



**GLASGOW, SCOTLAND**  
**12-15 JUNE 2017**

The **24<sup>th</sup>** International  
Conference and Exhibition  
on Electricity  
Distribution

Europe's leading international conference &  
exhibition on power distribution engineering

# Advance Preview Programme

The Scottish Exhibition and  
Conference Centre (SECC),  
Glasgow, Scotland, UK

**PEOPLE  
MAKE  
GLASGOW**

**CIRED 2017 Organisers**

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**Register your place at [www.cired-2017.org](http://www.cired-2017.org)**



The Scottish Exhibition and Conference Centre (SECC), SSE Hydro and Clyde Auditorium.

CIRED 2017 Sponsors



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# What is CIRED?

CIRED, the leading forum where the electricity distribution community meets, holds the major International Electricity Conference & Exhibition every two years in different venues across Europe, with worldwide perspective and participation.

CIRED works for the purpose of increasing the business relevant competencies, skills and knowledge of those who see themselves as a part of the electricity distribution community, whether they are from the utility, product, consultancy, service, business or academic sectors.

## Conference format

Monday 12 June
Tutorials
Opening Forum
Welcome Reception

Format below is a guide only. Final timing and location of sessions to be confirmed.

MAIN SESSIONS	ROUND TABLES & RIF	POSTER SESSIONS
Tuesday 13 June		
<b>SESSION 3</b> Operation, control and protection	<b>SESSION 2</b> Power quality and electromagnetic compatibility	<b>SESSION 1</b> Network components
<b>SESSION 4</b> Distributed energy resources & active demand integration	<b>SESSION 6</b> Challenges for DSOs in new business environments	<b>SESSION 5</b> Planning of power distribution systems
Wednesday 14 June		
<b>SESSION 2</b> Power quality and electromagnetic compatibility	<b>SESSION 1</b> Network components	<b>SESSION 3</b> Operation, control and protection
<b>SESSION 6</b> Challenges for DSOs in new business environments	<b>SESSION 5</b> Planning of power distribution systems	<b>SESSION 4</b> Distributed energy resources & active demand integration
Thursday 15 June		
<b>SESSION 1</b> Network components	<b>SESSION 3</b> Operation, control and protection	<b>SESSION 2</b> Power quality and electromagnetic compatibility
<b>SESSION 5</b> Planning of power distribution systems	<b>SESSION 4</b> Distributed energy resources & active demand integration	<b>SESSION 6</b> Challenges for DSOs in new business environments
Friday 16 June		
Technical Visits		

# Welcome to CIRED 2017

## From Roger Hey, Chairman

The venue for CIRED 2017 is the terrific SECC, Glasgow, with outstanding facilities ideal for the dynamic CIRED event. SECC is centrally located in Glasgow with excellent travel links, and I am sure you will receive a warm welcome from the people of Scotland.

## The programme

The programme for CIRED 2017 reflects the ever-changing business and political demands of all aspects of electricity distribution. It represents the interests of all sectors of the industry – utilities, regulators, manufacturers, consultants, universities and research centres.

Record levels of abstracts and papers for CIRED 2017 demonstrate the ever-increasing strategic importance of the CIRED event.

## Opening forum

The opening forum features strategic presentations and discussion. The keynote presentations will focus on the changing nature of energy production and consumption by customers, including distributed generation and electric vehicles. Leading figures drawn from the different sectors of our industry will then respond to the keynote, giving delegates an insight into future challenges from a variety of perspectives. The keynote presentations are immediately followed by a panel discussion. Delegates will have the opportunity to question panel members and contribute to the discussion.

## Delegate choice

Delegate choice is a major factor in the success of CIRED, and this continues in Glasgow in 2017. The well-developed CIRED format includes presentations and discussion led by expert Chairmen and Rapporteurs, poster sessions, round tables, tutorials, and a major international exhibition.

CIRED 2017 is made possible by the great efforts of many contributors. I would like to thank the National and Liaison Committees, the Technical Committee, the Directing Committee, the authors who have provided a record number of abstracts and papers, and my colleagues of the Organising Committee.

I look forward to welcoming you to Glasgow in June 2017.

A handwritten signature in blue ink that reads "R Hey".

## Roger Hey

Chairman, CIRED 2017 Organising Committee



View of the Clyde Arc bridge

# Important participant information



## Registration

The registration fee entitles the attendee to the following:

- attend all the conference sessions
- participate in the discussions
- visit the exhibition and poster sessions
- receive a USB including all the reports presented during the technical sessions upon arrival at the conference
- receive the Special Reports upon arrival at the conference
- the Conference discussion record published on the website after the conference
- the delegate bag handed out upon registration
- morning and afternoon refreshments
- attend the opening ceremony on Monday 12 June 2017
- participate in the welcome reception on Monday 12 June 2017

## Official language

English will be the official language for both spoken and written literature. No translations will be provided.

## WiFi

WiFi will be provided throughout the Conference.

