

Elevating  
Aviation Safety:  
How Centiel's  
Innovative  
UPS Solutions  
Transformed  
Chile's DGAC  
Operations

**Case  
Study**

**Chile**  
Transportation  
industry

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## Introduction

Chile's Directorate General of Civil Aviation (DGAC), responsible for aviation safety and national airport infrastructure, was facing a critical problem. Their legacy standalone UPS systems essential for power protection, had become outdated and unreliable. This problem had serious implications for the power supply to key facilities, including the remote substation at the Arturo Merino Benítez Airport in Santiago and the equipment room at the Carlos Ibáñez del Campo Airport substation in Punta Arenas. The DGAC's mission to monitor and ensure the safety of airspace activities was in jeopardy due to aging equipment, lack of spare parts, and increasing power demands. The situation required an urgent and effective solution.

## Solution

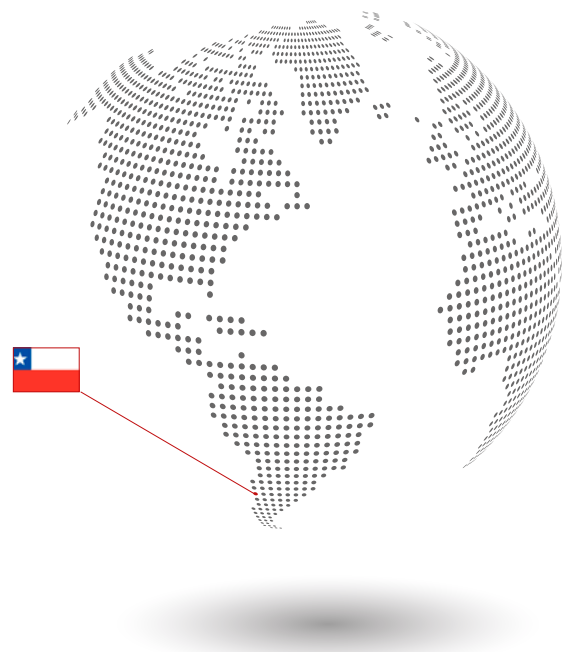
In 2020, DGAC took action to address this pressing issue by issuing an RFP to replace the aging UPS systems in two substations. Six companies responded to the RFP and Centiel, in collaboration with its channel partner MEE, emerged as the solution provider of choice. Centiel's CumulusPower™, a modular, scalable, and efficient UPS system, offered the necessary level of redundancy and robustness to protect critical power loads. This technology provided uninterrupted power to vital visual aid teams at the Arturo Merino Benítez Airport and critical equipment in Punta Arenas.

CumulusPower was deployed at the Remote Electrical Substation in Santiago, which is integrated into the airport's electrical grid. In the event of a power outage, the system provided a reliable backup with a 600 kVA three-phase substation and a 300 kVA emergency generator. A second installation of four CumulusPower modules 25kW UPS modules was installed at the electrical substation of Ap. Carlos Ibáñez del Campo in the city of Punta Arena. This system allowed for easy scalability and served as a backup for critical electronic equipment. In addition, two aging 80 kW standalone UPS systems were replaced and a new 15-minute battery bank was installed.

**Country:** Chile

**Industry:** Transportation industry

**Product:** CumulusPower™



The solution expanded beyond these two substations as Centiel was selected to replace power backup systems at DGAC's airport offices in various regions of Chile. These installations included a 40 kW CumulusPower frame and a 20 kW PremiumTower UPS, providing 15 minutes of autonomy and the potential for future expansion. Known for their technical superiority, Centiel's solutions provided the highest level of power availability, outperforming other bids in the tender.

Logistical coordination for the shipment to Punta Arenas was challenging due to time constraints and border crossing restrictions between Chile and Argentina. The installation at Cerro Divisadero was particularly challenging due to its remote location. The facility is located behind an extensive snow bank that is only accessible for a short period of time each year. During periods of restricted access, helicopter surveys were required to determine equipment delivery options that would meet the required timeframe.

Fortunately, CENTIEL's Swiss manufacturing facility successfully provided all the necessary equipment, installation, commissioning, and training within the timeframe.

The project took three weeks to complete and involved multiple teams in different locations. Each UPS installation required three to four days of installation, commissioning, and testing.

Centiel ensured that all personnel could be trained and that delivery and installation of the equipment could be completed in less than 45 days.

## Impact

Centiel's CumulusPower UPS installations have had a profound impact on DGAC's operations and the broader community. Quantitatively, the impact is significant. The new UPS systems have provided uninterrupted power, preventing data loss, equipment damage, and costly downtime. The DGAC is now able to maintain its mission of monitoring and ensuring safe airspace operations for domestic and foreign airlines. The availability of power to critical loads has increased operational efficiency and safety, saving significant time and financial resources.

Beyond the immediate benefits, these facilities have positive societal impacts. They contribute to the reliability and resilience of the nation's airport infrastructure, ultimately enhancing aviation safety. In the construction industry, it has alleviated potential labor shortages and improved worker safety by providing reliable power to support critical operations.

In addition, Centiel's advanced Distributed Active Redundant Architecture (DARA) ensures industry-leading 9 nines availability (99.999999999). This technology minimizes downtime, reducing it from seconds to milliseconds, and eliminates potential human error that can lead to power outages. This has far-reaching implications for industries and organizations seeking robust and reliable power solutions.

## Conclusion

Faced with a logistical challenge due to remote locations and limited access due to harsh weather conditions, Centiel successfully delivered equipment, installation, commissioning, and training within the specified timeframe. This ability to meet both technical and operational requirements has instilled confidence in the Centiel brand to protect DGAC facilities in Chile, ensuring the country's aviation safety and national airport infrastructure.



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