

pacworld
PROTECTION, AUTOMATION & CONTROL WORLD AFRICA CONFERENCE 2026

PAC WORLD Africa 2026

20 - 23 April 2026, Johannesburg



**PROTECTION, AUTOMATION & CONTROL WORLD
AFRICA CONFERENCE 2026
Johannesburg, South Africa**



Monday 20 April, 2026

Johannesburg, South Africa, Eskom Academy of Learning (EAL)

- 12:00 – 17:00 Conference registration
- 13:30 – 17:00 Tutorial: "Digital transformation of the electric power grid"
by Dr. Alex Apostolov, USA and Florian Fink, OMICRON electronics, Austria
- Digital transformation – what, why and how
 - AI and Digital transformation
 - Digital transformation and Asset management
 - Open discussion



Tuesday 21 April, 2026

Johannesburg, South Africa, Eskom Academy of Learning (EAL)

- 9:00 – 9:15 Conference opening - Dr. Alexander Apostolov, Conference Chairman
- 9:15 – 9:45 Keynote address: "The technical focus of CIGRE" by Rannveig J. S. Loken -
Head of Protection department, Statnett, Norway, CIGRE TC Chair

Morning Session TUM Part 1:

Chair: Ndumiso Nxumalo, Eskom, S. Africa

- 9:45 – 10:00 What is MMS? Beyond SCADA to Comprehensive Substation Intelligence - R. Lehutso, NTCSA, South Africa
- 10:00 – 10:15 Proposal for Protection Settings Adjustments for Inter-Turn Fault Detection in Air-Core Shunt Reactors - L. C. Pereira Grilo, A. A. Pereira Cruz, T. Duarte Moreira, J. P. Bezerra Sampaio, TAESA, Brasil; Marcos Vinícius Pimentel Teixeira, IME, Brazil
- 10:15 – 10:30 High Channel Density Fault Recording with IEC61850 Sampled Values - Challenges and Benefits -
A. Madhyastha, AMETEK Power Instruments, India
- 10:30 – 10:45 Discussions
- 10:45 – 11:15 Coffee break at the Exhibition areas

Morning Session TUM Part 2:

Chair: Ndumiso Nxumalo, Eskom, S. Africa

- 11:15 – 11:30 Modernizing Transmission Grid Operations: Implementing Secure Remote Access and Automated Data Collection with NTCSA's Engineering and Data Concencetrator Solutions (EADS) - K. Manyapetsa, E. Mugivhi, S. Mkhatswa, Eskom NTCSA, South Africa; S. Wong, SUBNET Solutions Inc., Canada
- 11:30 – 11:45 Forward or Reverse...in which direction should we go? - C. Louw, NTCSA, South Africa
- 11:45 – 12:00 From Terminal to Control Center: Automated Signal Testing for Reduced Verification Time - O. Durak, B. Tahincioglu, OMICRON electronics GmbH, Austria
- 12:00 – 12:15 Bus Transfer Application and Operational Failure Analysis on an 11 kV Reticulation System at a Coal-Fired Power Station - W. Seima, V. Mathebula, N. Tshikororo, L. Maseko, Eskom, South Africa
- 12:15 – 12:30 Discussions
- 12:30 – 13:30 Lunch break at the Emgeni Dining Room – Exhibition areas open

