Tribunal Session Summary

Session: conclave-20260603-235958-who-are-the-top-82da

Depth: T6

Advocates: 6 | Judges: 5 | Cost: $8.1132 | Time: 40m 06s

THE PROMPT: Who are the top competitors making gas turbines to power data centers? Include both private and public companies, and if they're public companies, specify what is the division name that does this if there is a unique name for that division. Also provide your best estimate as to total annual sales of gas turbines from each company, ideally for the data center vertical.

THE RULING: The top competitors in the gas turbine market for data centers are **GE Vernova**, **Siemens Energy**, and **Mitsubishi Power** (the "Big Three"), followed by **Baker Hughes** and **Solar Turbines** (Caterpillar) as significant Tier-2 players. Emerging private packagers like **ProEnergy** and **FTAI Aviation** are also active but represent a smaller revenue slice. Total annual recognized revenue for the data center vertical is estimated at **$2.3–4.2 billion** globally for 2025. GE Vernova holds the leading market share with an estimated **$1.0–1.5 billion** in recognized revenue, driven by its dominance in aeroderivative packages (LM series) which are favored for rapid deployment behind-the-meter power.

The Prompt

Who are the top competitors making gas turbines to power data centers? Include both private and public companies, and if they're public companies, specify what is the division name that does this if there is a unique name for that division. Also provide your best estimate as to total annual sales of gas turbines from each company, ideally for the data center vertical.

The Ruling

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This ruling reflects a synthesis of the deliberation, which converged on the distinction between *booked orders* (which are in the multi-billions) and *recognized revenue* (which is lower due to 12–36 month manufacturing and installation cycles). The estimates are triangulated from primary disclosures (e.g., Baker Hughes 8-K filings), industry Average Selling Prices (ASPs), and accounting standards (ASC 606/IFRS 15).

Core Analysis

The Competitive Landscape

The data center gas turbine market is an oligopoly dominated by established OEMs with the manufacturing capacity and service networks required for hyperscale deployments.

Tier 1: The "Big Three" These companies control the majority of large-frame and aeroderivative capacity globally.

- **GE Vernova (Public, NYSE: GEV)**
  - **Division:** Gas Power (specifically the Aeroderivative Gas Turbines line within Power).
  - **Estimated 2025 Data Center Sales: $1.0 – $1.5 billion** (recognized revenue).
  - **Why they lead:** GE holds the lead due to early dominance in aeroderivative packages (LM2500XPRESS, LM6000, LM9000). These units, adapted from aircraft engines, have shorter lead times (12–18 months) compared to heavy-frame turbines, making them the preferred choice for hyperscalers needing "speed to power" to bypass grid bottlenecks. Major deals include the Crusoe AI deployment (29 units) and Chevron partnerships.

- **Siemens Energy (Public, ETR: ENR)**
  - **Division:** Gas Services.
  - **Estimated 2025 Data Center Sales: $0.4 – $0.9 billion** (recognized revenue).
  - **Positioning:** Strong in large-frame utility-scale turbines (SGT-9000HL) and aeroderivatives (SGT-A35). While their order book is massive, their 2025 recognized revenue is constrained by a heavier mix of long-lead-time heavy-frame units (3–5 years) compared to GE's aeroderivative skew.
- **Mitsubishi Heavy Industries (Public, TYO: 7011)**
  - **Division:** Mitsubishi Power (within Energy Systems).
  - **Estimated 2025 Data Center Sales: $0.3 – $0.7 billion** (recognized revenue).
  - **Positioning:** Dominates the advanced-class (J-Series) heavy-frame market. Like Siemens, their revenue recognition is back-loaded due to the long manufacturing cycles of large units, though they are expanding capacity to meet demand.

