For power system expertise

PRESS BOOK CIGRE 2018

Transformers Magazine - UK

https://www.transformers-magazine.com/

A publication specializing in the transformers industry and the market, with particular focus on green solutions for smart grids.

The world's leading global event for sharing power system expertise

Every two years, the world's number one global power system event is run by CIGRE in Paris, France. Known as the Paris Session, this event attracts members from across the whole CIGRE community and is the culmination of the previous two years of the CIGRE knowledge programme. The Paris Session is unlike any other conference. It offers an in-depth interactive congress, following a rigorous process where, rather than being presented, hundreds of papers are collaboratively debated.

Study Committee A2 (Power transformers and reactors)

Within the activity of the Study Committee A2, this year 38 articles were accepted in three preferential subjects (PS):

- PS1 Thermal Characteristics of Power Transformers
- PS2 Advances in Diagnostics and Modelling
- PS3 Site Commissioning Tests

A total of 17 papers were submitted to the PS1 Thermal Characteristics of Power Transformers, according to the following sub-topics:

- PS1-1 Steady Thermal Modelling and Testing (6 papers)
- PS1-2 Dynamic Thermal Modelling and Testing (7 papers)
- PS1-3 Thermal Impact (either Steady or Dynamic) of Using Alternative Materials (4 papers)

A total of 15 papers were submitted to the PS2 Advances in Diagnostics and Modelling, according to the sub-topics:

- PS2-1 Experience with different methods of measuring partial discharge at the factory an at site
- PS2-2 Interpretation and modelling of winding frequency response results
- PS2-3 High frequency transformer modelling for power transformers, including comparison with measurement

Technical Exhibition

A five-day technical exhibition, run in parallel at the same location, this year occupied three levels on the surface of 13,980 sqm, hosting 300 exhibitors and 9,500 specialists (3,600 delegates) of different profiles, such as technical experts, decision makers, manufacturers, TSOs and DSOs, universities, etc. More than 90 % of the attendees were international and in total, 93 countries were represented.

Over the last nearly 100 years the work of CIGRE has contributed to many of the key technical cornerstones of the modern power system. CIGRE's renowned publications, developed through the collaborative sharing of 'real world experiences', are in many cases the authoritative source of reference information.

Figures:

- 59 National Committees

A total of 6 papers were received and accepted against the advertised sub-topics:

- PS3-1 Required site commissioning tests for transformers and reactors
- PS3-2 Additional site commissioning tests for transformers and reactors, depending on circumstances
- PS3-3 Trial operation of transformers and reactors, including requirements for additional monitoring

About CIGRE

Established in 1921 in Paris, France, CIGRE is a global community committed to the collaborative development and sharing of power system expertise. The community features thousands of professionals from over 90 countries and 1,250 member organisations, including some of the world's leading experts. At its heart are CIGRE's 59 National Committees offering diverse technical perspectives and expertise from every corner of the globe.

CIGRE operates the world's foremost knowledge programme, spanning 16 domains of work, encompassing all the core areas of the power system. Across these domains, 250+ Working Groups draw and build on practical expertise to solve existing and future challenges facing the power system.

CIGRE's knowledge programme includes an extensive range of local and international events, culminating every two years at the Paris Session in France – a unique thought leadership congress and the number one global power system event.

- 250+ working groups
- Publications
- Tutorials
- Events (Symposia, Technical Exhibition, etc.)

Aims of CIGRE

- To foster engagement and knowledge sharing among power system professionals globally to enable the sustainable provision of electricity for all.
- To contribute to the betterment of the power system by enhancing the expertise of the people within it.
- To be universally recognised as the leading global community for expertise in all aspects of electric power systems.