Afternoon Session TUA Part 1:**Chair: Matankiso Mohlokoana, NTCSA, S. Africa**

- 13:30 – 13:45 AI-Driven Digital Transformation for Enhancing Industrial Physical Security in Unmanned Remote Operations: Physical Security Designs - Mmeli Mthembu, Samkelisiwe Khoza, Kgomotso Manyapetsa, Eskom, South Africa
- 13:45 – 14:00 A Practical Guide to Designing and Deploying OT SDN Networks - R. Meine, Schweitzer Engineering Laboratories, Inc., USA
- 14:00 – 14:15 AI Based Substation Operating Interlocking Rules - H. Mhlongo, NTCSA, South Africa
- 14:15 – 14:30 From Oscillography to Implementation: The Disturbance Discussion Forum (DDF) as a Platform for Practical Learning in Power System Protection - L. Grilo, A. Cruz, J. Sampaio, T. Quintino, D.I Pereira, TAESA, Brazil; R. Jogaib, SEL, Australia
- 14:30 – 14:45 IEC 61850 and Power Quality (PQDIF) in accordance with IEC TR 61850-90-17 - L. Rappel, A. Eberle GmbH & Co. KG, Germany
- 14:45 – 15:00 Discussions
- 15:00 – 15:30 **Coffee break at the Exhibition areas**

Afternoon Session TUA Part 2:**Chair: Matankiso Mohlokoana, NTCSA, S. Africa**

- 15:30 – 15:45 Demystifying IT-OT Convergence: Strengthening Critical Infrastructure Security Through DMZ Implementation and Cross-Domain - K. Manyapetsa, Eskom NTCSA, T. Biyela, Siphulathuthu, South Africa
- 15:45 – 16:00 Digital Twin as a Practical Engineering Tool for Improving Efficiency, Reliability and Execution Speed in Protection and Automation Systems - T. Pitso, D. Mabilo, Siemens, South Africa
- 16:00 – 16:15 Digital Transformation of Distribution Management Systems - A Case of ZESCO Limited in Zambia - D. Katongo, R. Nsontaulwa, ZESCO Limited Zambia; A. Irudayasamy, OMICRON electronics Middle East, Bahrain
- 16:15 – 16:30 GFM Integration to Legacy Schemes: Opportunities and Challenges - B. Green, T. Bruwer, N. Mdletshe, V.C. Mathebula, ESKOM, South Africa
- 16:30 – 16:45 Evolving Practices for High-Quality SCD Files in Modern Integrated Substations - R. Singh, eThekweni Energy Management Directorate, South Africa; A. Irudayasamy, OMICRON electronics Middle East, Bahrain
- 16:45 – 17:00 Discussions
- 17:00 **PAC Demo Hour+ at the Exhibition areas**

Wednesday 22 April, 2026**Johannesburg, South Africa, ESKOM Academy of Learning (EAL)****Morning Session WEM Part 1:****Chair: Rannveig Loken, Statnett, Norway**

- 9:00 – 9:15 Strengthening NTCSA's Wide Area Monitoring Capability: Current PMU Status, Data Delivery Challenges and Standardization - C. Louw, NTCSA, South Africa
- 9:15 – 9:30 Data Digitization in Substations Using Mobile Devices and Generative Artificial Intelligence - J. C. Sánchez, F. Fink, OMICRON electronics, Austria
- 9:30 – 9:45 Digitization of Physical Layer Devices in Power Plants Incorporating Ethernet to Support Grid Stability & Resilience - K. Manyapetsa, M. Mthembu, S. Mhlongo, NTCSA, South Africa; M.i Dlamini, ESKOM, South Africa; S. Sithole NTCSA, South Africa
- 9:45 – 10:00 Redundant but not Resilient? – Fixing NTP Failover, PRP Designs and MACsec Gaps in Modern Substation Networks - R. Lehutso, NTCSA, South Africa P. Diamandis, Quadnet Computer Systems, South Africa; T. Craven, H3iSquared Trading, South Africa

- 10:00 – 10:15 Configuring and Testing a Multi-vendor Busbar Protection Scheme using IEC 61850 Sampled Values: Experience Report from Cigré WG B5.74 - P. Flores, Axia, Brazil; D. Lellys, Consultant, Brazil; A. Dierks, Alectrix, South Africa; A. Melo, Schneider Electric, Spain; S. Vijayaraghavan, Spie, Netherlands; R. Goblirsch, Siemens, Germany
- 10:15 – 10:30 Discussions
- 10:300 – 11:00 **Coffee break at the Exhibition areas**

