

Director of Digital Infrastructure

Digital infrastructure and innovation for Virunga's energy activities

Thomas Charbonnel is responsible for the safety & cybersecurity of energy-related digital infrastructure at Virunga.

Organisation and location: Virunga (virunga.org), energy activities | Goma and sites across North Kivu (DRC)

Mission

The post holder leads innovation and digital infrastructure for Virunga's energy activities: designing, operating and securing the digital systems used to produce, measure, distribute and add value to electricity in eastern DRC.

Responsibilities

- **Site digital infrastructure.** Networks, servers, real-time monitoring, backups and secure remote access for production and operations sites.
- **Computing power.** Monitoring and operation of the computing facilities powered by hydroelectric generation, including load shedding coordinated with the grid.
- **Smart Grid.** Deployment and integration of smart meters: data collection, data quality, network mapping and energy balance of the distribution network.
- **Innovation and R&D.** Bench testing, pilot projects and industrial partnerships, from idea to field deployment.
- **Systems security.** Access rules, separation of roles, logging, backups, review of the digital and artificial intelligence tools used by the teams.
- **Team.** Technical leadership of the IT team and contractors, training of on-site technicians.

Security and governance

The systems run by this position are part of a critical infrastructure: the electricity supply of tens of thousands of customers. The post holder applies constant security discipline: key-based access over an encrypted private network, accounts with limited rights, databases with separate read and write roles, access logs kept separately, nightly backups and a snapshot of the server before every significant change, and testing first on an isolated bench. The use of AI assistants for engineering is governed: approved by management, limited to internal tools, with no personal customer data.

Profile

- Strong command of networks and systems operations (Cisco CCNA certification, higher technician diploma in computer networks and telecommunications).
- Consulting experience in system and network infrastructure, then in network operations analysis (2016 to 2018).
- Blockchain research and development (2018-2019), managing a computing infrastructure company since 2019.
- With Virunga Energies since April 2025.
- Equally at ease in the field and in code: works in French and English, travels to sites across North Kivu.

Document created and written by Thomas Charbonnel, October 2026.