GE VERNOVA

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PRISMECS

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SMARTER SOURCING FOR RELIABLE ENERGY EQUIPMENT AND COMPONENTS

WHAT HAPPENS WHEN ENGINEERING LEGACY MEETS SUPPLY CHAIN AGILITY?

Getting your hands on reliable energy equipment today is harder than it should be. Lead times have stretched. Costs keep climbing. And tracking down certified components is like trying to find a needle in a haystack. But what if sourcing critical infrastructure didn't have to feel like navigating a maze?

That's where the collaboration between **Prismecs** and **GE Vernova** steps in. This is not just a handshake between two industry names. It's a hands-on answer to some of the toughest sourcing challenges facing today's energy and industrial sectors.

Let's unpack what's changing and why it matters.

ADDRESSING INFRASTRUCTURE GAPS WITH TECHNICALLY VALIDATED SOLUTIONS

Sourcing critical energy equipment has become increasingly difficult for industrial and utility operators. Procurement cycles are longer, component shortages are more common, and unverified suppliers introduce additional risk.

Several systemic issues continue to affect procurement outcomes:

- Lead times for essential components doubling over the past two years
- Rising equipment costs due to material volatility and supply chain disruptions
- Non-certified components are entering circulation
- Procurement teams facing pressure to cut costs

As energy systems evolve to accommodate more distributed generation, renewables integration, and digital controls, infrastructure demands are outpacing the responsiveness of traditional sourcing models. Addressing this gap requires streamlined access to certified equipment, faster delivery timelines, and technical assurance from OEM-backed suppliers.

Here we will explore how one such framework, powered by GE Vernova's advanced equipment portfolio, is helping organizations transition from reactive procurement to strategic sourcing.

THE PROBLEM: OUTDATED PROCUREMENT MODELS IN A DEMANDING NEW WORLD

Let's start with the obvious. Traditional procurement workflows are slowing down just when the energy world is speeding up.

In 2023, procurement cycles for major power equipment averaged 38 weeks nearly double what they were in 2021. Add to that 30% higher equipment costs, multi-year waitlists for transformers, and the rising risk of counterfeits, and you've got a perfect storm of inefficiency.

One study even found that fake fuel injectors led to 15 catastrophic engine failures in a single mining operation. Meanwhile, OEM certification remains a persistent challenge. Many suppliers struggle to meet the compliance standards required for grid-grade equipment, and

procurement teams often opt for cost savings over verified quality. The consequences? They tend to show up quickly:

- Increased risk of equipment failure
- Voided warranties and disrupted service agreements
- Unplanned costs that could have been avoided with certified sourcing

It's not just a sourcing issue. It's an operational risk.

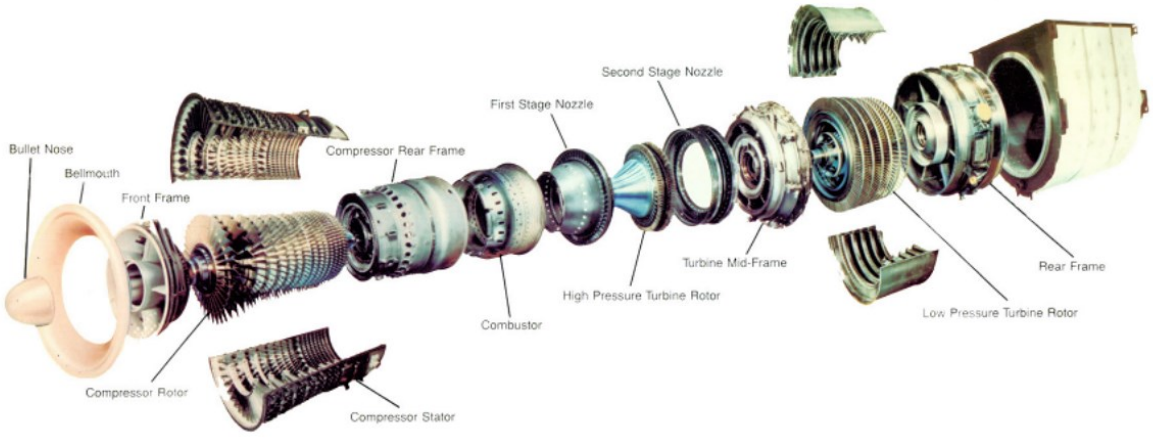
PROCUREMENT CHALLENGES IN A RAPIDLY EVOLVING ENERGY LANDSCAPE

Global infrastructure demands are increasing, but traditional procurement workflows are struggling to keep pace. Inconsistent supply, extended timelines, and lack of certified components are becoming operational liabilities.