Morning Session WEM Part 2:

Chair: Rannveig Loken, Statnett, Norway

- 11:00 – 11:15 Evaluation of Ultra-High-Speed Line Protection, Traveling-Wave Fault Locating, and Circuit Breaker Reignition Detection on a 220 kV Line in the Kalahari Basin, Namibia - S. Sharma, D. Joubert, R. Kirby, G. Smelich, Schweitzer Engineering Laboratories, Inc., USA and South Africa
- 11:15 – 11:30 Virtualization Challenges in Supervisory Control and Data Acquisition Systems: A Case Study of Legacy Migration at Power Station Water Treatment Plant - S. Mhlongo, NTCSEA South Africa,
- 11:30 – 11:45 Didactic Analysis of How Grid-Following IBR Modeling Influences Power Swing Dynamics and Protection Response in Low-Inertia Systems. - J. P. Bezerra Sampaio, TAESA, Brazil; F. Lopes, UFPB, Brazil; A. Cruz, L. Grilo, T. Quintino, TAESA, Brazil
- 11:45 - 12:00 Upstream Protection Intertripping: A Temporary Solution to Mitigate Against the Risk Posed by Accessing or Working in Close Proximity to Underrated Switchgear - E. Ngomane, Eskom Distribution, South Africa
Contributing to a Large Interruption of Supply. - Kgosietsile Mabalane, Malcolm Govender, Eskom, South Africa
- 12:00 - 12:15 Initial Results of Testing Redundant Time Synchronization and Recovery Analysis of Protective Relays - P.Francis-Mezger, OMICRON Energy, USA; G. Wrosinghert, Meinberg USA, USA
- 12:15 – 12:30 Discussions
- 12:30 – 13:30 **Lunch break at the Emgeni Dining Room – Exhibition areas open**

Afternoon Session WEA Part 1:

Chair: Eugene Ngomane, ESKOM, S. Africa

- 13:30 – 13:45 Implementation of Regular IED Firmware Updates: How Can the Pain be Relieved? - K. Jagdaw, Bongani Qwabe, NTCSEA, South Africa; A. Dierks, Alectrix, South Africa; V. Jansen van Rensburg, Siemens, South Africa
- 13:45 – 14:00 Maximizing Inverter-Based Generation Performance for PV and Storage Generation Facilities - B. Waldron, Schweitzer Engineering Laboratories, Inc., USA
- 14: 00 – 14:15 Automating Corrective Control – Deployment of a Wide Area Monitoring, Protection and Control System on the Zambian Interconnected Power System - S Lungu, D. Katongo - ZESCO Limited, Zambia
- 14:15 – 14:30 Challenging Lifespan Myths: Obsolescence Management in Cyber-Physical Power Systems - K. Manyapetsa, H. Mhlongo, Eskom NTCSEA, South Africa
- 14:30 – 14:45 Homologation and Acceptance Testing Protocol of Protection IEDs in ultra-high Voltage Systems: Ensuring Power System Reliability through Compliance with the SIN Grid Code - L. Grilo, A. Cruz, J. Sampaio, T. Quintino, TAESA, Brazil
- 14:45 – 15:00 Discussions
- 15:00 – 15:30 **Coffee break at the Exhibition areas**

Afternoon Session WEA Part 2:

Chair: Eugene Ngomane, ESKOM, S. Africa

- 15:30 – 15:45 Automation Generation Control and Grid stability - N. Nxumalo, ESKOM, South Africa

