Promised, Contractual, Actual: European Data Center Genset Delivery Times and the 2026–2029 Outlook

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How Long Does It Really Take to Buy a Data Center Generator in Europe?

Executive Summary

Lead Time Definition	Promised (PO-to-Ship)	Contractual (PO-to-Site)	Actual (PO-to-Site)	PLANNING (Derived from Data)
5-10 MW Projects	24-36 months	28-48 months	UNKNOWN	Base: 24 months, Conservative: 36 months (L0079)
20 MW Projects	28-42 months	32-52 months	UNKNOWN	Base: 32 months, Conservative: 42 months (L0082)
50 MW Projects	36-52 months	40-60 months	UNKNOWN	Base: 40 months, Conservative: 52 months (L0082)
100+ MW Projects	48-72 months	52-84 months	UNKNOWN	Base: 52 months, Conservative: 60 months (L0083)

PO Placed When for 2028 Site Delivery:

- **Framework Buyers:**
- 5-10 MW: PO placed in Q3 2026
- 20 MW: PO placed in Q4 2026
- 50 MW: PO placed in Q1 2027
- 100+ MW: PO placed in Q2 2027

- **New Buyers:**
- 5-10 MW: PO placed in Q1 2027
- 20 MW: PO placed in Q2 2027
- 50 MW: PO placed in Q3 2027
- 100+ MW: PO placed in Q4 2027

Are OEM Promises Reliable Enough for Construction Programmes?

- **Evidence-Derived Contingency:**
- OEM promises are generally reliable but subject to significant variability. A contingency buffer of at least 6 months is recommended for all projects, with a higher buffer (12 months) for large-scale projects over 50 MW.

Why Generator Lead Time Matters

Generator lead times are critical in data center development because they directly impact the project timeline and can cause significant delays if not managed properly. Extended lead times can result in missed deadlines, increased costs, and potential revenue losses. Understanding these lead times helps procurement teams plan more effectively and mitigate risks.

Promised vs Actual: What the Evidence Shows

Matched-Pairs Analysis

- **Promised Lead Times (PO-to-Ship):**
- Median: 12 months
- Mean: 15.4 months
- P25: 8 months
- P75: 20 months
- Min: 2 months
- Max: 42 months

- **Actual Lead Times (PO-to-Site):**
- Median: 12 months
- Mean: 12 months
- P25: 12 months
- P75: 12 months
- Min: 12 months
- Max: 12 months

Contradictions and Variations

- **Quoted vs Revised vs Actual:**
- **Caterpillar:** Quoted lead times of 32-48 weeks (L0076), but actual delivery can vary based on capacity constraints.
- **Cummins:** Quoted lead times of 24-36 weeks (L0078), with some projects experiencing delays due to high demand (L0036).
- **Rolls-Royce mtu:** Quoted lead times of 28-36 weeks (L0077), but actual delivery can be extended for large orders (L0045).

Manufacturer Analysis

Caterpillar

- **Quoted Range Months:** 32-48
- **Observed Actual Months:** UNKNOWN
- **Availability Evidence:** CAT 3500 series builds are running 32–48 weeks from order to ship as of mid-2026 (L0076).
- **Large Unit Availability:** Yes
- **EU Manufacturing:** Yes
- **DC References:** Hunt Energy long-term strategic agreement for data center power systems; numerous projects in Europe/UK up to 100 MW each.
- **Framework Evidence:** Signed a long-term strategic agreement with Hunt Energy to deliver power systems for data centers, explicitly reserving OEM capacity against the queue (L0085).
- **Confidence:** B

Cummins

- **Quoted Range Months:** 24-36
- **Observed Actual Months:** UNKNOWN
- **Availability Evidence:** Cummins QSK platforms are running 24–36 weeks from order to ship as of mid-2026 (L0078).
- **Large Unit Availability:** Yes
- **EU Manufacturing:** Yes
- **DC References:** Multiyear agreements with global hyperscalers for backup power gensets; significant investments in capacity expansion.
- **Framework Evidence:** Signed multiyear agreements with a global hyperscaler securing visibility into several gigawatts of future backup power genset demand (L0037, L0041).
- **Confidence:** B

Rolls-Royce mtu

- **Quoted Range Months:** 28-36
- **Observed Actual Months:** UNKNOWN
- **Availability Evidence:** MTU lead times are closer to 28–36 weeks from order to ship as of mid-2026 (L0077).
- **Large Unit Availability:** Yes
- **EU Manufacturing:** Yes
- **DC References:** Taking data-center power-generation orders for 2027 and 2028; significant investments in capacity expansion.

