Engineer Data

Resolved 1,000 issues in geographical data

Resolved 1,000 issues in geographical data and time-series data, using GDAL, ArcGIS, PostGIS, Mapbox, QGIS, SQL (PL/pgSQL, Transact-SQL), Bash, ensuring high-quality big data processing.

2022 – 2024

1,000

issues closed in geographical and time-series data

Situation. While working on a large-scale geospatial analytics project, the team encountered numerous inconsistencies and anomalies within the geographical and time-series datasets. These issues were affecting the accuracy of spatial analyses and decision-making tools used across several departments.

Task. The responsibility was to identify, resolve, and optimize over 1,000 data quality issues within these complex datasets to ensure the integrity and performance of downstream applications and visualizations.

Action. Spatial errors were systematically diagnosed and corrected using a combination of tools, including GDAL, QGIS, and ArcGIS, with automated workflows implemented in Bash scripting to streamline recurring data cleaning tasks. PostGIS handled advanced spatial queries and spatial indexing, and robust procedures were written in PL/pgSQL and Transact-SQL to manage and transform both geographic and temporal data within the PostgreSQL and SQL Server databases. Additionally, the cleaned data was integrated into interactive visualizations using Mapbox, enhancing data accessibility for end users.

Result. Through these efforts, over 1,000 critical issues were resolved, significantly improving data accuracy and processing speed. This directly contributed to a 35% reduction in spatial query run times and enabled more reliable spatial analyses for the team. The work ensured that high-quality, ready-to-use data was consistently available for analytics and reporting, supporting strategic decisions across the organization.

Bring this experience to your project

Use “Resolved 1,000 issues in geographical data” as a starting point for a similar challenge in your organisation. The services behind this work are available for your project. Numbers arriving where they are needed, on a schedule, without anyone copying a spreadsheet at the end of the month.

Explore our services Get in touch →

Look behind the result

Read the situation, decisions and result in this example. We can discuss which parts transfer to your constraints and which need another approach. Resolved 1,000 issues in geographical data — 1,000 issues closed in geographical and time-series data

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Wrestling with messy geospatial data?

Talk through your project with the engineer responsible for delivery. We agree the scope, price basis and handover in writing before work begins.

Role context: Data Engineer. It draws on Databases, PostgreSQL, SQL, Data Engineering, Data Pipelines (ETL/ELT), Data Governance, Automation & CI/CD, Performance Tuning and GIS / Geospatial. And while you are here, we are rather good at GIS & Geospatial Solutions, Data Pipeline Development (ETL/ELT) and Data Governance & Quality.

Get in touch Explore our services

One piece of **a longer record** — and it is all on this site.

Every entry is written the same way: the situation, the task, what we did and what changed.

See the whole record

Define the improvement you need

Bring a representative dataset, the questions it must answer and the current bottleneck. We can agree how to measure quality, throughput and recovery.

See what it costs Get in touch →

Wrestling with messy geospatial data?

Ask about the decisions behind “Resolved 1,000 issues in geographical data”. You will speak with the people who can explain the work and assess your own project.

Explore our services

welcome@engineer.company +45 50 10 61 84 Copenhagen, Denmark

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Contact card

Carefully Crafted With Love by D.

CVR 45969703 · Tagensvej 105C, 3. th, 2200 København N

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