Key challenges include:

- Procurement cycles for critical equipment, such as turbines and circuit breakers, now average over 38 weeks, up from 20 weeks just two years ago
- Long lead times for transformers, sometimes extending beyond 24 months, delaying large-scale infrastructure deployment
- Counterfeit or substandard components are more frequently entering the market, creating safety, warranty, and reliability risks
- Cost-saving measures often take precedence over compliance, leading to long-term performance trade-offs
- Few suppliers consistently meet full OEM certification standards, particularly for grid-grade components
- Operational downtime from failed components is increasing, driving up unplanned maintenance costs

These conditions are widespread across utilities, industrial plants, and EPC firms. For organizations with decarbonization and grid modernization goals, procurement inefficiencies have become a major barrier to progress.



THE SHIFT: WHERE PRISMECS AND GE VERNOVA COME IN

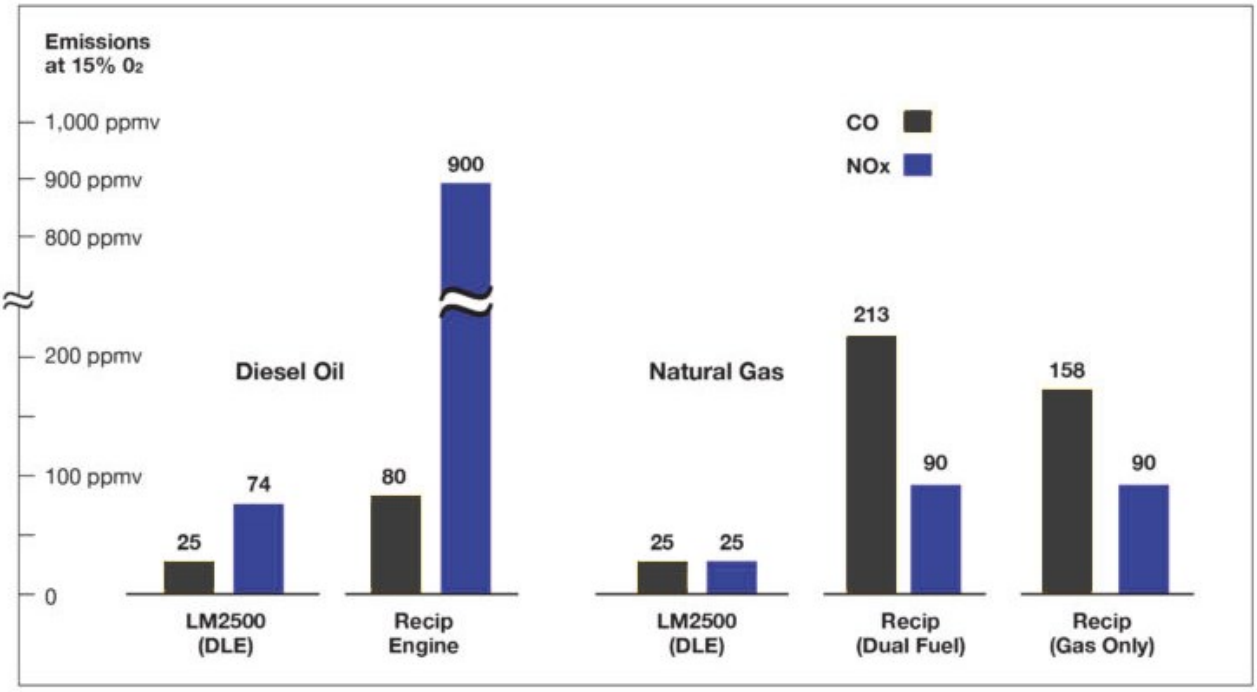
GE Vernova has a long history of operational excellence. It's the evolution of over **140 years of power engineering**, dating back to Edison's very first central power station. While Prismecs is the agile operator quietly powering industrial supply chains across **the globe**.

