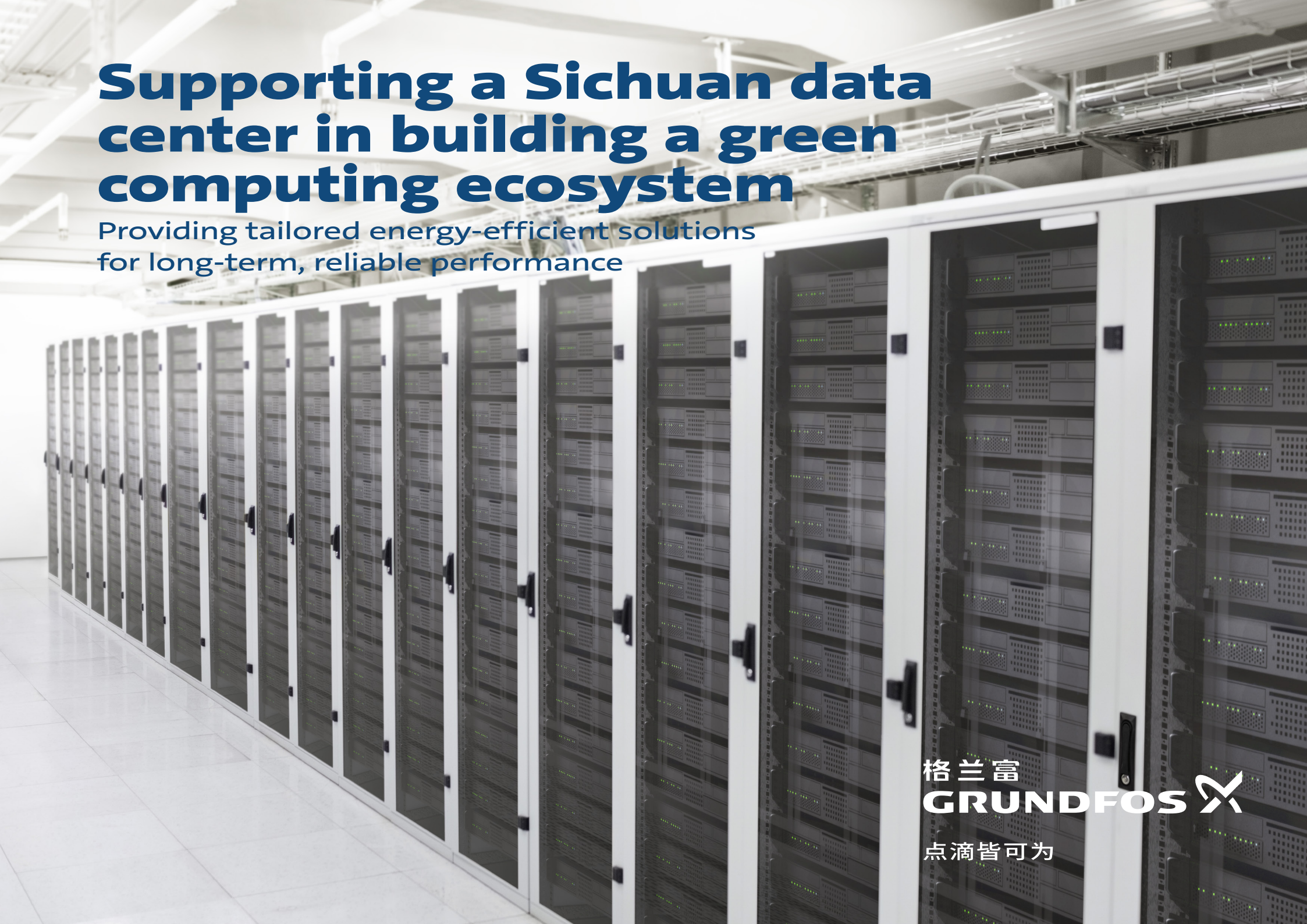
Supporting a Sichuan data center in building a green computing ecosystem

