

**Enabling AI in Energy**

Using AI for Expense Management Transformation

US\$1.5 M
savings from
expense optimization

Improved audit efficiency
Improved automated reporting
Rapid deployment and payback

Executive summary:

NowVertical's AI solution revolutionized Companhia Hidrelétrica do São Francisco S.A.'s (Chesf) expense management process. By deploying a continuous audit model, the solution efficiently identified and reduced improper payments, resulting in savings of R\$200k in the first month and projected yearly savings of R\$7.2MM (approximately US\$1.5M). With two months to implement, the solution demonstrated a payback period of only one month. Real-time monitoring, automated reporting, and seamless integration enhanced compliance and transparency, exemplifying the power of AI technology in optimizing organizational efficiency.

Business needs:

Companhia Hidrelétrica do São Francisco S.A. (Chesf), faced a critical business need to improve expense management across the organization. With over 5,000 employees and a wide network of power plants, Chesf encountered challenges in effectively auditing, managing, and reducing travel expenses incurred by its workforce. The existing manual processes and numerous spreadsheets led to errors, inconsistencies, and improper payments, impacting the company's financial efficiency.

Business results after AI implementation:

- Projected yearly savings of R\$7.2MM due to identifying and preventing erroneous expense claims.
- Streamlined expense management process through continuous audit model, saving time and effort on manual auditing.
- Real-time monitoring of expenses and automated alerts helped prevent further improper payments.
- Rapid deployment of AI solution, with a payback period of one month.

Using AI to manage and reduce expenses

Overview:

NowVertical, a leading AI solutions provider, was engaged by Companhia Hidrelétrica do São Francisco S.A. (Chesf) to address their challenges in managing and reducing travel expenses incurred by employees. The state-run utility company operated multiple power plants and faced difficulties in auditing and managing expenses due to errors and inefficiencies in their existing spreadsheets and reporting standards. NowVertical implemented an AI-powered data solution to enhance expense management and mitigate improper or erroneous claims being paid out.

Situation:

Chesf, a subsidiary of Brazil's state power holding Electrobras, operated 12 hydro power plants and a thermal plant with a total installed generation capacity of 10,331MW. The company had more than 5000 employees and struggled with managing expenses effectively. The audit group at Chesf identified the need for better methods to audit, manage, and reduce travel expenses incurred by employees. The existing process relied on multiple spreadsheets, which led to errors and inconsistencies. The lack of standardization and reporting breakdowns made it challenging to catch improper payments.

Approach:

Upon understanding Chesf's challenges, NowVertical proposed an AI-powered data solution to improve expense management efficiency. The approach involved deploying a continuous audit model that utilized



Oracle/MySQL Alteryx Python technology to tackle the problem effectively. The key steps in the approach were as follows:

Data Collection and Integration: NowVertical collaborated with Chesf to gather data from various sources related to travel expenses, including spreadsheets and other relevant databases. They integrated this data into a centralized platform for analysis.

AI-Driven Data Analysis: The NowVertical team used advanced AI algorithms to analyze the expense data. The AI solution scanned for patterns and anomalies that indicated improper or erroneous claims. This enabled the identification of potential cases of expense abuse or errors.

Real-Time Monitoring: The continuous audit model allowed Chesf to monitor expenses in real-time. The AI solution provided alerts and notifications whenever suspicious or irregular activities were detected, facilitating immediate action.

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Automated Reporting: NowVertical designed automated reporting tools to present the audit findings in a clear and easily understandable manner. The reports provided insights into expense trends, patterns, and areas of concern, aiding management in making informed decisions.

User-Friendly Interface: The AI solution was integrated into Chesf's existing expense management system, ensuring a seamless user experience for employees submitting expense claims and for the finance team conducting audits.

Outcome:

NowVertical's AI solution had a significant positive impact on Chesf's expense management process, resulting in the following outcomes:

Expense Reduction: The AI solution successfully identified improper payments and erroneous claims, resulting in a reduction of approximately R\$200k in improper payments within the first month of implementation. This amounted to a projected yearly savings of R\$7.2MM.

Efficiency Gains: The implementation of the AI solution streamlined the expense management process, reducing the time spent on manual auditing and error correction. The continuous audit model allowed for immediate action on suspicious

expenses, preventing further improper payments.

Rapid Deployment and Payback: NowVertical efficiently deployed the AI solution within just two months, including data integration, algorithm development, and system integration. The quick implementation led to a payback period of only one month, demonstrating the solution's effectiveness and value.

Improved Compliance: With real-time monitoring and automated reporting, Chesf achieved higher compliance levels in expense management. The solution helped establish clear reporting standards, enhancing transparency and accountability.

Conclusions:

NowVertical's AI-powered data solution brought significant improvements to Chesf's expense management process. By leveraging advanced AI algorithms and continuous auditing, Chesf achieved substantial cost savings and efficiency gains while ensuring better compliance and transparency. The successful collaboration between Chesf and NowVertical exemplifies the power of AI technology in addressing complex organizational challenges and driving positive outcomes.