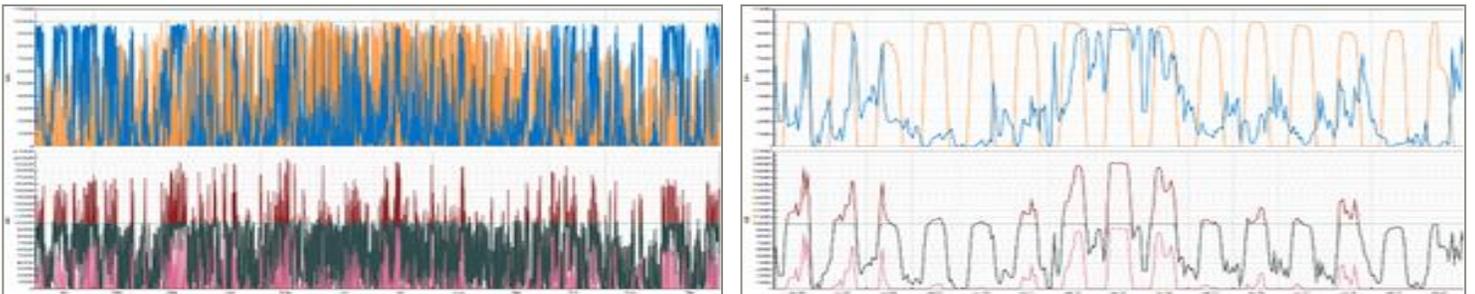
Site environmental analysis



Solar & wind resource



Hourly based energy balance



ELECTRICAL LOADS

Adaptability to different electro-intensive consumption profiles, such as:



Large-scale industrial self-consumption (mining, metallurgy...)

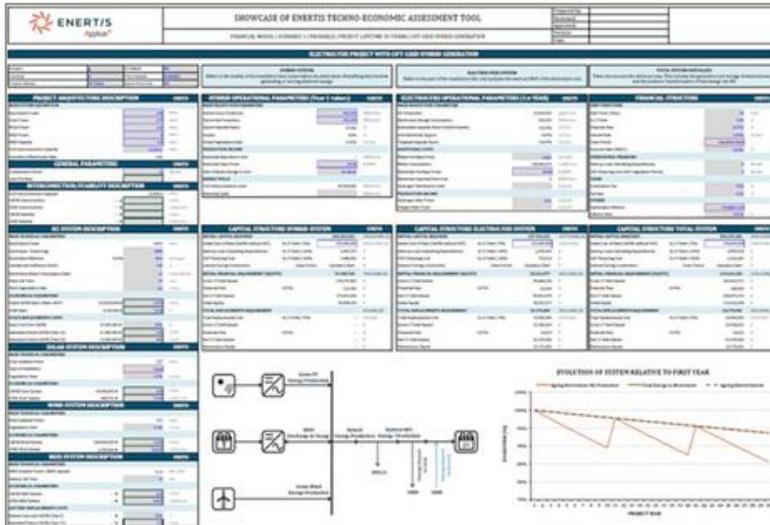


Data centers



Electrolysis stations for green hydrogen and derivatives

Leveraging **SIMUBATT+ iterative methodology**, the dashboard integrates energy balances simulations with client's financial assumptions. The **feasibility and profitability** of each modeled scenario is evaluated to determine the best case for the client's requirements.



ENERGY MODEL OUTPUT

- Resource and Technology Selection
- Sizing & Integration Settings
- Energy Balance Simulations