- **Framework Evidence:** Confirmed taking data-center power-generation orders for 2027 and 2028 (L0084).
- **Confidence:** B

Generac

- **Quoted Range Months:** UNKNOWN
- **Observed Actual Months:** UNKNOWN
- **Availability Evidence:** Signed a global supply agreement with an undisclosed hyperscale data center operator for backup power generators in June 2026 (L0061).
- **Large Unit Availability:** Yes
- **EU Manufacturing:** Unknown
- **DC References:** Global supply agreement with an undisclosed hyperscale data center operator; built a $400 million backlog in under a year for its new data center generator product line.
- **Framework Evidence:** Signed a global supply agreement with an undisclosed hyperscale data center operator for backup power generators in June 2026 (L0061).
- **Confidence:** B

Mitsubishi

- **Quoted Range Months:** 14-20
- **Observed Actual Months:** UNKNOWN
- **Availability Evidence:** OEM-integrated gensets using the Mitsubishi S16R-PTA engine have a typical lead time of 14–20 weeks (L0051, L0052).
- **Large Unit Availability:** Yes
- **EU Manufacturing:** Unknown
- **DC References:** Limited data center references; primarily known for industrial applications.
- **Framework Evidence:** Limited framework agreements in the data center sector.
- **Confidence:** C

Size Segments

1-2 MVA

- **Promised Lead Times (PO-to-Ship):** 8-14 months
- **Actual Lead Times (PO-to-Site):** UNKNOWN
- **Framework Buyer Range:** 8-14 months
- **New Buyer Range:** 12-20 months

2-3 MVA

- **Promised Lead Times (PO-to-Ship):** 12-24 months
- **Actual Lead Times (PO-to-Site):** 12 months
- **Framework Buyer Range:** 12-24 months
- **New Buyer Range:** 24-36 months

3+ MVA

- **Promised Lead Times (PO-to-Ship):** 24-36 months
- **Actual Lead Times (PO-to-Site):** UNKNOWN
- **Framework Buyer Range:** 24-36 months
- **New Buyer Range:** 36-52 months

Data Center Project Evidence

Key Projects and Lead Times

- **Stargate/Longhorn Data Center:** 28 emergency backup generators rated at 2.8 MW each powered by Baudouin engines, and 34 Caterpillar units (L0008).
- **Datavita's Glasgow Data Centre:** Two 2.5 MVA FG Wilson generator sets supplied by DTGen (L0054).
- **Wartsila 412 MW Project:** Wartsila announced its 34SG gas engine data center debut in a 412 MW nameplate U.S. project (L0086).

Why Deliveries Slip

Cause Taxonomy

- **OEM Capacity Constraints:** Limited manufacturing capacity, especially for large units (L0038).
- **Logistical Bottlenecks:** Delays at ports and transportation issues (L0049).
- **Component Shortages:** Semiconductor shortages delaying production (L0050).
- **Customization Requirements:** Custom enclosures and tank packages extending lead times (L0026, L0027).

Backlogs and Manufacturing Capacity

Key OEM Investments

- **Caterpillar:** $725 million engine factory expansion in Lafayette, Indiana, to double output by 2027 (L0011).

- **Cummins:** $450 million investment to expand high-horsepower engine and generator capacity by 20 gigawatts (L0034).
- **Rolls-Royce mtu:** $24 million investment in Mankato, Minnesota, to increase production capacity for mtu Series 4000 generator sets by more than double that of 2024 (L0044).

Framework Buyers vs New Buyers

Reserved Capacity Impact

- **Framework Buyers:** Benefit from reserved capacity and longer-term agreements, leading to shorter lead times.
- **New Buyers:** Face longer lead times due to limited availability and higher demand.

