

A RESILIENT ENERGY FUTURE



VECTO



CT LAB was founded in 1990 by partners Willie van Wyk & Dr Jacobus van Zyl in Stellenbosch, Cape Town.



MCMXC



ABOUT CT LAB

VECTO



Originally CT LAB's mission was to deliver power quality solutions that address the unique needs of South Africa & the continent beyond.

ABOUT CT LAB

VECTO



Today, CT LAB's mission is to empower a resilient global energy future through real-time grid intelligence.

ABOUT CT LAB

VECTO



CERTIFIED

9001 QUALITY MANAGEMENT

14001 ENVIRONMENTAL

45001 HEALTH & SAFETY

IMPLEMENTING

27001 INFORMATION PROTECTION

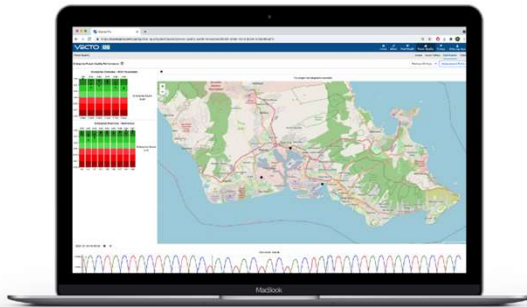
ISO CERTIFICATION

VECTO



OUR TECHNOLOGY

VECTO



MITIGATE RISKS, ENSURE STABILITY.

VECTO SYSTEM

Unprecedented real-time synchronised grid visibility

Fleet of remotely installed VECTO Devices

Waveform synchronised to <math><100\text{ns}</math>

Broadband

Multifunction

Adaptable

Under secure control of VECTO Grid OS

Enterprise class Big Data technology

Supporting tens of thousands of IP connected devices

Supporting hundreds of simultaneous users



Multifunction Waveform Synchronised Power Quality Analyser

1.5MHz Sampling Rate

- 500kHz analog bandwidth
- 50kHz diagnostic waveform capturing
- IEC 61000-4-30 ED 3.1 Class A

PQI

oPMU

PMU

SCADA

METERING

VECTO 3.4

VECTO



Hyper-Speed Waveform Synchronised Transient & Power Quality Recorder

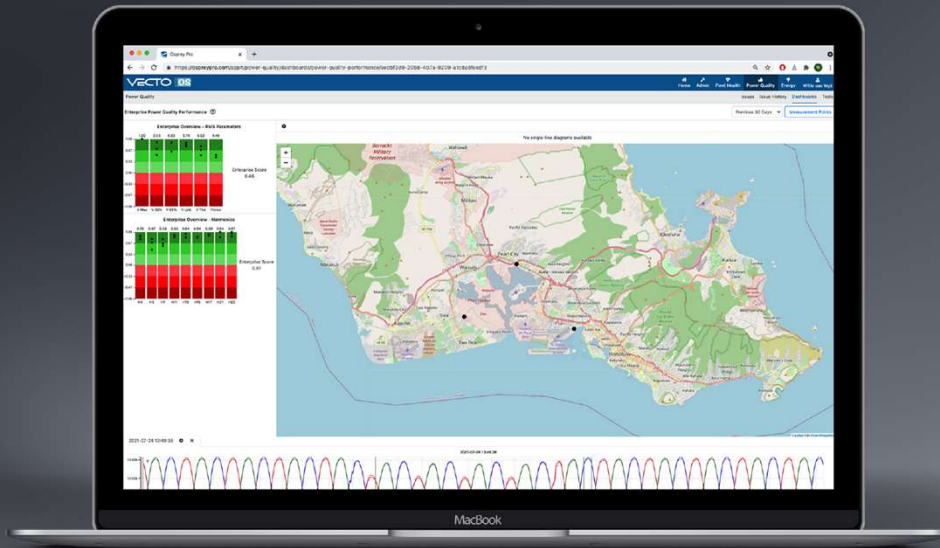
5.0MHz Sampling Rate

- 2.5MHz analog bandwidth
- 5.0MHz diagnostic waveform capturing
- IEC 61000-4-30 ED 3.1 Class A