PROJECT OPERATION & COSTS

- Energy System CAPEX & OPEX
- Operational Parameters
- Price & Cost Scenarios



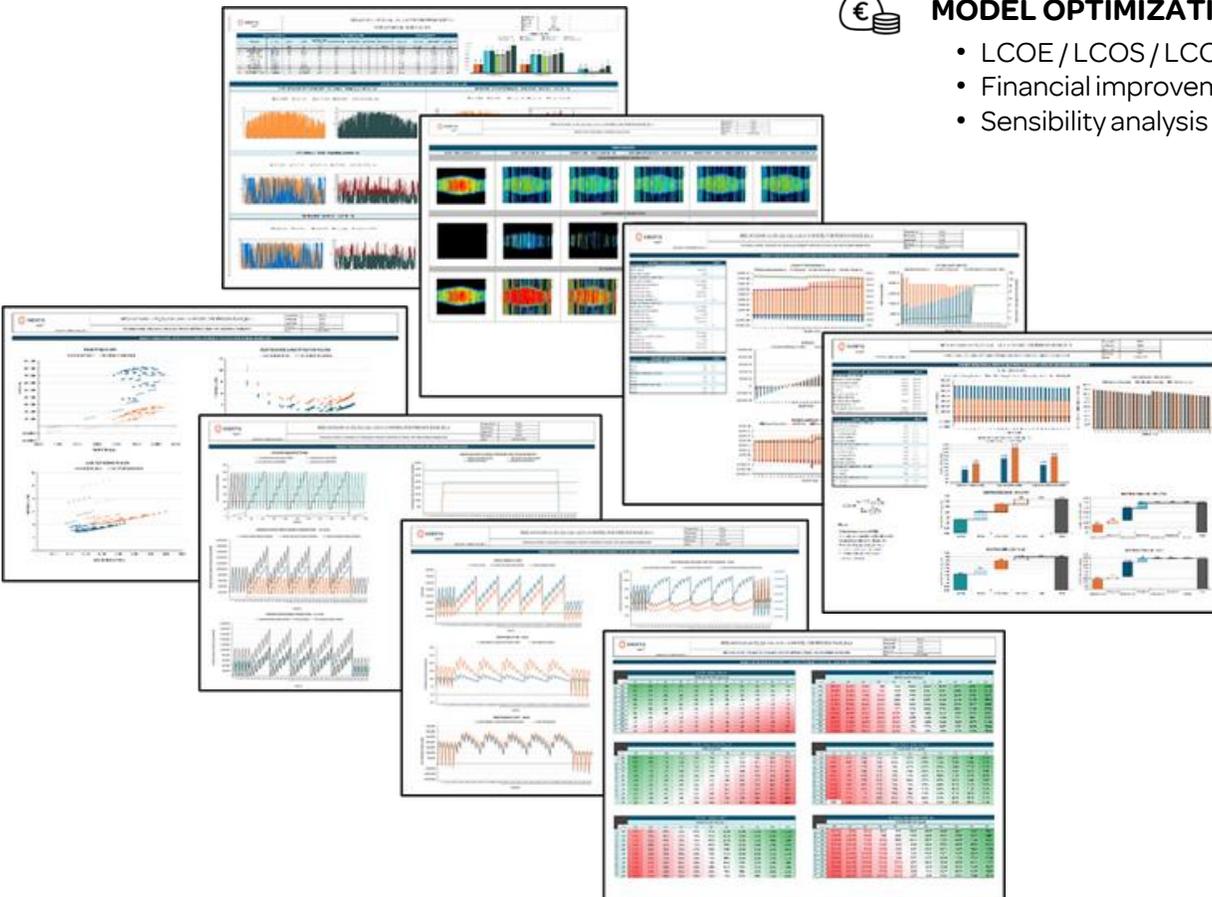
FINANCIAL ASSUMPTIONS

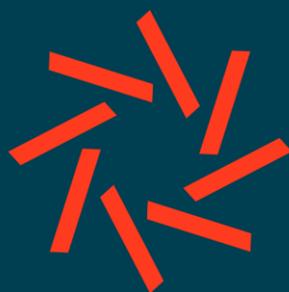
- Financial Structure
- Debt Structure
- Sale Price of H2 & Electricity



MODEL OPTIMIZATION

- LCOE / LCOS / LCOH minimization
- Financial improvement Max IRR, NPV
- Sensibility analysis





ENERTIS

Applus⁺

+900 GW / +150  GWh

LEADING THE WAY

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