

# MANAGING ELECTRICITY TRANSMISSION NETWORKS

## Working in Partnership

The Cyprus Transmission System Operator aims to:

- Secure the reliable and least cost transmission of electrical energy
- Secure the balance of generation and demand of electrical energy
- Secure uninterrupted supply of electricity to all consumers
- Restore supply after Generation and Transmission Systems disturbances
- Operate in an objective manner the electricity market

### CHALLENGES

- Harmonisation of electricity network (integrated transmission grid, sustainability, Med-TSO, ENTSO-e)
- Electricity market (liberalization, independent producers / suppliers, competitive environment)
- System operation (safe, secure, economic, promote renewable generation)

### RESEARCH

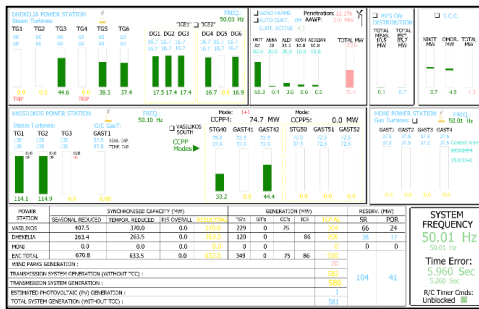
- Wind parks curtailment
- Load modelling (voltage and frequency dependency, rotating loads)
- Study different scenarios (system load, RES penetration, curtailment, interconnection, electricity storage)
- Over-frequency control mode for wind parks
- Novel in-house algorithm

### IMPACT

- Transmission and distribution rules
- Trading and settlement rules
- Secure, reliable and sustainable electricity system
- Increase social welfare

### INNOVATION

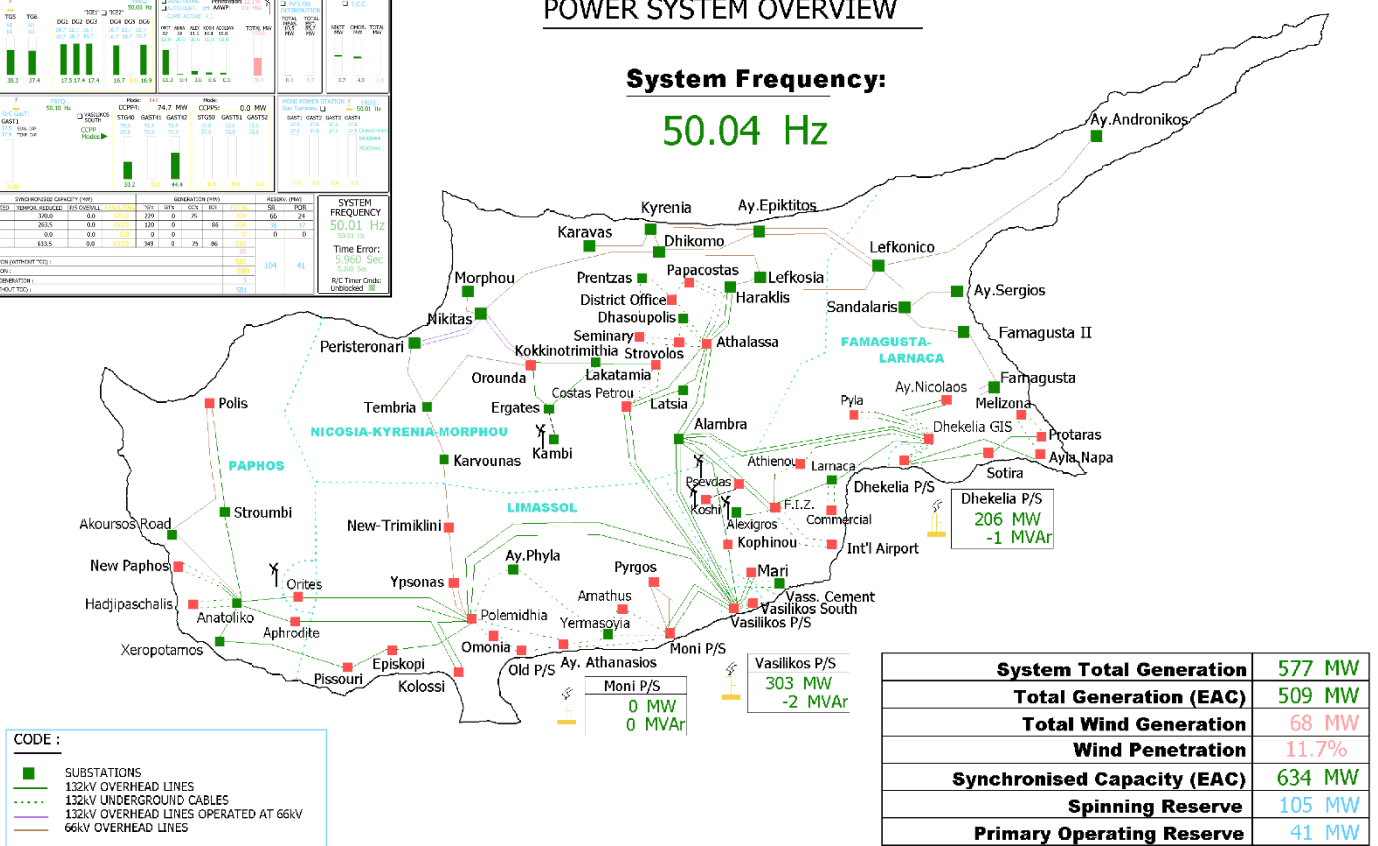
- Novel in-house algorithm
- Long-term forecasts based on different scenarios
- Virtual worlds for operator training simulators
- 3D environment for virtual training
- Novel in-house algorithms



### POWER SYSTEM OVERVIEW

System Frequency:

50.04 Hz



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