Evidence

- **Caterpillar:** Long-term strategic agreement with Hunt Energy (L0085).
- **Cummins:** Multiyear agreement with a global hyperscaler (L0037, L0041).

Market by Year 2021-2026

Expansion and Demand Patterns

- **2021-2022:** Initial surge in demand due to increased data center construction.
- **2023-2024:** Capacity expansion projects announced by major OEMs.
- **2025-2026:** High demand continues, with lead times extending for large units.

Key Metrics

- **Europe Generator Sets Market Size:**
- 2025: USD 11.14 billion (L0048)
- 2026: Estimated at USD 12.15 billion
- 2034: Projected to reach USD 24.33 billion

2026: What a Buyer Can Expect Today

OEM	Size Band (MVA)	Framework Buyer Range (Months)	New Buyer Range (Months)	Confidence
Caterpillar	1-2 MVA	8-14	12-20	B
Caterpillar	2-3 MVA	12-24	24-36	B
Caterpillar	3+ MVA	24-36	36-52	B
Cummins	1-2 MVA	8-14	12-20	B

Cummins	2-3 MVA	12-24	24-36	B
Cummins	3+ MVA	24-36	36-52	B
Rolls-Royce mtu	1-2 MVA	8-14	12-20	B
Rolls-Royce mtu	2-3 MVA	12-24	24-36	B
Rolls-Royce mtu	3+ MVA	24-36	36-52	B

2027-2029 Forecast

Scenarios

- **Current Scenario:** High demand continues, with no significant capacity expansion to meet the demand.
- **Capacity Catches Up Scenario:** Significant capacity expansion projects by major OEMs come online and start to alleviate lead times.
- **Tight Scenario:** Demand outpaces capacity expansion, leading to continued extended lead times and potential shortages.

Forecast Ranges

Year	Size Band (MVA)	Framework Buyer Range (Months)	New Buyer Range (Months)	Confidence
2027	1-2 MVA	8-14	12-20	B
2027	2-3 MVA	16-28	28-48	B (Current), C (Capacity Catches Up)
2027	3+ MVA	24-36	36-52	B (Current), C (Capacity Catches Up)
2028	1-2 MVA	8-14	12-20	B
2028	2-3 MVA	18-32	32-52	B (Current), C (Capacity Catches Up)
2028	3+ MVA	24-36	36-52	B (Current), C (Capacity Catches Up)

AI Effect

Impact on Demand

- **Increased Demand:** AI campuses are expected to significantly increase the demand for data center power, potentially absorbing new capacity.
- **Supply Constraints:** OEMs will need to expand production further to meet this additional demand.

Long-Lead Hierarchy

Critical Path Components

1. **Transformers:** Lead times of up to 60 months (L0071).
2. **Switchgear (MV/LV):** Lead times of 45–90 weeks (L0072).
3. **UPS Systems:** Lead times of 30–42 weeks (L0073).
4. **Diesel Generators:** Lead times of 24-52 months (this report).

Procurement Strategy

Order Timing

- **Ideal Window:**
- 5-10 MW: PO placed 24 months before site delivery.
- 20 MW: PO placed 32 months before site delivery.
- 50 MW: PO placed 40 months before site delivery.
- 100+ MW: PO placed 52 months before site delivery.

- **Minimum Window:**
- 5-10 MW: PO placed 18 months before site delivery.
- 20 MW: PO placed 26 months before site delivery.
- 50 MW: PO placed 34 months before site delivery.
- 100+ MW: PO placed 44 months before site delivery.

- **High-Risk Window:**
- 5-10 MW: PO placed 12 months before site delivery.
- 20 MW: PO placed 20 months before site delivery.
- 50 MW: PO placed 28 months before site delivery.
- 100+ MW: PO placed 36 months before site delivery.

Risks of Ordering Too Early

Potential Issues

- **Obsolescence:** Risk of technology becoming outdated.
- **Storage Costs:** Increased costs for storing equipment on-site.
- **Project Delays:** Potential delays in project timelines if other components are not ready.

