



PowerKonnekt

# Frequency Control

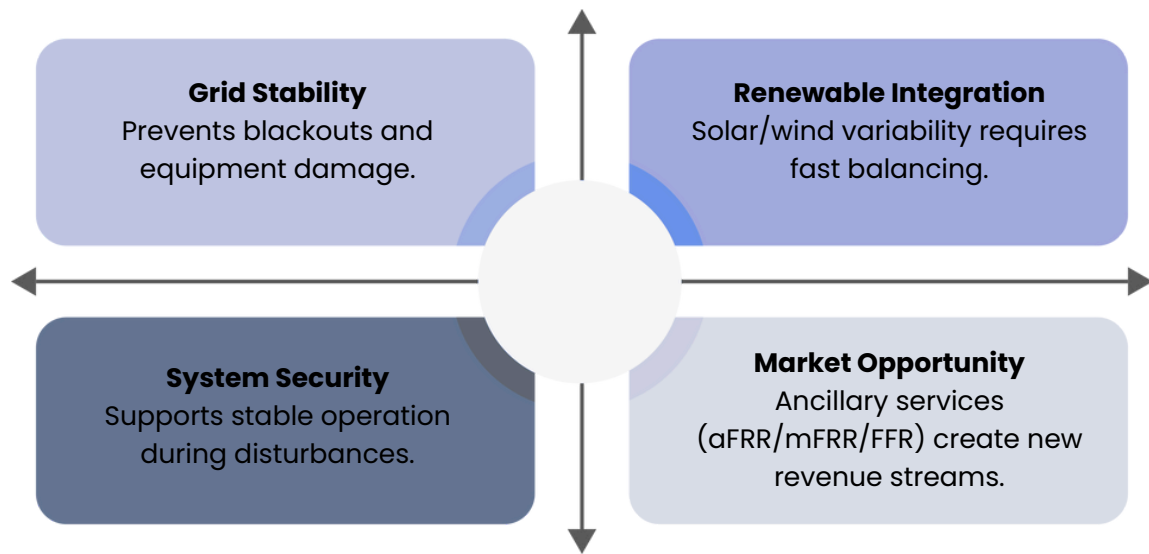


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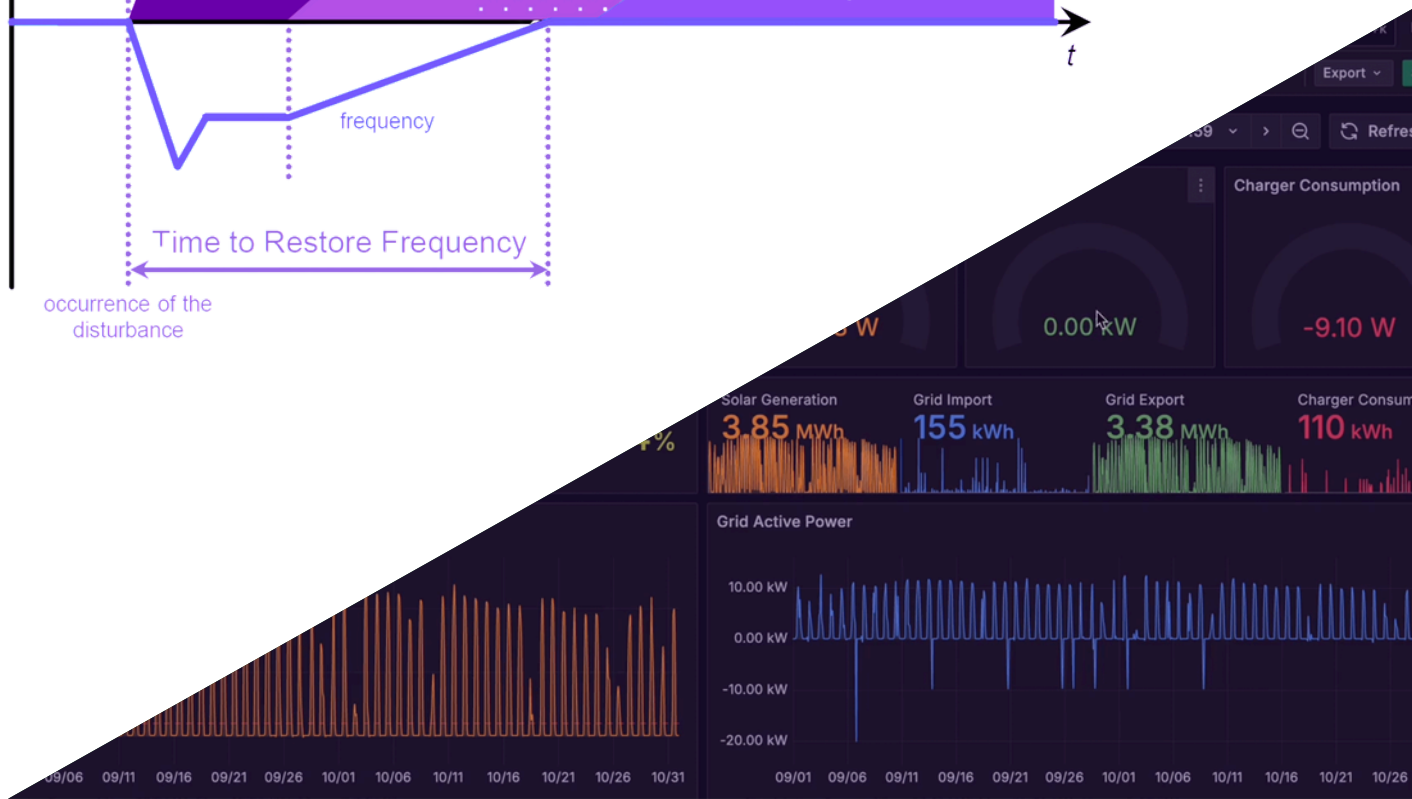
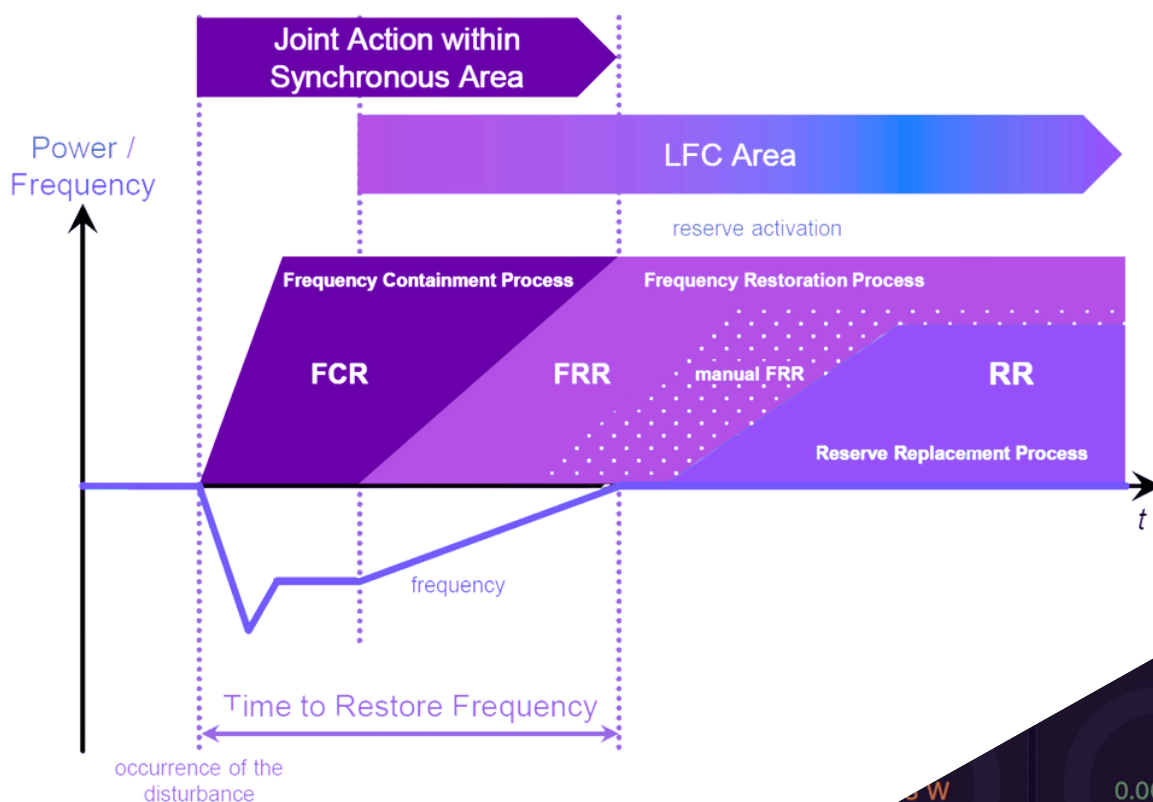
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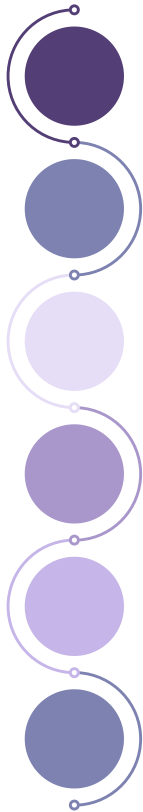


Frequency control ensures that grid frequency is kept within safe limits by rapidly balancing supply and demand.



## Frequency Control Reserve Architecture





**Instant Fleet Response:** Distributed assets react together to any frequency drift within seconds.

**Adaptive Power Adjustment:** Output is continuously reshaped based on system needs and asset limits.

**Centralized Frequency Intelligence:** One platform analyzes deviations and orchestrates the entire fleet's behavior.

**Continuous Stability Support:** Assets provide sustained regulation until frequency returns to nominal.

**Safe Operating Control:** Every activation respects battery health, temperature, and lifecycle boundaries.

**Event-Aware Automation:** The system detects disturbances and activates predefined response strategies automatically.

## CASE STUDY

**Project:** FCR-N with C&I Scale BESS

**Size:** 200kW/430kWh

**Location:** Finland

### Key Capabilities Demonstrated

- Zero-Injection Enforcement
- Grid Code-Compliant Frequency Response
- Arbitrage based on dynamic market prices
- Multi location application enabling operation as one system as well as individually



### Outcome

- Protect the grid while stabilizing customer operations
- Deliver grid-code-compliant frequency response for lucrative ancillary services income
- Lowering energy costs by time-of-use optimization and self consumption
- Avoid penalties by upholding strict zero-export requirements
- Transparent, auditable system behavior