- 15:45 – 16:00 Deterministic OT Cybersecurity for IEC 61850 Substations: From Protocol Monitoring to Automated Network Enforcement - A. Mohamed, OMICRON electronics Middle East, Bahrain; O. Durak, OMICRON electronics GmbH, Austria
- 16:00 – 16:15 The Role of IEC 61850 in Optimizing Substation Automation Systems and Configuration Tools Using a Bottom-Up Approach - T. Bereng, D. Motsoahole, S. Sithole, H. Mhlongo, D. Gojela, NTCSA, South Africa
- 16:15 – 16:30 Performance Evaluation and Field Validation of a Double-Ended Fault Location Method via Teleprotection Using Transient Simulation Software in FAT Environment - T. Duarte Moreira, Siemens, Brazil; L. Claver Grilo, A. Augusto Cruz, J. Sampaio, TAESA, Brazil; J. Jorge, OMICRON, Brazil
- 16:30 – 16:45 Six-Phase Transmission - What? Why? & How? - A. Apostolov, PAC World, USA
- 16:45 – 17:00 Discussions
- 18:00 **Conference Dinner at the WINGS Bistro, Grand Central Airport**

Thursday 23 April, 2026

Johannesburg, South Africa, ESKOM Academy of Learning (EAL)

Morning Session THM Part 1:

Chair: Alex Apostolov, PACWorld, USA

- 9:00 – 9:15 Enhancing Security in Substations: The Role of An Intrusion Detection System (IDS) in Substation Automation Networks - R. Lejusto, K. Halefose, K. Manyapeta, S. Sithole, NTCSA, South Africa; T. Biyela, Siphulathuthu, S. Africa
- 9:15 – 9:30 Auxiliary Power and Communication Link Failures in Generator Protection Systems: Operational Lessons and Recommendations Fibre Cable - Case Study - Z. Mzekandaba, W. Seima, V. Mathebula, N. Tshikororo, Y. Dilinga, NTCSA, South Africa
- 9:30 – 9:45 Double ended travelling wave fault location using unsynchronized data – J. Blumschein, SIEMENS, Germany
- 9:45 – 10:00 Real-Time Enhanced Situational Awareness: Integrating IEDs, TW, and Environmental Intelligence in Transmission Control Centers - A. Cruz, L. Grilo, J. P. Bezerra, T. Quintino, TAESA, Brazil
- 10:00 – 10:15 Discussions
- 10:15 – 10:45 **Coffee break at the Exhibition areas**

Morning Session THM Part 2:

Chair: Alex Apostolov, PACWorld, USA

- 10:45 – 13:00 **Interactive Session - Ask the Experts:**
- 13:00 – 14:30 **Lunch break at the Emgeni Dining Room – Exhibition areas open**
- 14:30 **Closing of the Conference**





Take your game to the next level

....in a world evolving at a fast pace, it's essential to keep up with emerging technologies.

Our expertise, spanning nearly four decades, evolves from our unwavering commitment to innovation. Whether your professional game is digital, analog, or both: as pioneers in the context of IEC 61850, we provide you with protection test sets designed to tackle the challenges of today and tomorrow.

Unlock the full potential of IEC 61850 and revolutionize your testing processes with the **CMC 500**.



omicron.energy/new-cmc



OMICRON 



The Right Device for Every Application



PAC World | Stand 15

We deliver reliable, efficient, and stable power network solutions.



info@a-eberle.co.za
www.a-eberle.co.za

SecuControl[®]

South Africa
Test Interfaces for Power Systems



ASSEMBLED
IN
SOUTH AFRICA



www.secucontrol.com

E-mail: sales-za@secucontrol.com
Tel: +27 (82) 850 9023

Address:
Unit 18 Miracle Retail Park
Cnr Old Johannesburg Road & Lenchen Ave
Centurion, 0046

**Leaders in grid modernization
have something in common.**

pacworld
Meet us at
BOOTH 11

**They use the RTDS[®] Simulator
to test their systems.**

WRTDS
Technologies
AMETEK

RJCONNECT
Innovative connectivity

MOXA
Reliable Networks | Sincere Service

Leading the Next Era of Secure Connectivity

MXsecurity
MXview ONE
IEC 62443-4-2

**Tel: +27 11 781 0777 | Email: sales@rjconnect.co.za
Website: www.rjconnect.co.za**

OMICRON



WHY CHOOSE OMICRON?

