

Tailored solutions to
maximise your profits and
well-being



ENERGY SYSTEMS



Past experiences and current circumstances shape our clients' needs and are linked to the futures they can reach. At Alisios Corporation, our commitment is to provide high-quality services that help you plan and build the future you desire

SERVICES

- Risk and forecasting data collection
- System tailored probabilistic modelling
- Adverse weather risk assessment
- Monte carlo simulation
- Power and energy forecasting
- Data-driven assets & performance
- Management sibila rooms

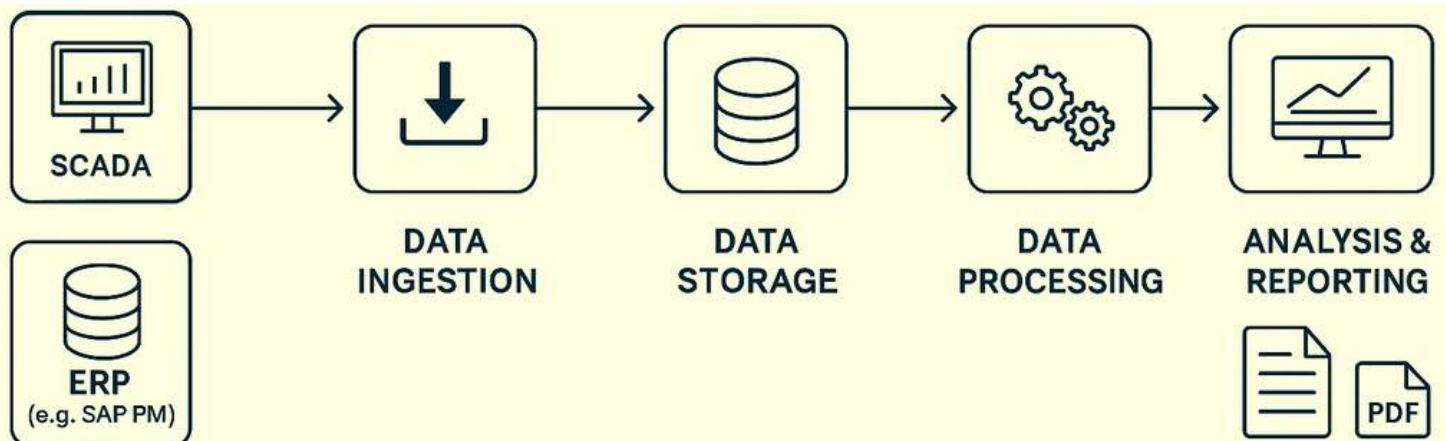


RISK AND FORECASTING DATA COLLECTION

At Alisios Corporation, we provide expert consultancy to streamline your journey from raw data to scalable, high-performing pipelines.

- Data requirements and sourcing
- Data Model, Pipelines and Risk Data Base Design
- Collection strategies and data integration from various sources (ERP, SCADA)
- Data quality and consistency.
- Database structuring and governance
- End-to-End Report Automation and Visualisation (Sibila Rooms)

Reliable data. Actionable insights. Long-term performance.



SYSTEM TAILORED PROBABILISTIC MODELLING



From generation and transmission to distribution and client load points, our risk-informed modelling ensures every component drives smarter decision-making.

- **Asset Management:** Optimise maintenance and evaluate performance for long-term resilience.
- **Repowering Decisions:** Data-driven assessments to upgrade, replace, or maintain key assets.
- **Planning & Investment:** Robust probabilistic models for infrastructure and capacity upgrades.
- **Standardised Risk Indices:** Custom KPIs for clear benchmarking and corporate communication.

State	Unavailable Lines	Probability	Frequency [yr] ⁻¹	ELC [MW/yr]	EENS [MWh/yr]
1	None	0.99528184	18.6795	0	0
2	②	0.00043222	3.7977	896.27	893.55
3	③	0.00086616	6.1488	1451.12	1790.67
4	④	0.00136957	4.4569	0	0
5	⑤	0.00204257	4.3106	0	0
6	② ③	0.00000038	0.0060	1.42	0.77
7	② ④	0.00000059	0.0070	1.67	1.23
8	② ⑤	0.00000089	0.0097	2.28	1.83
9	③ ④	0.00000119	0.0123	2.90	2.46
10	③ ⑤	0.00000178	0.0164	3.86	3.67
11	④ ⑤	0.00000281	0.0150	3.55	5.18
		0.00130602	10.0129	2363.10	2700.01

ADVERSE WEATHER RISK ASSESSMENT

The reliability of your power system isn't just about design; it's about geography. When transmission lines span hundreds of kilometres, weather becomes a structural variable, not just an external factor.