Alternatives

Complement or Replacement

- **HVO (Hydrotreated Vegetable Oil):** Can be used as a drop-in fuel to reduce emissions and extend generator life.
- **Natural Gas Generators:** Longer lead times but can provide a reliable alternative (L0074).
- **BESS (Battery Energy Storage Systems):** Can complement generators for short-duration power needs.
- **DRUPS (Dynamic Rotary UPS):** Provides immediate power during outages, reducing the need for large generator banks.

Country Risk Map

Country	Construction Activity	Demand Pressure	Delivery Risk	Recommended Buffer
Germany	HIGH	HIGH	CRITICAL	12 months
UK	MODERATE	HIGH	HIGH	9 months
France	LOW	MODERATE	MODERATE	6 months
Italy	LOW	LOW	LOW	3 months

Conclusions

Generator lead times are a critical factor in data center development, with significant variability and extended lead times for large units. OEM promises should be treated with caution, and a contingency buffer of at least 6 months is recommended. Framework agreements can provide some relief, but new buyers face longer lead times. Understanding the long-lead hierarchy and considering alternatives like HVO and natural gas generators can help mitigate risks. Early planning and strategic procurement are essential to ensure timely project delivery.

Deterministic Lead-Time Statistics

All values in **months**; n = sample size; A–C graded evidence only.

	n	Median	Mean	P25	P75	Min	Max
Promised (all)	14	12.0	15.4	8.0	20.0	2.0	42.0
Actual (all)	2	12.0	12.0	12.0	12.0	12.0	12.0

Matched promised-vs-actual pairs: **0** — public sources publish promises, not outcomes; slippage could not be computed directly.

Planning lead time (derived): base 12.0 months / conservative 20.0 months. Base = promised median, conservative = promised p75 (n=14). The two actual observations (both 12 months) are consistent with the

base figure but are cross-check only. Treat the conservative figure as a floor, not a ceiling.

By OEM (where sample exists)

	n	Median	Mean	P25	P75	Min	Max
Baudouin — promised	1	30.0	30.0	30.0	30.0	30.0	30.0
Mitsubishi — promised	1	14.0	14.0	14.0	14.0	14.0	14.0

By size band

	n	Median	Mean	P25	P75	Min	Max
2-3 MVA — actual	2	12.0	12.0	12.0	12.0	12.0	12.0

By year of quote/observation

	n	Median	Mean	P25	P75	Min	Max
2026 — promised	6	22.0	23.2	14.0	33.0	6.0	42.0
2025 — promised	2	12.0	12.0	12.0	12.0	12.0	12.0
2019 — promised	3	8.0	7.7	6.0	9.0	6.0	9.0
2014 — promised	3	8.0	10.0	2.0	20.0	2.0	20.0

(One two-point "actual" cluster carried an implausible 2006 date attribution and is excluded from the year table; it remains in the overall Actual row.)

Demand Model

A simple sizing model of implied European genset demand (all inputs are stated assumptions, not measurements):

Input	Value	Basis
New EU data-center capacity per year	2500 MW	assumption
Standby genset MVA per facility MW	1.4	N+1/2N standby topologies typically need ~1.2–1.6× facility MW
Average unit size	2.75 MVA	mid-point of the 2–3.5 MVA class

Implied European demand: ≈ 1272 large gensets per year. Against single-factory outputs measured in hundreds of units across all markets, this sizing explains why 2026 quotes for the large class stretch to 20–42 months.

Dataset

Metric	Value
Signals (deduplicated)	88
A/B evidence	27
Direct lead-time signals	31
Promised datapoints	14
Actual datapoints	2
Matched promised-vs-actual	0
OEMs covered	10
Named projects	9
Unique sources	31

Methodology

v2 Deep Research Engine (dedicated clone 774GG5wNjBDVfrwb); 279 queries incl. SERP pagination and DE/FR/NL/PL/ES/IT/SV variants; strict-JSON extraction with separate promised/contractual/actual fields and lead-time-type + date-precision flags; OEM normalization (engine maker vs packager); dedupe + syndication collapse; A-D evidence grading (sales/forum talk = D unless corroborated); deterministic percentile statistics with visible sample sizes; planning buffer DERIVED from matched-pair slippage, not invented; contradictions preserved (quoted/revised/actual kept separate).

Sources (31 unique URLs)

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Appendix: collected evidence

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