

Preliminary Announcement

Call for Papers

The 2019 General Meeting and PIESA-IERE South Africa Forum

“Electricity & the 4th Industrial Revolution – an Africa perspective”



Sun City, South Africa

October 28 - 31, 2019
Sun City, South Africa

Organized by PIESA and IERE



Electricity & the 4th Industrial Revolution – an Africa perspective

About the theme

What is the 4th Industrial Revolution?

In a nutshell, it is the advancement and emergence of new technologies that is ushering in a new era that sees a greater impact of digitization on our lives, in ways that are new and unanticipated.

As a quote from an article on the World economic forum website, “The Fourth Industrial Revolution can be described as the advent of “cyber-physical systems” involving entirely new capabilities for people and machines. While these capabilities are reliant on the technologies and infrastructure of the Third Industrial Revolution, the Fourth Industrial Revolution represents entirely new ways in which technology becomes embedded within societies and even our human bodies.”

With emerging technologies moving at a rate of knots, the question then is, what do we want these technologies to do for us and what impact will it have on all of us?

As the novelist William Gibson famously said: “The future is already here – it's just not very evenly distributed.” Indeed, it is time to see an even distribution of this potential. It is time for Africa!

Who should attend?

The Forum is intended for experts actively involved in the selected themes, from IERE members and non-members, as well as all those interested in the evolution of the electrical power industry and the technology development and business development opportunities associated to this evolution. IERE will invite prominent speakers for keynote speeches.

Outline Schedule:

Monday	October 28, 2019	Welcome Reception (In the evening)
Tuesday	October 29, 2019	2019 PIESA-IERE South Africa Forum (Day 1), Official Dinner
Wednesday	October 30, 2019	2019 PIESA-IERE South Africa Forum (Day 2), Social Event (Optional)
Thursday	October 31, 2019	Safari Tour (Optional)

Program & Session themes

Session structure and speakers may be subject to change according to the submission of contributions.

October 28, 2019

Welcome Reception

October 29, 2019

Plenary Session

Opening Address:	IERE Chair
Welcome Speech:	PIESA Chair
Keynote Speech:	Details to be announced

General Session [I]

The report of IERE activities by IERE chair and IERE central office

General Session [II]

The report of TIS activities by PIESA

Session 1

Theme: Evolving 4IR technologies and its effect on the customer

There is no doubt digital transformation has blurred the line between man and machine, but in the process, it has also created countless opportunities to engage and assist customers. As the Fourth Industrial Revolution continues to evolve, the key to business success will be evolving simultaneously in order to provide a revolutionary customer experience. IoT, for example, is in the early stages of maturity, and most customers have yet to unlock the full potential and functionality of connected devices.

Potential topics include:

1. Disruptive technologies
2. The internet of things (IoT)
3. Artificial intelligence (AI)
4. Advanced robotics
5. Distributed manufacturing

Session 2

Theme: 4IR's impact on revenue collection and non-technical losses

The revenue model on which utility businesses are based on is under threat from the shifting industry norms. The 4th industrial revolution is underway and already utilities are witness to digitalisation, decarbonisation and decentralisation – all affecting their traditional revenue collection strategies and non-technical losses mitigation approaches.

Potential topics include:

1. Smart meters
2. Evolving business models
3. Deflection of customers from the grid
4. Impact of Distributed energy resources on a utilities revenue
5. Innovative tariff models

October 30, 2019

Session 3

Theme: Asset Management – let's get smart about it

Distribution power companies are subject to increasing quality, safety and environmental constraints that, in a highly competitive arena, call for the maximization of asset reliability, efficiency and flexibility, while operation and maintenance costs are reduced. To this end distribution energy companies are adopting an intelligent asset management approach to asset management. Smart or intelligent asset management is a cutting-edge technology that is being increasingly adopted by various industries, and with future inclusion of Industrial Internet of Things ("IIOT"), it is deemed as a sheer necessity in a manufacturing facility where downtime / slowdown affects the bottom line results.

Potential topics include:

1. Smart intelligent systems for effective asset management
2. Smart asset management systems
3. Cyber physical systems
4. Big Data, Cloud Computing and M2M communication.
5. Industrial Internet of Things ("IIOT")

Session 4

Theme: Advanced distribution automation in the 4IR era

The goal of Advanced Distribution Automation (“ADA”) is real-time adjustment to changing loads, generation, and failure conditions of the distribution system, usually without operator intervention. This necessitates control of field devices, which implies enough information technology (IT) development to enable automated decision making in the field and relaying of critical information to the utility control centre. The IT infrastructure includes real-time data acquisition and communication with utility databases and other automated systems. Accurate modelling of distribution operations supports optimal decision making at the control centre and in the field. In the era of the 4IR we are going to see a significant convergence of Operating Technologies (“OT”) and Information Technologies (“IT”) underpinned by smart communications to achieve the goal of ADA.

Potential topics include:

1. Data preparation and analytics
2. Computer-aided simulation
3. Distribution operation model and analysis
4. Fault location, isolation, and service restoration
5. Advanced Voltage and Var Control

Session 5

Theme: Distributed Renewable Energy Technologies: Are we ready?