This collaboration offers centralized, streamlined access to critical energy infrastructure **gas turbines, generators, circuit breakers,** and **OEM-certified spare parts** all backed by technical validation and lifecycle support.

Here's a quick snapshot of what's now easier to get:

- **Gas Turbines:** Like the LM2500+G4 (36.98 MW) and TM2500 (36 MW), offering sub-10-minute startups, mobile deployment, and ultra-low NOx emissions
- **Generators:** Spanning low (480V) to high (13,800V) voltage, with up to 98.9% efficiency
- **Circuit Breakers:** 550 kV, SF_6-free, and rated for extreme environments from -60°C to +60°C
- **Spare Parts:** Fully certified, cross-checked against GE Vernova **36,000-patent** database

It's the power of tradition, supercharged by speed.



GE VERNOVA'S EQUIPMENT

GE Vernova's portfolio includes a wide range of power generation and grid infrastructure technologies, built to meet the evolving demands of industrial, utility, and EPC customers. These systems are designed for operational efficiency, emissions compliance, and seamless integration into both legacy and modern grids.

Some key equipment categories include:

Gas Turbines

- Includes LM2500+G4 (36.98 MW), TM2500 (36 MW), and LM6000 (up to 50 MW with SPRINT)
- Fast-start capability (as low as 5 minutes) and ramp rates up to 20 MW/min
- Fuel flexibility including natural gas, diesel, LPG, and hydrogen blends (up to 90%)
- Used in peaker plants, combined heat and power (CHP) systems, grid balancing, and mobile deployments

Generators

- Available across low (480V), medium (4160V), and high (13,800V) voltage classes
- High-efficiency air-cooled units reaching up to 98.9% performance
- Suitable for data centers, industrial loads, and direct-to-grid connections

Circuit Breakers

- 550 kV dead-tank breakers with fault current tolerance up to 63 kA
- Temperature performance from −60°C to +60°C
- SF_6-free models available using g^3 gas for reduced environmental impact

OEM-Certified Spare Parts

- Validated through GE Vernova's patent and design ecosystem
- Covers gas turbines, switchgear, and auxiliary systems
- Supports warranty compliance and long-term equipment lifecycle planning

Together, these systems provide the technical foundation for power infrastructure that is scalable, flexible, and aligned with global decarbonization targets.