Our Approach: We integrate rich climate data with asset-specific profiles (age, design, exposure) to **deliver precise, site-specific risk assessments.**

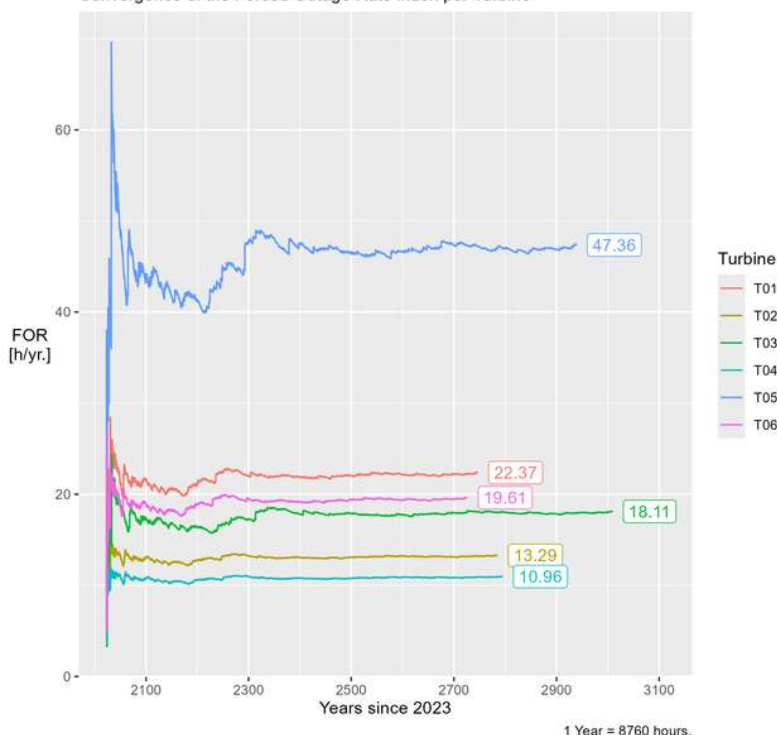
Whether for renewable generation or grid infrastructure, we transform environmental volatility into manageable, data-driven insights.



MONTE CARLO SIMULATION

Standard models often miss the full picture. Our advanced Monte Carlo Simulations (MCS) unlock high-fidelity stochastic modelling, delivering realistic risk indices where others see only averages.

Monte Carlo Simulation - Six Servion MM92 Wind Turbines
Convergence of the Forced Outage Rate index per Turbine



- **Probabilistic Capacity:** Moving beyond static estimates to calculate the true System Generation Capacity Curve.
- **High-Impact Analysis:** Simulating rare, concurrent failures and system-wide outages to ensure total readiness.
- **Rapid Execution:** Using parallelised and vectorised code to run complex multi-component simulations in minutes, not hours.

POWER AND ENERGY FORECASTING

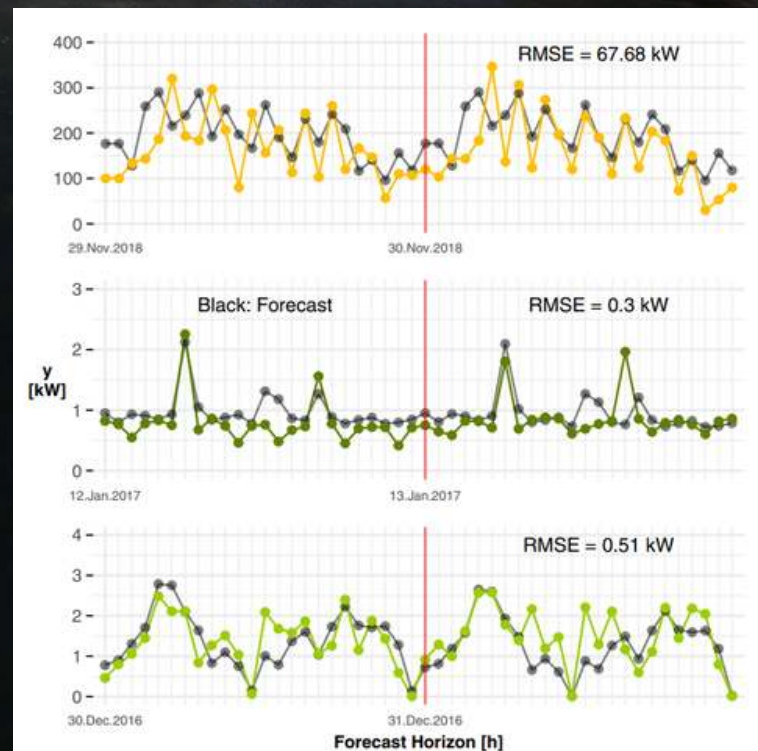
The Right Tool for the Task

We bridge the gap between classical statistical models (ARIMA, ETS) and cutting-edge Machine Learning (Gradient Boosting, Deep Learning).