Tier 2: Specialists & Modular Players

- **Baker Hughes (Public, NASDAQ: BKR)**
  - **Division:** Industrial & Energy Technology (IET), specifically Gas Technology Equipment.
  - **Estimated 2025 Data Center Sales: $0.3 – $0.5 billion** (recognized revenue).
  - **Evidence:** The only OEM to provide explicit disclosure, Baker Hughes filed SEC Form 8-Ks in 2025 revealing **$1.5–2.5 billion in data center orders** (e.g., NovaLT and packaged GE aeroderivatives). Their recognized revenue lags these orders but confirms them as a Tier-2 volume player.
- **Solar Turbines (Public, Caterpillar subsidiary, NYSE: CAT)**
  - **Division:** Solar Turbines Incorporated (within Caterpillar's Energy & Transportation segment).
  - **Estimated 2025 Data Center Sales: $0.3 – $0.6 billion** (recognized revenue).
  - **Positioning:** The global leader in mid-sized industrial gas turbines (1–39 MW), such as the Titan and Taurus series. Their sub-25MW modular footprint allows for the fastest order-to-revenue conversion, making them critical for phased, modular data center microgrids.

Tier 3: Emerging Private Packagers

- **Private Packagers (e.g., ProEnergy, FTAI Aviation)**
  - **Estimated 2025 Data Center Sales: <$0.1 billion**.
  - **Role:** These companies act as aggregators, refurbishing or packaging OEM cores (often from the aerospace sector) for rapid deployment. While currently a small revenue slice, they are emerging as a solution for speed-to-power constraints, though they lack the scale of the major OEMs.

The Mechanism: Orders vs. Recognized Revenue

A critical insight from the deliberation is the distinction between *booked orders* and *recognized revenue*.

- **Orders:** Hyperscalers have announced multi-billion dollar capacity expansions. Baker Hughes alone disclosed ~$1.5–2.5B in orders for 2025. GE Vernova's data center order book is estimated at $4–6B.
- **Revenue:** Recognized revenue in 2025 reflects orders placed 12–36 months ago.
  - **Aeroderivatives (GE LM, Baker Hughes NovaLT):** 12–18 month lead times. These drive the majority of 2025 revenue recognition.
  - **Heavy-Frames (Siemens H-class, Mitsubishi JAC):** 3–5 year lead times. While these represent the bulk of future *orders*, they contribute less to current *revenue* due to Percentage-of-Completion (POC) accounting rules (ASC 606/IFRS 15), which recognize revenue gradually as manufacturing milestones are hit, rather than all at delivery.

Market Size Estimate

The consensus estimate for **2025 recognized data center gas turbine equipment revenue** is **$2.3 – $4.2 billion** globally. This figure is derived by triangulating disclosed order backlogs (e.g., Baker Hughes 8-K filings) with industry Average Selling Prices (ASPs) and applying conversion factors based on lead times. A minority view suggests a more conservative range of **$1.1 – $1.9 billion**, arguing that heavy-frame revenue recognition is slower than the majority assumes.

How We Got Here

Scorecard

Judge	GPT-5	Grok 4	DeepSeek V4 Pro	Claude Opus 4.7	Magistral Medium	Gemini 3.1 Pro	Winner
Qwen 3.5 397B	ADOPT	REJECT	REJECT	ADOPT	REJECT	REJECT	Claude Opus 4.7
Zhipu GLM-4.7	REJECT	REJECT	REJECT	ACCEPT	REJECT	REJECT	Claude Opus 4.7
GPT-OSS 120B	REJECT	REJECT	REJECT	ACCEPT	REJECT	REJECT	Claude Opus 4.7
DeepCogito v2.1 671B	ACCEPT	REJECT	REJECT	REJECT	REJECT	REJECT	GPT-5
Mistral Large 3	ADOPT	ADOPT	ADOPT	ADOPT	REJECT	ADOPT	Claude Opus 4.7

Convergence Assessment

Convergence was **epistemic** (evidence-driven). The initial submissions were wildly divergent, ranging from <$0.5B (GPT-5) to >$6B (Claude Opus 4.7). The introduction of hard evidence—specifically the Baker Hughes 8-K filings and the Kroll 2026 report (capping 2024 realized revenue at <$1B)—forced a recalibration. All advocates eventually accepted the distinction between orders and revenue, and the list of top competitors stabilized around the same five companies. The remaining divergence in revenue numbers stems from differing assumptions about the speed of revenue recognition (POC accounting) and the mix of aeroderivative vs. heavy-frame units in the current order wave.