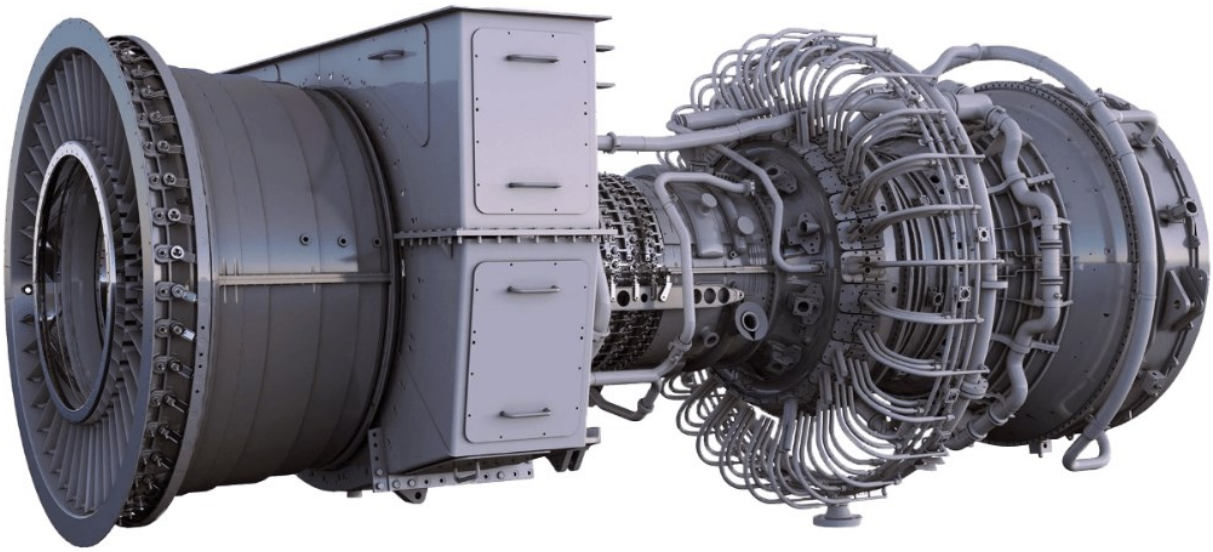
GAS TURBINES: SPEED AND SCALE

Turbine Model/Startup Time (min)	Net Output	Ramp Rate / Pressure Ratio	Fuel/Emissions	Key Applications	Best For Scenario
LM6000 Aeroderivative/5 min (cold)	43–50 MW with SPRINT)	20 MW/min	Natural gas, LPG, diesel, H_2 blends (90%)	- Peaker plants - Industrial CHP - Renewable integration	Flexible peaker plants & industrial facilities needing fast ramp + fuel flexibility
LM2500 Base/ <10 min	25.06 MW	20 MW/min	Standard fuels	- Marine propulsion - Offshore platforms - Grid balancing	Compact turbine needs in marine, O&G, or distributed generation
LM2500+G4/ <10 min	36.98 MW	20 MW/min	Standard fuels	- Upgraded LM2500 use cases - Higher efficiency maritime or grid scenarios	Retrofit/upgrade from base LM2500 for higher output & thermal efficiency
TM2500 Mobile Unit/ 5 min (cold)	- 33.7 MW (50Hz wet) - 36 MW (60Hz dry)	—	25 ppm NOx (with water injection)	- Disaster recovery - Temporary power in extreme climates - Flaring reduction	Emergency response, mobile grids, or temporary industrial operations
Frame 6B/ 12 min (hot)	44 MW	20 MW/min	Standard fuels	- Refinery cogeneration - LNG liquefaction plants	Base-load or industrial cogeneration plants requiring robust duty cycle
Frame 7EA/ -	84.36 MW	Pressure Ratio:13:1	Standard fuels	- Pipeline compression - Large-scale CHP	High-capacity industrial sites or utilities needing reliable single-shaft performance
Frame 5/2E/ -	33.8 MW	—	9–15 ppm NOx	- Fertilizer production - Remote off-grid mining sites	Heavy mechanical drive needs where emissions are constrained & access is remote

These are not just performance numbers; they're lifelines for operations that can't afford downtime.

THE MACHINERY BEHIND THE MACHINE: THE TOOLS, TECH, AND COMPONENTS THAT COMPLETE THE SYSTEM

Turbines like the LM6000, LM2500, and TM2500 may carry the load of your facility, however, the components behind them are equally important. Motors, cables, sensors, and tools may seem secondary, but when they fail, so does the system. The following are some examples of the components that are essential.



57+ MW	>41%	Over 99%	5 min.	35%-100%
SC output	net efficiency	reliability/availability	start time	H2 capable

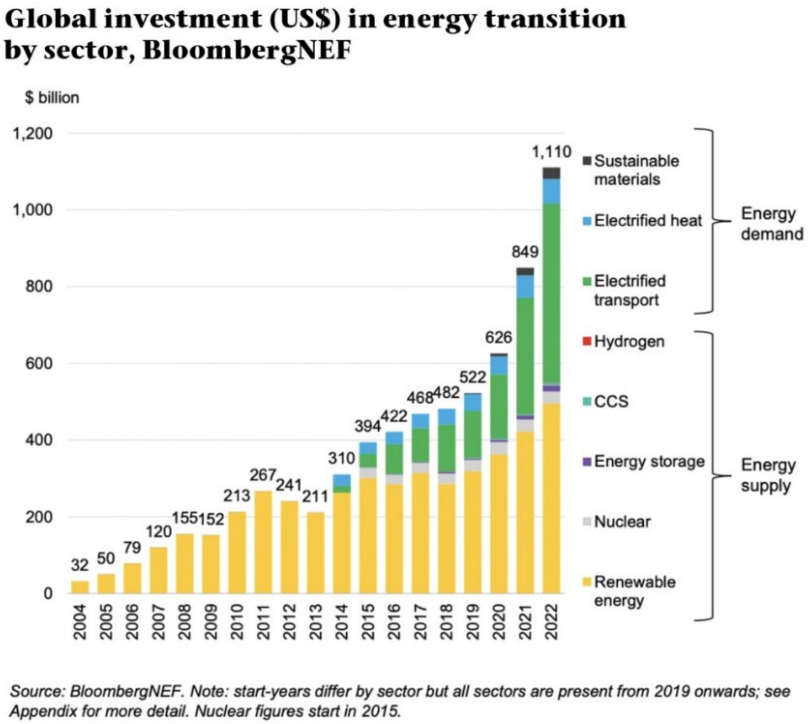
CRITICAL COMPONENTS SUPPORTING SYSTEM INTEGRITY