Because not every challenge requires a neural network, but every project deserves the optimal tool.

Key Applications:

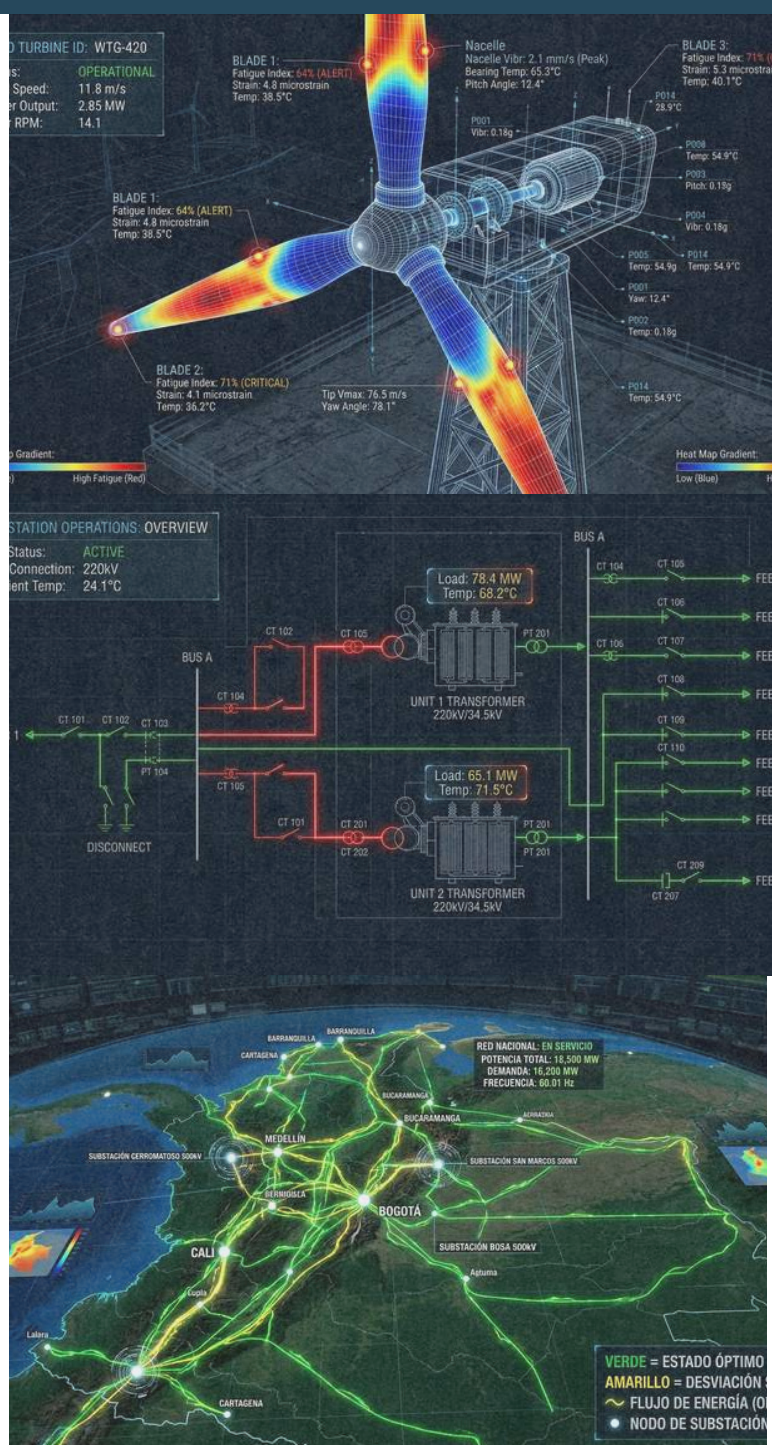
- **Renewable Production:** Wind and solar forecasting.
- **Load & Demand:** Precise grid-wide predictions.
- **Asset Health:** Trend analysis and failure likelihood.
- **Operational Continuity:** Downtime and curtailment planning.



PERFORMANCE MANAGEMENT

Digital Twin Intelligence: Real-Time Precision
 We merge advanced physical modelling with live operational streams to proactively identify inefficiencies and drive high-stakes decisions.