SOUTH AFRICA



LOCAL OMICRON **REPAIR
AND CALIBRATION**
CENTRE



TEAM OF
SUPPORT ENGINEERS
AT YOUR FINGERTIPS

24/7 support

TECHNICAL SUPPORT
DURING OPERATING, TESTING
AND MEASUREMENTS



OMICRON
TRAINING **ACADEMY**

Alectrix
5 YEAR WARRANTY

WORLDWIDE



TRUSTED BY CUSTOMERS IN
172 COUNTRIES
WORLDWIDE

SHARE KNOWLEDGE WITH
INTERNATIONAL AND LOCAL
INDUSTRY PEERS
VIA OUR EVENTS



PHYSICAL OFFICES
IN 19 COUNTRIES



**At our best
when the environment is
at its worst...**

H3I Squared supplies and supports Siemens RUGGEDCOM industrial networking solutions built for harsh and mission-critical environments.

As a Siemens Solution Partner, we help clients select, deploy and support their networking needs



Solution Partner

Automation Drives

SIEMENS

h3isquared.com



Transform your electrification infrastructure

Electrification X – Smart energy network management

Electrification X helps renewable energy, utilities, data centers and infrastructure industries meet the challenges of the energy transition — all with one integrated platform.

Bridging the physical and digital worlds with a scalable IoT Software as a Service (SaaS) suite, built to help industries and operators optimize power systems, build resilience and achieve long-term efficiency goals.



SIEMENS

Conference Dinner - WINGS Bistro



Wednesday, April 22, 2026: 18:00 – 22:00

Join us for our Conference Dinner, where we always have a great time and a great meal! This is included in your conference registration. Enjoy dinner and networking on the large patio near the airfield. This dinner is also when all the photo contest awards are announced, including the popular vote. Such a fun time to mingle with others from the PAC Community.

Location: WINGS Bistro: Grand Central Airport 3 New Rd, Glen Austin AH, Midrand, 1685, South Africa

6pm – welcome drinks, appetizers, and mingling

7pm – seat for dinner

8:30pm – photo contest awards ceremony



the Gala Dinner is
kindly sponsored by OMICRON electronics

OMICRON



Organizing Committee:

Matankiso Mohlokoana, Gert Madonsela, Jacques Strydom (Eskom Transmission, South Africa), Anelja de Bok (Active Capture, South Africa), Alexander Dierks, Andre Huddleston (Alectrix, South Africa), Angela Sayegh (PAC World, USA)

For any issues and questions related to the organization of the PACW Americas Conference please e-mail to Angela Sayegh at: angela.sayegh@pacw.org

Advisory Committee:

To ensure that the PAC World magazine and conference are at a high level that meets the needs of the industry, we have invited world known experts in the field of electric power systems protection, automation and control as members of the magazine Advisory Board and the conference Advisory Committee.

They help us with their ideas, comments and suggestions to improve the content and quality of the magazine and the conference.

The members of the PAC World Advisory Board and the PAC World Conference Advisory Committee are (in alphabetical order):

Christoph Brunner, Switzerland
Prof. Peter Crossley (UK)
Prof. Xinzhou Dong (China)
Jorge Miguel Ordacgi Filho (Brazil)

Rodney Hughes (Australia)
Prof. Paul Lee (Korea)
Rannveig Loken (Norway)
Dr. Damir Novosel (USA)

Dr. Iony Patriota (Brazil)
Prof. Mohindar Sachdev (Canada)
Graeme Topham (South Africa)
Dr. Volkmar Leitloff (France)

We want to say "Thank you!" to the people and companies that made PAC World Africa 2026 happen.

- **Advisory Committee**
- **Organizing Committee**
- **Authors of papers and conference participants**
- **Exhibitors**
- **Sponsors:**

Platinum Sponsor:

OMICRON



Silver Sponsor:

Alectrix

Bronze Sponsors:



SIEMENS

Lanyard Sponsor:



Thank you, All