## Drinks reception

A drinks reception will follow the opening ceremony on Monday 12 June 2017 and will mark the opening of the CIRED 2017 Exhibition in the SECC. To register your attendance, please visit [www.cired-2017.org](http://www.cired-2017.org).

## Gala dinner

The CIRED 2017 gala dinner will be held at the Doubletree by Hilton on **Wednesday 14th June**.

<b>Dress code:</b>	Formal dress
<b>Drinks reception:</b>	19.00
<b>Dinner:</b>	19.30
<b>Entertainment:</b>	21.30
<b>Close:</b>	01.00



# Opening forum

The Opening Forum will be held on Monday 12 June 2017 at 15:00 hrs in the main Auditorium of the SECC.

## Energising Networks for Tomorrow



### Introductions and welcome

Chair

#### Roger Hey

National Committee Chairman



### Relevance of CIRED in a changing energy environment

15:05 hrs

#### Theodor Connor

Chairman of CIRED



### The importance of academic research to support changing customer needs

15:15 hrs

#### Sir Jim McDonald

University of Strathclyde



### The opportunities for business led innovation in the Energy Sector

15:25 hrs



### Supply Chain readiness to facilitate network transformation

15:45 hrs

#### Gerhard Seyrling

President of T&D Europe Grid Solutions, a GE and Alstom joint venture



### The role of the DSO, smart grids and flexibility markets

16:05 hrs

#### Frank Mitchell

CEO of SP Energy Networks

16:25 hrs

### Panel discussion and questions

Jim McDonald, Gerhard Seyrling, Frank Mitchell

John Scott, Roger Hey





# Technical programme

A series of tutorials will be held on Monday 12 June 2017 to offer attendees the opportunity to enhance their knowledge in specific areas.

## Registration includes:

- access to one tutorial
- tutorial notes for your chosen session
- refreshments
- lunch

## TUTORIAL 1

### Data analytics in Smart Grids

**Dr Zacharie De Greve**, *University of Mons, Belgium, Electrical Power Engineering Unit*

**Prof. François Vallee**, *University of Mons, Belgium, Electrical Power Engineering Unit*

**Dr. Fabian Lecron**, *University of Mons, Belgium, Engineering Innovation Management Unit*

**Anant Venkateswaran**, *GE Grid Solutions, USA*

## TUTORIAL 2

### Modelling and dynamic performance of inverter based generation in power system transmission and distribution studies

**Herwig Renner**, *Graz University of Technology, Austria, Co-Convenor of JWG CIRED/CIGRE C4-C6.35*

**Koji Yamashita**, *Central Research Institute of Electric Power Industry (CRIEPI), Japan, Co-Convenor of JWG CIRED/CIGRE C4-C6.35*

**Sergio Martinez**, *Villanueva, Red Electrica de Espana, Spain*

**Petros Aristidou**, *University of Leeds, UK*

## TUTORIAL 3

### Advanced distribution management system challenges incorporating distributed energy resources

**Mark McGranaghan**, *EPRI, USA*

**Roger Dugan**, *EPRI, USA*

**Graham Ault**, *Smarter Grid Solutions, UK*

**Christian Noce**, *Enel, Italy*

## TUTORIAL 4

### Supraharmonics (2 kHz to 150 kHz) in low voltage networks

**Jan Meyer**, *Institute of Electrical Power Systems and High Voltage Engineering, Technische Universitaet, Dresden, Germany*

**Math Bollen**, *Luleå University of Technology, Skellefteå, Sweden*

**Sarah Rönnerberg**, *Luleå University of Technology, Skellefteå, Sweden*

**Matthias Klatt**, *Institute of Electrical Power Systems and High Voltage Engineering, Technische Universitaet, Dresden, Germany*

## TUTORIAL 5

### Short circuit current

**Jonathan Berry**, *Western Power Distribution, UK*

**Ali Kazerooni**, *WSP | Parsons Brinckerhoff, UK*

**Neil Murdoch**, *WSP | Parsons Brinckerhoff, UK*

# Technical Sessions: Main, Round Tables and RIF, and Poster Sessions

Three full conference days cover the six main conference themes, namely:

Session 1	Network Components
Session 2	Power Quality and Electromagnetic Compatibility
Session 3	Operation, Control and Protection
Session 4	Distributed Energy Resources and Active Demand Integration
Session 5	Planning of Power Distribution Systems
Session 6	Challenges for DSOs in New Business Environments

For more information on topics to be covered in each session, visit [www.cired-2017.org](http://www.cired-2017.org).

## Main Sessions

Led by expert Chairmen and Rapporteurs, the main sessions comprise 12-minute presentations by selected authors, along with discussion periods to ensure interesting and balanced debate.

## Poster Sessions

Delegates will be able to hear structured and interactive poster sessions with pre-arranged guided tours; your opportunity for in-depth discussion with every author.

