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15th Edition
ELECRAMA
Powering the Future of Energy

eTECHnxt
20-21 February, 2023
ELECRAMA, Hall 2 & Hall 4



Remote Measurement for complex power systems

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Synaptec

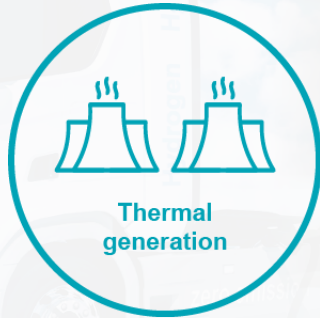


Agenda and Context

1. How to decarbonize power system monitoring architectures ?
2. How to measure remote power system parameters – passively ?
3. How does this help to reduce cost and improve resiliency?



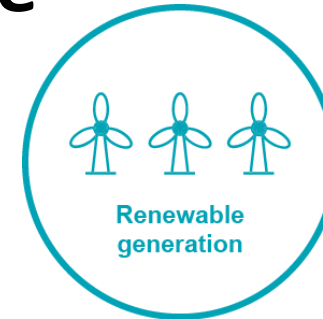
The power industry challenge



Thermal
generation



Decarbonised, decentralised, & digitalised



Renewable
generation

- Integrate renewables
- Repurpose legacy infrastructure
- Reduce cost
- Safely optimise capacity



Without impacting

- Resiliency
- Safety
- Risk
- Cost of energy

Requires more distributed sensors for better visibility and control

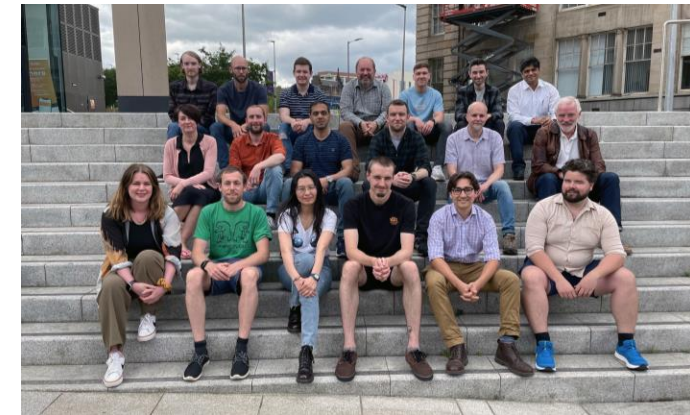


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Synaptec

- Remote measurement with **passive sensors outside the fence**
- No power, no telecoms, no data, no buildings, no maintenance
- Scottish Enterprise certified carbon NEGATIVE technology



Some of our customers



Remote measurement reduces Capex and saves Opex

Conventional monitoring in remote locations is cost prohibitive – Synaptec is not



- Power supplies, copper wiring, active electronics
£10,000 – £50,000



- Dedicated telecoms network access
£80,000 – £100,000



- Civil works
£100,000 – £200,000



- Scalability for multipoint synchronous monitoring
£millions



Applications and benefits



- Synchronous, permanent streaming data up to 14.4 kHz
- Correlated and published in one stream
- Simplifies analytics by looking for anomalies over time

Improves

Application

Benefits

Years

Minutes

Milliseconds

Asset Performance Management	'Odd One Out' analytics	Anomaly-based condition maintenance decisions Earlier warning of more remote failure modes
Real-time monitoring	Distributed Power Quality	Locate source of harmonics accelerating degradation
	DLR / RTTR	More accurate and granular ratings for remote assets (OHL, cables)
	Threshold alarms	Better informed control room decisions Works where 4G / IoT cannot
Multi-zone protection	Multizone protection	Differential protection for complex circuits Discrete auto-reclose for underground faults in mixed circuits

Summary and Q&A

Capex
Opex
Risk



Resiliency
Security
Safety
Control



- Wide area protection and control with zero power or telecoms cost
- Synchronous, scalable, live condition monitoring data
- Earlier failure warnings, optimised scheduled maintenance

Can we help you reduce cost?





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Thank You

For discussions/suggestions/queries email:-----