China Southern Power Grid Dawatt AI system

IMPLEMENTED 2023–2026 · ENERGY AND UTILITIES · CHINA · BAND C · CLAIMED ONLY
VERSION 1.0 · PUBLISHED 15 NOVEMBER 2026 · UPDATED 15 NOVEMBER 2026 · FACTS CHECKED 15 NOVEMBER 2026

China Southern Power Grid has built a power-sector AI model system called Dawatt and added DeepSeek models to it in February 2025. By its own account, relayed by state media, AI now does the grid's load forecasting in place of manual forecasts, cuts fault handling times and runs 119 digital employees in Shenzhen. The figures are the company's own.

ABOUT THIS SYNOPSIS

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The impact band, proof marker and SEAM view are MarLuc's opinion. The organisation is not a MarLuc client and has not reviewed or endorsed this synopsis. Names and trademarks belong to their owners.

NOTICE WORDING LAST UPDATED 16 NOVEMBER 2026

AT A GLANCE

AI and automation used: Own power-sector model system (Dawatt) with DeepSeek models added, plus agents, 'digital employees' and machine learning for forecasting and inspection.

Implemented: 2023–2026. Grade: band C, Process change, Claimed only.

Headline result, as reported: AI load forecasting reported to have replaced manual forecasting across the grid, with DeepSeek models added to its Dawatt system in February 2025, by the company's account

1 · The case

The facts, as reported by the 5 sources listed at the end. Where a source is silent, the field says "Not reported".

Organisation

China Southern Power Grid (□□□□). Central state-owned electricity grid operator in southern China, running grids in Guangdong, Guangxi, Yunnan and neighbouring areas. Staff numbers are not reported in the sources opened. Canvas block: 4. Operations and process. Also 6. Data and technology, 5. People and skills.

Business challenge

The challenge. CSG says rising shares of new energy, a more complex grid and a widening gap in human resources create pressure on grid production and maintenance and that it applies AI across grid production and maintenance in response.

How it was addressed. CSG built its own power-sector model system, Dawatt, launched in September 2023 with Baidu, Huawei and SenseTime. In February 2025 it adapted DeepSeek series models into Dawatt, moving its language models from tens of billions to hundreds of billions of parameters. It reports using AI for weather and load forecasting, fault repair, line inspection, robots, back-office digital employees and customer service. It also reports building a computing platform on domestic chips. [1] [2] [3] [4] [5]

Who implemented it

DeepSeek (Model or cloud provider): Open-source models adapted into CSG's Dawatt system from 12 February 2025..
Baidu (Model or cloud provider): Joined CSG in launching the power-industry AI platform and Dawatt in September 2023, by CSG's account..
Huawei (Model or cloud provider): Joined the 2023 launch; its computing resources are scheduled on the platform, and its Ascend chips are named in the 2026 report..
SenseTime (Model or cloud provider): Joined the 2023 launch; its computing resources are scheduled on the platform..
In-house (In-house): China Southern Power Grid: Operates the Dawatt system, the AI platform and the digital employees, by its own account..
Kunlunxin and Cambricon chips are also named in the 2026 report as part of the domestic computing platform.

Technology (SEAM pillar E)

SEAM types: T6 Open-source / locally hosted models, T5 Custom / fine-tuned models, T7 AI agents, T8 Predictive / ML models. Deployment: Own infrastructure. Vendors and products: DeepSeek, Baidu, Huawei, SenseTime, Dawatt (□□□) model system, DeepSeek series models (adapted into Dawatt), Distribution repair commander agent, Digital employees, Dawatt Tianxiang weather model and load forecasting.

Where it was built in: Across dispatch and load forecasting, distribution fault repair, line inspection with drones, back-office tasks and customer service in Guangdong, Guangxi, Yunnan and other grid areas, by the company's account.

What changed

Before: load forecasts were made by people and fault diagnosis relied on staff experience. After, by CSG's account: AI load forecasting runs across the grid and replaces manual forecasts, and an agent identifies faults in seconds in Guangzhou, with staff acting on its output. [1] [2] [3] [4] [5]

What it cost

Not reported

What it saved

By CSG's account: load forecast accuracy from 97.2% to 98.78%; Guangzhou fault handling from 15 minutes to 1 minute, with more than 92 million yuan of investment cost saved a year; Shenzhen IT requests from 2 hours to 5 minutes and meeting minutes from half a day to 10 minutes; robot inspection time cut by 60% in pilots. [1] [2] [3] [4] [5]

Governance and control

CSG says it follows the principle of AI-assisted decisions with a human in the loop as the backstop, and reports 99.8% accuracy in AI security monitoring. It says its models passed evaluations by a ministry and by CAICT. An accountable owner and independent audit are not reported.

S2 · Accountable owner · Not reported
Not reported.