## Technical Exhibition

A major and up-to-date international industry exhibition is associated with the 24<sup>th</sup> CIRED Conference, and the opening of the exhibition will follow the welcome reception on Monday 12 June 2017, in Hall 4. This is your chance to get a view of the technology of the future.

## Technical Visits

Information on technical visits will be available on the event website [www.cired-2017.org](http://www.cired-2017.org) in due course.

# Round Tables and RIF sessions

Format below is a guide only. Final timing and location of sessions to be confirmed.

<b>RT1</b>	Digital solutions for network maintenance: drones and image processing, virtual and augmented reality, big data, data analytics and IoT	S1
<b>RT2</b>	Smart secondary substations, technology developments and distribution system benefits	S1
<b>RT3</b>	Reduction of technical and non-technical losses in Distribution Networks	S1
		S5
<b>RT4</b>	Innovative grid architectures and control strategies for future power systems	S3
	Grid planning for very high RES penetration and flexibility	S5
<b>RT5</b>	Societal cost benefit of smart grid	S5
		S6
<b>RT6</b>	Resilience of distribution grids	S3
<b>RT7</b>	Control and automation systems for electricity distribution networks of the future	S3
<b>RT8</b>	ROCOF-Function – functional requirements for frequency protection	S3
<b>RT9</b>	DER-enabled local system management and microgrids	S4
<b>RT10</b>	Flexibility from DER: generation, storage and responsive demand	S4
<b>RT11</b>	Requirements for future power system architecture	S4
<b>RT12</b>	PV and its influence on power quality	S2
<b>RT13</b>	Asset management frameworks	S6
<b>RT14</b>	Dynamic tariffs	S6
<b>RT15</b>	Grid defection - hype or reality?	S6

## Sponsorship & Exhibition Opportunities

If you would like the opportunity to raise the profile of your organisation to approximately 1,500 delegates, please contact our Sponsorship and Exhibition team today:

### Veronica Kopec

**Tel:** +44 (0)1438 765676

**Email:** vkopec@theiet.org

### Louise Hall

**Tel:** +44 (0)1438 767351

**Email:** lhall@theiet.org



## Floor Plan



## Exhibitor List

Stand No.	Company	Stand No.	Company
G01	3M	C07	IPEC Ltd
G08	ABB	D02	IPS - Intelligent Process Solutions GmbH
D09	Advantech	D12	Kocos
C12	a-eberle	A04	LCNI
G10	Albatroz Engineering	A01	Locamation
H05	AMSC	F03	Lucy Electric
H01	Arteche	E07	Maschinenfabrik Reinhausen
D03	Baur GmbH	H08	Megger
F05	Camlin Power	G06	Neplan AG
A12	Capula	C01	Nexans
C16	CIGRE	C03	Nortech
D01	CIREN 2019	G02	Ofil Systems
C04	Copa-Data	C11	Omicron
F02	CTC Global	C06	Opal-RT
F07	CXR	C05	Ormazabal
H09	Dilo Armaturen und Anlagen GmbH	D04	Outram Research Ltd
G04	DNV GL	D10	Platipus Anchors
G07	Doble	H07	Power Networks Demonstration Centre - University of Strathclyde
A13	Drallim Industries Ltd	B02	PSI Group
D16	DuPont	D06	RedSkye Technology Ltd
C08	Dutch Power	D11	RTDS
	<i>Alfen</i>	E05	Sati Shieldings S.R.L.
	<i>Alliander</i>	C10	Schneider Electric
	<i>Eaton</i>	B03	SGC and Mevoco
	<i>Enexis</i>	F01	Sicame
	<i>Joulz</i>	F04	Siemens
	<i>Ksandr</i>	E04	Smarter Grid Solutions
	<i>Lovink</i>	A08	Socomec
	<i>Phase to Phase</i>	B01	SP Energy Networks
	<i>Smit</i>	H10	Sprecher Automation GmbH
	<i>Stedin</i>	D08	Streamer Electric Company Ltd
	<i>TKF</i>	C17	T&D World
E02	EA Technology Ltd	D07	tnei
C09	edp Labeltec	E01	Vaisala
A03	Embedded Monitoring Systems (eMS) Ltd	D13	Weidmann Electrical Technology
F08	Efacec	G03	Wilson Power Solutions
F09	Energy Networks Association	A05	ZIV
B05	Energy Ottawa		
H06	Enging		
D14	Euro SMC		
H11	ERIGrid and ELECTRA IRP		
E03	Frazer Nash		
E06	Fugro Roames		
G05	GE Digital Energy		
F06	Gillam-FEI sa		
A09	General Cable		
C02	The IET		
D05	Ingeteam		

**We look forward to welcoming you to the conference**

**The opening forum will be held in the Clyde Auditorium**

Exhibition floor plan correct at time of printing. Subject to change. Please contact the Sponsorship & Exhibition team for further information, or consult the website [www.cired-2017.org](http://www.cired-2017.org)