



Alpha Trader for Thermal from GE Digital

Insights to optimize wholesale market participation while navigating the energy transition.

Make the most profitable use of generation capacity while ensuring secure stable power through commitment preparation and fuel nomination.

Improve the accuracy of performance predictions and eliminate time-consuming manual processes with real-time forecasting range of unit power capacity, fuel nomination, and the automation of data transmission for day-ahead and intraday operation planning and electricity trading.

Alpha Trader insights leverage the data that matters to make informed decisions, such as available capacity, price and plant specific constraints such as emissions limits, start-up/turndown durations and cost, and fuel penalties.

Alpha Trader for Thermal answers:

- How much capacity will I have each hour?
- What will the price of power and fuel be each hour?
- Does my fuel nomination match where the market is going tomorrow?
- How will the predicted run profile impact my next outage?

Modules

Thermal Performance Predictions

Reduce uncertainty in operation planning

- Output, Heat Rate, Fuel Volume and Steam Capacity predictions for 1-5 days ahead
- Machine Learning algorithm automatically captures degradation, upgrades and other performance impacting changes
- Understand the impact of any installed power augmentation systems

Thermal Gas Fuel Nominations

Improve productivity, reduce errors and avoid costly penalties

- Advises fuel required each hour for the next 4 Gas Days, leveraging Performance Predictions, gas and energy prices
- Alerts users of gas supply imbalances, such as OFO (Operational Flow Order) or swing penalties
- Continuously updated with real-time fuel consumption
- Configured to include plant specific constraints
- Easily access and communicate predictions via UI, email or API

Thermal Offer Curve Evaluation

Improve dispatch economics

- Assess turndown vs shutdown profitability
- Provide recommendation on whether to be a price-taker or not based on plant specific costs and constraints
- Sensitivity analysis of profitability to fuel and energy prices
- Provide statistical views comparing predicted day-ahead fuel and energy prices with historicals to bound uncertainty

Thermal Outage Scheduler Advice

Quickly evaluate impact of operation on outages

- Provides web-based viewing of gas turbine FFH/FS calculations per GER-3620 'Heavy-Duty Gas Turbine Operating and Maintenance Considerations' or equivalent
- Highlights impact of future operation on the next outage date
- Utilizes the Forecast Editor with maintenance factor analytics
- Integrates with energy and fuel pricing to advise on profitable use of peak fire and the economic impact of moving outage date

Thermal Capacity Optimization Advice

Single source of truth for Peak Fire Bank

- Applicable to Capacity Dispatch Optimizer and Capacity Trader products
- Visibility into banked maintenance free peak fire hours
- Alerts to real-time price threshold for using banked peak fire hours

Hardware/software

- Site operational data needs to be provided by customer
 - Already connected via GE
 - Customer hosted service for GE to query
 - GE hosted service for customer to post
- Applicable electricity and gas nodes/hubs/pools
- On Premise requires a GE server
- Capacity Dispatch Optimizer / Capacity Trader have separate hardware/software requirements



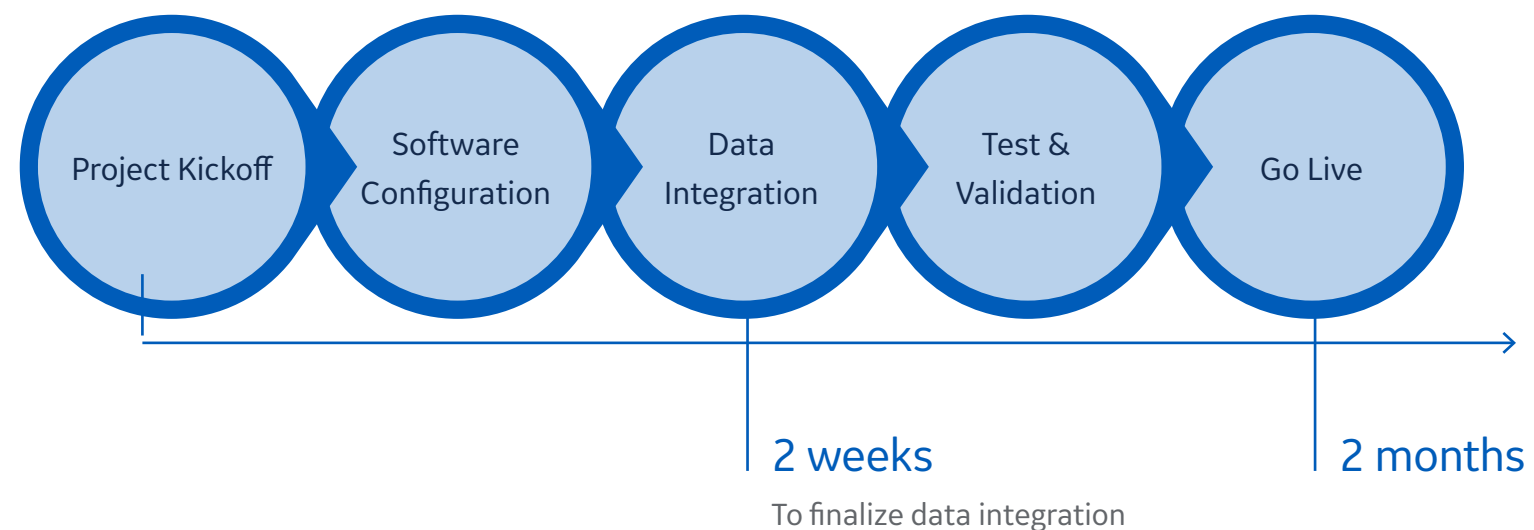
How GE Digital stacks up compared to the competition

Feature	Other	GE
Digital Twin for performance prediction		
Fuel nomination visibility		
Advice on overnight turndown vs shutdown		
Impact of future operation on outage schedule		

Deployment

On cloud with configurable data delivery.

Implementation*



*Does not include outage odometer or Capacity Dispatch Optimizer / Capacity Trader installation times

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Alpha Trader utilizes the following

Optimize the balance between portfolio risk and revenue, leveraging our proprietary predictions of asset performance and market prices.



Digital Twin Models for each facility in your portfolio continuously updating based on actual performance



Machine Learning models for all relevant market prices that affect your portfolio economics



Easy-to-access software user interface that provides actionable recommendations

Alpha Trader product line

Base Solutions Add-on

Performance Predictions

- Operating Envelope Advisor for the thermal plants
- Energy Predictions for Renewables (Solar/Wind)

Thermal

- Fuel Noms
- Offer Curve Analysis
- Outage Scheduling Advice

Renewable

- Offtake Risk Advisor
- Merchant Operation Risk Advisor
- Deviation Settlement Risk Advisor

Financial

- Energy Trader - Dart Spread

Alpha Trader Foundation

ProcessLink



Ready to ensure reliable power while maximizing margins and managing risk?

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