A1 · Safe use · Claimed
A state media commentary on CSG's plans lists security risks from large models as one of three challenges, alongside technology conversion and talent. [2]

A2 · Human in the loop · Claimed
CSG says it follows the principle 'AI-assisted decisions, with a human in the loop as the backstop'. [1]

A3 · Monitoring and assurance · Claimed
CSG reports that its Dawatt system was among the first to pass a ministry evaluation and that a multimodal version passed a CAICT industrial model maturity assessment; both are relayed from CSG's own account. [1] [4]

A4 · Vendor AI · Not reported
Not reported.

A5 · Agent controls · Not reported
Not reported.

A6 · Standards and regulation · Not reported
Not reported.

What worked, what did not, what is unproven

WORKED

– Faster fault handling in Guangzhou, by CSG's account.

– Forecast accuracy raised and manual forecasting replaced, by CSG's account.

– A DeepSeek service at Nanning citizen centre cut routine counter processing time by at least 15%, by CSG Guangxi's account.

DID NOT

– CSG Guangxi reported defect recognition accuracy of 85% for its transmission model in March 2025; CSG reported above 90% for the network in June 2026.

– A state media commentary named technology conversion, security risks and talent shortages as challenges.

UNPROVEN

– Whether results hold outside the pilot areas and without the original teams.

– How much of the gain comes from DeepSeek models as against Dawatt's own models and earlier machine learning.

– Cost of the programme; none is reported.

Sept 2023 CSG launches a power-industry AI platform and the Dawatt model with Baidu, Huawei and SenseTime [2]

Feb 2025 Dawatt adapts DeepSeek series models (12 February) [2]

Mar 2025 A DeepSeek application opens at Nanning citizen centre; CSG Guangxi reports a defect recognition accuracy of 85% for its transmission model [5]

2025 119 digital employees in Shenzhen carry out 850 million image and video inspections and 530,000 transactions, by CSG's account [1]

Jun 2026 CSG reports AI load forecasting accuracy of 98.78% and says it fully replaces manual forecasting [1]

Jul 2026 CSG reports robot inspection pilots in Shenzhen and Guangzhou substations [4]

2 · Grade and SEAM assessment

MarLuc's opinion, made on the evidence above. How cases are graded: marluc.co.uk/case-studies/how-we-rate

Level of change and impact

Claimed: Not applicable. Grade: C, Process change. Proof: Claimed only. Level of change: Process change.

Process change (Level 2, band C). Manual load forecasting is reported replaced; no change to jobs or structure is reported.

Graded C. Several processes are reported redone around AI, with manual forecasting replaced, and the company reports gains in time and cost. The results are the company's own, relayed by state media, with no independent check, so the marker is Claimed only. Much of the technology is machine learning and automation that predates DeepSeek, so the case is marked as partly AI.

The SEAM view and lessons learnt

The company has built layers: its own model system, adapted open-source models, agents for specific jobs and a platform on domestic chips. The reported gains attach to named tasks such as forecasting and fault handling. That is a useful pattern for an operator with many routine technical tasks. The figures are the company's own and most predate or sit apart from the DeepSeek adaptation, so the reader should not credit them to one model.

1. Attach each AI claim to one named task and its before figure.
2. Keep a person as the backstop for decisions that affect supply.
3. Separate results from older machine learning from results from newer language models.

Evidence

Score 1 of 4. Self-reported: the figures come from CSG and its staff, relayed by state media; no independent evaluation or audit is reported.

Evaluation method. Self-reported company figures: results published through state media; no independent evaluation.

3 · Original sources

Read these in full. To challenge a fact or a grade, use the contact form at marluc.co.uk or the link on https://marluc.co.uk/case-studies/china-southern-power-grid-dawatt

[1] China Energy News (People's Daily group, state media): □□□□□□□□ □□□□□□□□ (2026-06-01)
https://paper.people.com.cn/zgnyb/pc/content/202606/01/content_30160838.html

[2] China Energy News (state media): □“AI+”□□□□□□□□□□□□□□□□□□□□□□ (2025-03-17)
https://paper.people.com.cn/zgnyb/pc/content/202503/17/content_30063446.html

[3] China Daily Hong Kong edition (state media): SOEs actively deploying DeepSeek AI models
https://chinadailyhk.com/article/605545

[4] China Energy News (state media): □□□□AI□□□□2026□□□□□□□□□□□ (2026-07-20)
https://paper.people.com.cn/zgnyb/pc/content/202607/20/content_30170417.html

[5] China Energy News (state media): “AI+□□”□□□□□□□□□□□□□□ (2025-03-17)
https://paper.people.com.cn/zgnyb/pc/content/202503/17/content_30063485.html

Version 1.0 · Published 15 November 2026 · Updated 15 November 2026 · Facts checked against sources 15 November 2026 · Downloaded 26 November 2026. This PDF may be out of date: the latest version, and a way to report an error or a better source, is at https://marluc.co.uk/case-studies/china-southern-power-grid-dawatt

VERSION HISTORY

v1.0 15 November 2026 First published