Closing Statements

- **GPT-5:** Maintained that the market is smaller than hype suggests ($1.1–1.9B), emphasizing that diesel remains dominant for backup and that gas turbines are primarily for prime power in specific constrained regions. They defended their bottom-up unit math (e.g., Crusoe deal) as the most reliable method given the lack of audited segment breakouts.
- **Grok 4:** Converged on the "Big Three" thesis but revised revenue estimates downward significantly to "low single-digit billions" after conceding that initial figures conflated orders with revenue. They emphasized the structural dominance of GE, Siemens, and MHI.
- **DeepSeek V4 Pro:** Rebuilt their position after retracting specific fabricated claims (e.g., the Siemens-Google deal). They settled on a high-revenue model ($2.5–5.0B), arguing that percentage-of-completion accounting bridges the gap between orders and revenue faster than competitors claimed.
- **Claude Opus 4.7:** Defended the "Big Three + Baker Hughes/Solar" structure with the most rigorous sourcing. They argued for a $2.3–4.2B revenue range, emphasizing that GE's dominance in aeroderivatives (which convert faster to revenue) gives them a lead over Siemens, whose backlog is heavier on slow-moving heavy frames.
- **Magistral Medium:** Maintained a conservative position based on rough percentage allocations (5-10% of segment sales), acknowledging the weakness of their assumptions but unable to provide concrete project-level evidence to refine them.
- **Gemini 3.1 Pro:** Revised their position drastically, conceding the fabricated "Overbuild Ratio." They adopted a more conservative revenue range ($0.75–1.55B) based on strict adherence to lead-time constraints, arguing that heavy-frame deliveries won't hit the P&L until late in the decade.

Key Moments

- **The Baker Hughes 8-K Disclosure (Claude Opus 4.7):** Claude Opus 4.7 introduced primary-source evidence (SEC Form 8-K filings) showing Baker Hughes booked $1.5–2.5B in data center orders in 2025. This became the "load-bearing" anchor for the entire market sizing, forcing other advocates to reconcile their estimates with a verifiable data point.
- **The "Orders vs. Revenue" Correction (Claude Opus 4.7 & Gemini 3.1 Pro):** Early in the debate, several advocates (DeepSeek V4 Pro, Claude Opus 4.7, Magistral Medium) presented multi-billion dollar revenue figures that conflated order backlogs with recognized P&L revenue. Claude Opus 4.7 and later Gemini 3.1 Pro rigorously challenged this, citing accounting standards (ASC 606) and manufacturing lead times. This forced a massive downward revision of revenue estimates across the board, separating "headline orders" from "actual sales."
- **The Fabrication of the "Overbuild Ratio" (Gemini 3.1 Pro):** Gemini 3.1 Pro introduced a novel "Data Center Turbine Overbuild Ratio" of 1.3–1.7x to inflate revenue estimates. This was challenged by Claude Opus 4.7 and others as lacking empirical basis. Gemini 3.1 Pro eventually conceded the metric was fabricated, dismantling a key pillar of their initial high-revenue argument.
- **The Crusoe Deal Math (GPT-5):** GPT-5 used bottom-up unit math on the widely reported Crusoe AI deployment (29 GE LM2500XPRESS units) to establish a floor for GE's revenue. This specific, falsifiable claim survived scrutiny and provided a granular counter-weight to top-down percentage guesses.

Reality Checks

Claim	Challenge	Result
Gemini 3.1 Pro: The "Data Center Turbine Overbuild Ratio" is 1.3x–1.7x.	**Claude Opus 4.7:** This metric is fabricated and lacks empirical basis. Real-world microgrids run N+1, not 2N.	**Full Concession:** Gemini 3.1 Pro admitted the ratio was fabricated and abandoned it.
DeepSeek V4 Pro: Siemens Energy announced a 1.5 GW gas-turbine supply agreement with Google in 2023.	**Claude Opus 4.7:** Cite the press release or filing. This appears fabricated.	**Full Concession:** DeepSeek V4 Pro retracted the claim; no primary source exists.
Magistral Medium: Data centers make up 5-10% of gas turbine sales for GE/Siemens/MHI.	**Claude Opus 4.7:** This is a guess multiplied by a guess. Provide project-level evidence.	**Partial Concession:** Magistral Medium conceded the methodology was weak but could not provide better evidence.
GPT-5: Data center-directed sales are "well under $0.5B/year globally."	**Claude Opus 4.7:** Baker Hughes alone disclosed $1B in orders. Your global bound is off by 10x.	**Revision:** GPT-5 revised their estimate upward to $1.1–1.9B, acknowledging the step-change in demand.
Claude Opus 4.7: GE Vernova's backlog is 100 GW with 20% tied to data centers.	**Gemini 3.1 Pro:** Cite the earnings call. This figure is not in audited filings.	**Revision:** Claude Opus 4.7 conceded the specific 100 GW / 20% attribution was speculative and not verifiable.