At the distribution level, increasing numbers of renewables and Distribution Energy resources (“DERs”) in general present a host of issues. One of the major challenges is that distribution system operators must transition from managing the safety and reliability of a system with a limited number of energy producers and unidirectional and predictable flow from substations to customers to a system with power flows from many sources at varying times of day and in different directions. These changes mean not only greater operational complexity, but also more complex maintenance and emergency operations. The result will be needed modifications in the design and operation of the distribution system and investments in new or upgraded circuits as well as additional tools, sensors and communication systems

Potential topics include:

1. Impact of DER’s on a utility’s revenues
2. Evolving business models to accommodate increasing ingress of renewables on a utility’s business
3. The need for an effective regulatory environment to accommodate DER’s
4. Funding of renewable energy technologies
5. Safe grid integration of DER’s

Closing Remarks

October 31, 2019

Safari Tour (optional)

Details to be announced

Poster Session

Details to be announced

Exhibition

Details to be announced

Call for Papers

<<**Abstract Submission: No later than July 15, 2019**>>

You are kindly invited to submit abstracts for the Oral Session or Poster Session for the 2019 South Africa Forum by e-mail.

to: **register (at) iere.jp** [Please substitute “ (at) ” with “@”]

IERE Central Office

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As for the **format of the abstract**, please refer to “Events” page on IERE website (Coming soon).

- Abstract is uploaded to IERE’s website and open to the public after the Forum.
- The medium of communication is English.

Registration

Detailed information on Registration will be announced in the First and Second Announcements, which will be delivered later.

Registration Fee

The Registration fee will be informed later. Registration fee will cover attendance for the conference, reception/cocktail, Lunch and Official Dinner, conference package.

Accommodation and travel costs will be at the delegates own account.

Details including cancellation policy will be announced in the First and Second Announcements.

Conference Venue & Accommodations

Conference Venue

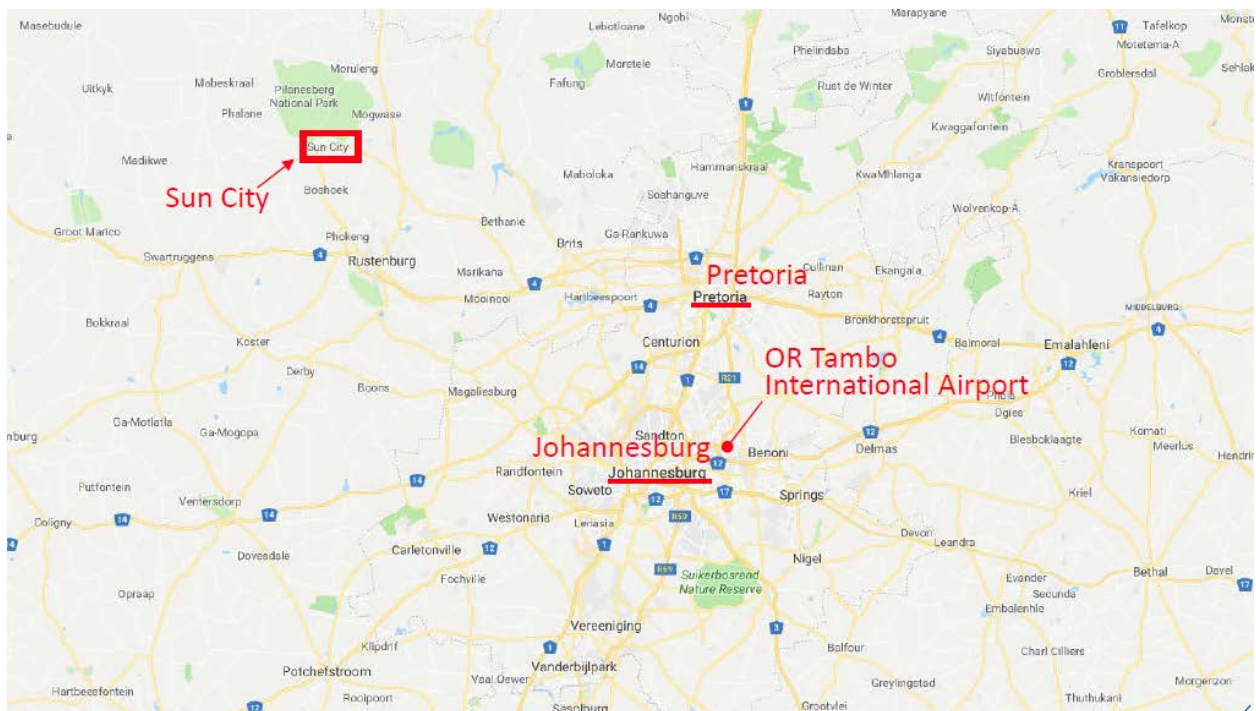
Sun City Conference Centre, South Africa

Location: Sun City Resort, 0316, North West Province, South Africa

Website: <http://www.suninternational.com/sun-city/>



Location of Sun City



<https://goo.gl/maps/cAVLNs9mAak>



Accommodations

Sun City Resort, South Africa (Various hotel options at the resort)

Location: Sun City Resort, 0316, North West Province, South Africa

Website: <http://www.suninternational.com/sun-city/>

Rooms at special rates will be prepared for conference participants.

Details to be announced

About PIESA

The Power Institute for East and Southern Africa (PIESA) is a voluntary regional power utility association established on 28 February 1998.

The PIESA aims to improve electrification in East and Southern Africa through sharing information, research, technology, skills and experiences for the benefit of customers and suppliers in the electricity distribution industry.

The main focus is on technical rationalisation to achieve economies of scale with local manufacturers in an effort to enhance electrification in the region.

The PIESA's core activities are conducted through its four Advisory Committees:

- Electrification
- Non-Technical Loss Reduction
- Environmental and Safety Management
- Standardization

Website: <http://piesa.publishpath.com/>

About IERE

IERE is an organization for exchanging electricity and energy related cutting-edge technologies and R&D information among its members from the electricity & energy supply industry, equipment provider businesses, academic research, government, etc. This unique platform is of great help for executives, senior managers, engineers, and researchers who are responsible for R&D and solutions. It is a worldwide, non-profit organization, established as "International Electric Research Exchange" in 1968.

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