While gas turbines are central to power generation, supporting components are equally critical to overall system performance. GE Vernova's equipment ecosystem includes high-specification electrical, mechanical, and control elements designed for operational continuity and safety.

Some of the key components by turbine platform include:

Turbine	Category	Component	Specifications
LM6000	Electrical Components	16 AWG Nickel-Plated Copper Triad Cable	Voltage Rating = 600 V Temperature Rating = 200 C Polyamide/FEP Insulation Stainless steel braid
	Industrial Control	Variable Frequency Drive	Power = 50 HP Voltage = 400 V Frequency = 50 Hz IP Rating = IP22
LM2500	Bearings	Linear Sleeve Bearing	Self-aligning Closed configuration Shaft Diameter = 1 ½ inches
	Hardware	Hex Bolt	Size = 5/8-11 UNC Length = 2 ¼ inches Material = ASTM A490 TYPE 1 Coating = Zn/Al ASTM F3125
TM2500	Motors	AC Hydraulic Starter Motor	Power = 200 HP Phases/Poles = 3/2 Voltage = 460/400 VAC RPM = 3580/2975 Frequency = 60/50 Hz
	Lubricants and Greases	Mobil Jet Oil II Driving-Gear Oil	Flash/Fire Point = 268/285 C Kinematic Viscosity (40/100 C) = 27.6/5.1 cSt Density (15 C) = 1.0035 kg/l
AERO	Adhesives, Sealants, and Tape	Oil Tight Hole Seal	Type = Hole Seal Size = 2 inches
	Electrical Wire and Cable	120 IN Wire	Length = 120 inches Type = JPDS-ESWITCH Gauge = 18 AWG

These components are pre-qualified for GE Vernova platforms and meet international material and performance standards. Their reliability is essential to reducing unplanned outages, preserving equipment warranties, and extending lifecycle performance.



Source: BloombergNEF. Note: start-years differ by sector but all sectors are present from 2019 onwards; see Appendix for more detail. Nuclear figures start in 2015.

GENERATORS THAT FIT EVERY VOLTAGE CLASS

Energy is not one-size-fits-all, and neither are the generators in this lineup.

- **480V Systems:** Built for data centers, with 0.8 power factor and harmonic mitigation
- **4160V Systems:** Ideal for industrial baseloads in the 2–5 MW range
- **13,800V Systems:** Plug directly into the grid, no step-up transformer needed—cutting **transmission losses by 4–6%**

In short, whatever you are powering, there's a spec that fits.

CIRCUIT BREAKERS THAT KEEP THE GRID SAFE AND CLEAN

Let's talk breakers. GE Vernova's 550 kV dead-tank models are engineered for serious grid stability. They can:

- Handle **63 kA fault currents**
- Operate across extreme temperature swings
- Cut emissions with **g³ gas**, eliminating **99%** of SF_6's global warming potential

Smart, safe, and sustainable—exactly what modern grids need.

GENERATORS AND CIRCUIT BREAKERS FOR MODERN POWER SYSTEMS

GE Vernova's generators and circuit breakers are engineered to support diverse load profiles, grid configurations, and environmental conditions. Each product is designed with high efficiency, safety, and emissions compliance in mind.

GENERATORS

Available across multiple voltage classes, GE Vernova's generators are built to meet a range of application requirements from backup systems to grid-interconnected baseload generation.

480V Systems (Low Voltage)

- Common in data centers and backup applications
- Equipped with 0.8 power factor and harmonic mitigation features

4160V Systems (Medium Voltage)

- Designed for industrial plants and mid-size baseload requirements (2–5 MW)
- Suitable for distributed generation and cogeneration facilities

13,800V Systems (High Voltage)

- Enables direct grid connection without step-up transformers
- Reduces transmission losses by 4–6%
- Ideal for utility-scale infrastructure or large industrial complexes

CIRCUIT BREAKERS

GE Vernova's circuit breakers are built for high-performance switching in utility and industrial networks. Options include SF_6-free technologies that align with modern environmental standards.