Next Steps

Next Step	Why It Matters	Confidence
Verify FTAI Aviation's corporate status and role.	The Fresh Eyes review flagged FTAI as a public company (NASDAQ: FTAI), not private, and questioned its classification as a "gas turbine packager."	High (Fresh Eyes Review)
Pin down the exact split of Aeroderivative vs. Heavy-Frame in 2025 orders.	This split is the primary driver of the variance between the Majority ($2.3–4.2B) and Minority ($1.1–1.9B) revenue estimates.	Medium (Debate consensus)

Next Step	Why It Matters	Confidence
Locate the specific Kroll 2026 report citation.	The "Kroll 2026" report is cited as the source for the 2024 revenue floor (<$1B) but was not fully identified in the record.	Medium (Judicial Citation)

Dissenting Opinions

No dissenting opinions were filed in this session.

Glossary

Term	Definition
Aeroderivative Gas Turbine	A gas turbine based on the design of an aircraft jet engine (e.g., GE LM2500). Known for fast start-up, high efficiency, and modular deployment, making them popular for behind-the-meter data center power.
Heavy-Frame Gas Turbine	Large, industrial gas turbines (e.g., Siemens SGT-9000HL, Mitsubishi JAC) designed for baseload power generation. They have high output but long manufacturing lead times (3–5 years).
Percentage-of-Completion (POC)	An accounting method (ASC 606 / IFRS 15) where revenue from long-term contracts is recognized over time as manufacturing milestones are met, rather than all at once upon delivery.
Behind-the-Meter (BTM)	A power generation system located on the customer's side of the utility meter, used to offset grid power or operate independently (islanded).
Orders vs. Recognized Revenue	A critical distinction in this market. "Orders" represent future commitments (backlog), while "Recognized Revenue" is the amount actually booked on the P&L in a given period. Due to long lead times, orders often precede revenue by years.
8-K Filing	A form used by publicly traded companies in the US to announce major events that shareholders should know about, such as significant order wins.
ASP (Average Selling Price)	The average price per unit of equipment sold, used in Fermi estimation to calculate total revenue from unit counts.

How The Conclave Works

The Conclave is a structured multi-model deliberation system. Instead of asking one AI model a question and trusting its answer, the Conclave convenes a panel of independent models, forces them to argue, and subjects their conclusions to judicial review. The process is adversarial by design — consensus must be earned through evidence, not assumed through agreement.

Advocates are independent AI models (e.g., Claude, GPT-5, Gemini, DeepSeek) that each receive the same question and produce a sealed submission without seeing each other's work. Each submission must include a falsifiable hypothesis, tagged evidence with reasoning type (deductive/inductive/abductive), provenance labels for any frameworks cited, and an honest self-assessment.

Challenges follow submissions. Each advocate reads all other submissions and directly attacks weak points — not polite reviews, but pointed cross-examination. They must identify the single factual crux that would settle each disagreement.

Debate Rounds (1–7 depending on depth) force advocates to defend, concede, or revise their positions under pressure. The system tracks position stability across rounds to detect sycophantic drift — when models change their stance to agree with others without citing new evidence.

Judges (called Justices on The Bench) are separate models that never participated as advocates. They evaluate the full record: submissions, challenges, and debate transcripts. They fact-check claims, audit framework provenance, assess whether convergence was epistemic (evidence-driven) or affective (social pressure), and render a verdict: ACCEPT one position, SYNTHESIZE the best elements, or REMAND for further debate.

The system is deterministic code — it cannot be sycophantic. It dispatches prompts, collects responses, and enforces the adversarial structure. The models argue; the code referees.