- **Detect underperformance** and anomalies as they happen.
- **Optimise O&M response times** and resource allocation.
- **Benchmark asset health** against expected behaviour.
- **Maximise fleet availability** through continuous diagnostics.

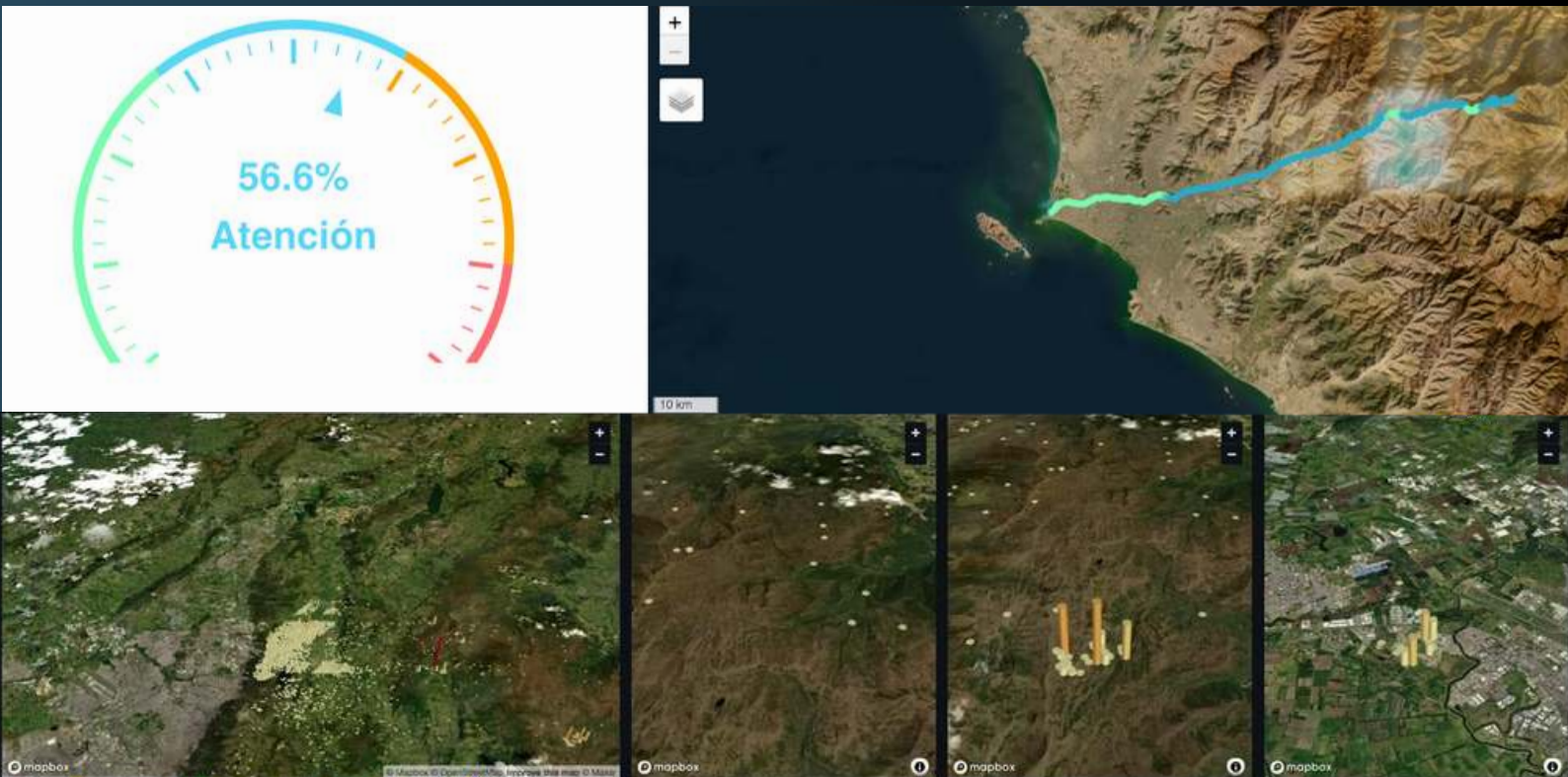




SIBILA ROOM (™)

In a world saturated with information, the power to act depends on how you interpret it

Sibila Room gives you that power



Decide which monitoring and forecasting services you want to see, how and when. On your computer, tablet or phone. Generate maps, graphical and text reports instantly, and share them with whomever you want.

In ancient times, people had to find the sibyl's chamber in a cave to know the future. Today we bring it to the palm of your hand

Do you have a challenge
for us?
Ask for our demos



<https://alisioscorporation.com/contact-us/>