Voltage Rating: Up to 550 kV (dead-tank configuration)

Temperature Range: Operable from −60°C to +60°C

Current Interrupt Rating: Up to 63 kA fault tolerance

Environmental Design:

- Models available with g^3 gas, reducing greenhouse gas potential by 99% compared to traditional SF_6
- Designed for use in harsh climates and grid modernization projects

These systems ensure compliance with evolving regulations and offer long-term operational stability across a range of energy infrastructure deployments.

REAL-WORLD PROJECTS, TANGIBLE RESULTS

Two major global projects show exactly how the Prismecs and GE Vernova collaboration translates into real-world value. In Taiwan, Prismecs helped overhaul the **Tung Hsiao Power Plant**, swapping out coal for advanced LM2500XPRESS turbines. As a result, 99.6% availability rate during peak demand, a **50% cut in coal reliance**, and full integration with Taiwan's renewables-heavy grid—all delivered within **10 months**.

Meanwhile in Greece, Prismecs led the relocation of LM6000 turbines to Crete, meeting the island's rising energy demands ahead of schedule. The team not only handled logistics and seismic retrofitting, but also introduced **AI-powered predictive maintenance**, extending equipment lifespans by **up to 15%**.

From engineering oversight to inventory optimization, Prismecs is not just a distributor, it is reflecting the difference between delay and delivery. Between theory and execution.

PROJECT DEPLOYMENTS AND EXECUTION OUTCOMES

The following case studies demonstrate how GE Vernova's equipment, combined with localized execution support, has delivered measurable infrastructure benefits. These projects reflect the operational scalability, flexibility, and reliability of the deployed systems—under demanding timelines and technical conditions.

TUNG HSIAO POWER PLANT — TAIWAN

Project Scope
Modernization of legacy coal-fired generation with gas turbine-based infrastructure to support Taiwan's energy transition and renewable integration goals.

Equipment Deployed

- Six LM2500XPRESS aeroderivative turbines
- Total output: 180 MW
- Hydrogen-ready with 8-minute fast start capability

Timeline

- EPC completion in 10 months
- Commissioned and grid-connected in January 2023

Sustainability Impact

- Reduced coal dependency by 50%
- Supports Renewable Energy Development Act (REDA): 50% gas-fired generation target by 2025
- Grid-stabilizing support for nearby offshore wind and solar installations

Prismecs' Role

- Supported GE Vernova during installation and commissioning
- Managed operations and maintenance for the first 2 years post-deployment
- Delivered 99.6% grid availability during peak demand periods

CRETE ISLAND LM6000 TURBINE RELOCATION — GREECE

Project Scope
Relocation and recommissioning of three LM6000 turbines from mainland Greece to Crete to address seasonal peak demand and grid resilience.

Equipment Deployed

- Three LM6000 gas turbines
- Output: 43–50 MW per unit (with SPRINT)
- Designed for fuel flexibility and rapid response (20 MW/min ramp rate)

Timeline

- Full project lifecycle managed in 9 months
- Included logistics, site prep, and seismic compliance

Sustainability Impact

- Strengthened Crete's grid stability
- Supports Greece's 2030 national energy plan to expand renewable penetration by 35%

Prismecs' Role

- Provided full EPC project execution
- Oversaw technical compliance and on-site commissioning
- Implemented AI-based predictive maintenance, extending equipment lifespan by up to 15%

These deployments underscore Prismecs' ability to execute complex, high-impact energy projects on time and in alignment with global safety and performance standards

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CONCLUSION: STRATEGIC SOURCING FOR CRITICAL ENERGY SYSTEMS

This Prismecs & GE Vernova collaboration is a new operating model for energy procurement, which combines speed, trust, and technical integrity. And with the global energy transition accelerating, sourcing strategies that worked five years ago simply won't cut it anymore.

Next Steps

- Explore GE Vernova equipment specifications
- Request a customized sourcing consultation
- Align your next energy project with proven, OEM-backed execution