VECTO TRANSIENT

VECTO



VECTO GRID OS

Cloud-based, Big Data Platform

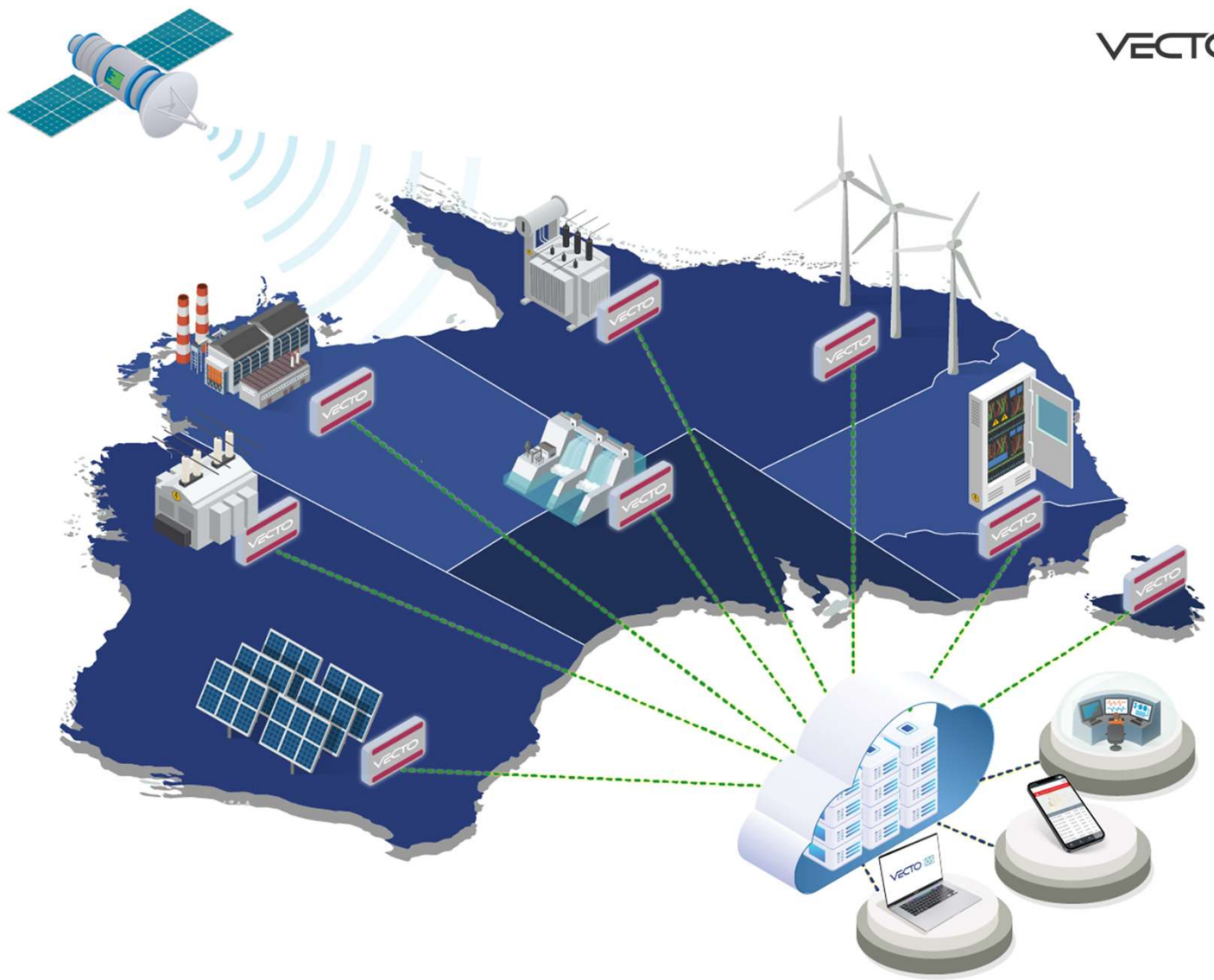
CT LAB CLOUD HOSTED OR
INSTALLED BEHIND FIREWALL ON PREMISES

VECTO GRID OS

VECTO

System

VECTO





SPECIALIST APPLICATIONS

VECTO



VECTO

Frequency Control Ancillary Services (FCAS)

- VECTO Grid OS Application
- Automates Australian Grid Operator (AEMO) FCAS verification and reporting requirements.

SPECIALIST APPLICATION

oPMU Oscillation Phasor Measurement Unit

- Embedded SW Module
- Accurately identifies time synchronised oscillation phasor data in three different frequency bands from DC up to 43Hz (Identical to Synchrophasor data)
- Stream it in real-time via IEEE C37.118 protocol

SPECIALIST APPLICATION



FINLAND



WEST MURRAY





LOUDTSHOORN



WORCESTER



STELLENBOSCH

Rigorously field tested in Southern Africa

VECTO's grid management system (now in its 4th generation) has been rigorously field-tested on the challenging Southern African power grid, with Thousands of edge computing devices currently deployed throughout Africa.

VECTO



Quick to Respond

Active R&D function quick to respond to market needs



Subject-matter Experts

Three decades experience in power grid monitoring



Live Support

Full time support team for IT & technical troubleshooting



Scalable

Supports from one device up to tens of thousands of devices



Adaptable Technology

Hardware & software can 'grow' with market needs.

Our Strengths

VECTO

ANY QUESTIONS?



VECTO