Providing tailored energy-efficient solutions for long-term, reliable performance



格兰富
GRUNDFOS
点滴皆可为

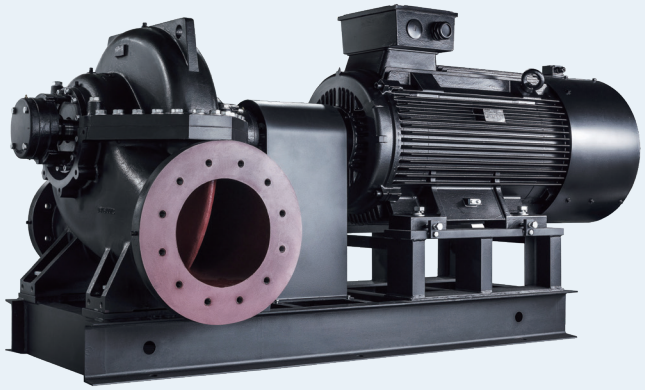
A modern data center in Sichuan needed a cooling solution that could meet high-intensity computing demands while minimising energy consumption and ensuring long-term reliability.

Grundfos provided an energy-efficient pumping solution for a large-scale data center in Sichuan, addressing the dual challenge of high-intensity computing demands and stringent energy efficiency requirements. By deploying 38 sets of split case pumps with advanced CU352 controllers, Grundfos reduced the center's energy consumption, improved the overall COP (Coefficient of Performance) of the cooling system, and ensured stable, uninterrupted operation.

The situation

The Sichuan data center was built to serve as a strategic hub for the region and a core engine for new infrastructure industries such as 5G, big data, cloud computing, and artificial intelligence. Its large scale and advanced technological requirements posed significant challenges for the air conditioning systems, which needed to be highly energy-efficient, low-consumption, and capable of delivering stable, reliable performance over the long term.

At the same time, rapid equipment installation, simplified maintenance, and comprehensive 24/7 after-sales support were essential, placing high demands on the operation and maintenance team. Efficient operation, ongoing maintenance, and continuous optimisation throughout the project were also key measures of success.



The solution

Grundfos delivered an energy-efficient solution for the data center, providing 38 sets of low-noise, low-vibration, and high-efficiency split case pumps along with HVAC control panels equipped with advanced CU352 pumping controllers.

The pumps' unique double-volute design balances radial forces on the shaft and impeller, extending the lifespan of mechanical seals and bearings, reducing vibration and noise, and ensuring extremely high pump head efficiency across a wide operating range. They integrate seamlessly with the Building Automation (BA) system, maintaining efficiency and low energy consumption during operation.

The CU352 controllers optimise performance automatically, adjusting pump curves to site conditions, calculating energy consumption in real time, and selecting the optimal number of pumps and frequencies to match demand.

In addition, the Grundfos after-sales team provides round-the-clock technical support, monitors equipment status in real-time, and offers early warnings for potential issues.

Customer satisfaction:

100%

38 sets
of split case pumps

24/7
uninterrupted stable operation,

365 days
a year

Energy-efficient, low-carbon consumption

The outcome

With its efficient and stable operation, the system significantly reduced energy consumption while meeting high-intensity computing demands.

The overall COP (Coefficient of Performance) of the cooling system was improved, and precise integration with the BA system supported the customer's goal of "low-carbon computing power." Intelligent pump control and continuous monitoring ensure reliable, uninterrupted operation, while the high-efficiency, low-vibration design extends equipment lifespan and reduces maintenance requirements.

With efficient response times and full lifecycle support, the aftersales team's 24/7 remote monitoring and data analysis ensure year-round stability, while also helping reduce operational costs due to simplified maintenance processes.

As a result, the data center can provide intelligent data processing and analysis services for Sichuan and surrounding regions, responding in real time to massive computing demands and supporting the development of a green computing industry ecosystem.