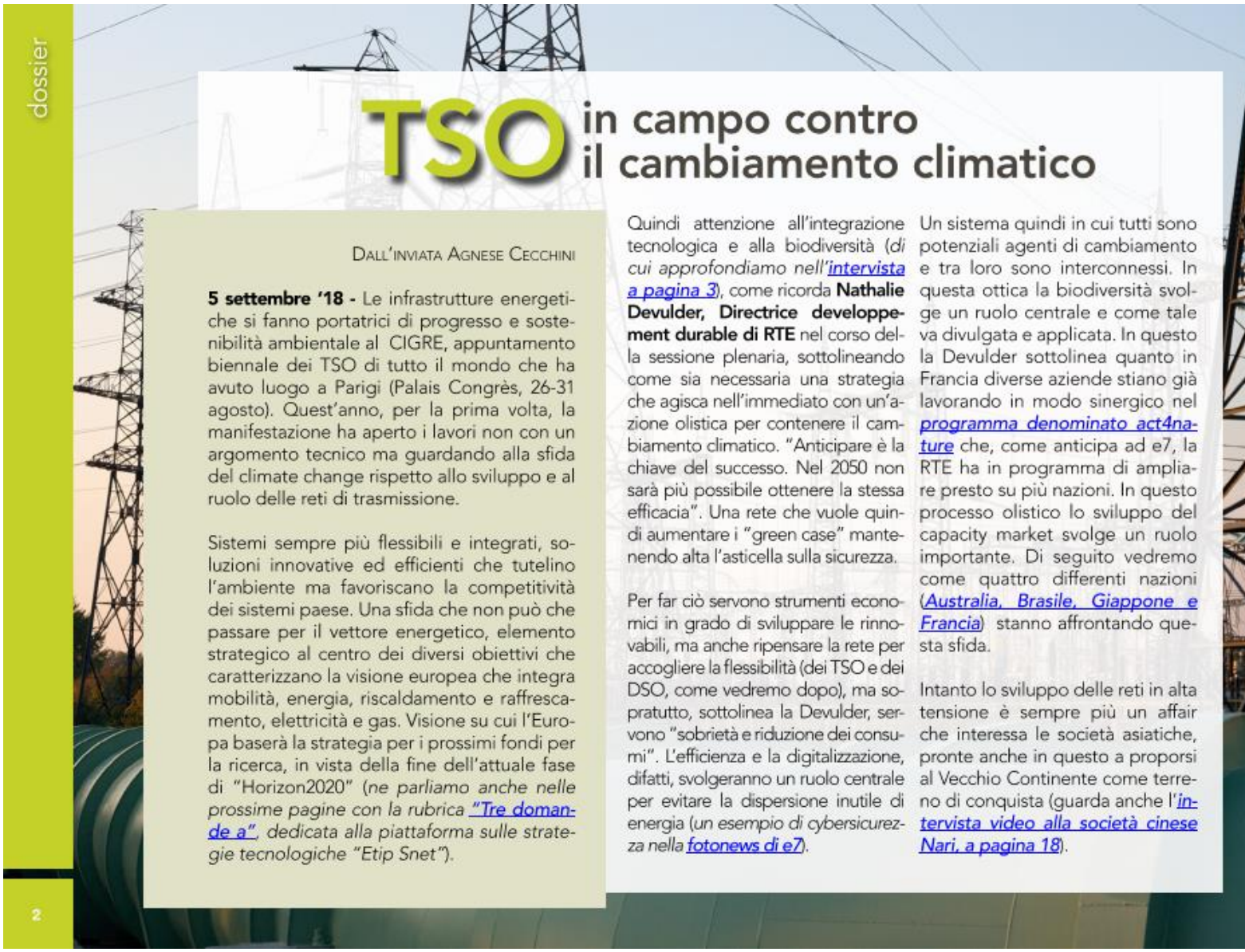
More information at:
www.cigre.org

cigre
For power system expertise

QUOTIDIANO ENERGIA – Italy

http://www.gruppoitaliaenergia.it/files/e7del20180905/html5/index.html

Italian trade publication specializing in the Energy sector. Has a mix of online newspapers, magazines and workshops.



dossier

TSO in campo contro il cambiamento climatico

DALL'INVIATA AGNESE CECCHINI

5 settembre '18 - Le infrastrutture energetiche si fanno portatrici di progresso e sostenibilità ambientale al CIGRE, appuntamento biennale dei TSO di tutto il mondo che ha avuto luogo a Parigi (Palais Congrès, 26-31 agosto). Quest'anno, per la prima volta, la manifestazione ha aperto i lavori non con un argomento tecnico ma guardando alla sfida del climate change rispetto allo sviluppo e al ruolo delle reti di trasmissione.

Sistemi sempre più flessibili e integrati, soluzioni innovative ed efficienti che tutelino l'ambiente ma favoriscano la competitività dei sistemi paese. Una sfida che non può che passare per il vettore energetico, elemento strategico al centro dei diversi obiettivi che caratterizzano la visione europea che integra mobilità, energia, riscaldamento e raffrescamento, elettricità e gas. Visione su cui l'Europa baserà la strategia per i prossimi fondi per la ricerca, in vista della fine dell'attuale fase di "Horizon2020" (*ne parliamo anche nelle prossime pagine con la rubrica "Tre domande a", dedicata alla piattaforma sulle strategie tecnologiche "Etip Snet"*).

Quindi attenzione all'integrazione tecnologica e alla biodiversità (*di cui approfondiamo nell'intervista a pagina 3*), come ricorda **Nathalie Devulder, Directrice developpement durable di RTE** nel corso della sessione plenaria, sottolineando come sia necessaria una strategia che agisca nell'immediato con un'azione olistica per contenere il cambiamento climatico. "Anticipare è la chiave del successo. Nel 2050 non sarà più possibile ottenere la stessa efficacia". Una rete che vuole quindi aumentare i "green case" mantenendo alta l'asticella sulla sicurezza.

Per far ciò servono strumenti economici in grado di sviluppare le rinnovabili, ma anche ripensare la rete per accogliere la flessibilità (dei TSO e dei DSO, come vedremo dopo), ma soprattutto, sottolinea la Devulder, servono "sobrietà e riduzione dei consumi". L'efficienza e la digitalizzazione, difatti, svolgeranno un ruolo centrale per evitare la dispersione inutile di energia (*un esempio di cybersicurezza nella fotonews di e7*).

Un sistema quindi in cui tutti sono potenziali agenti di cambiamento e tra loro sono interconnessi. In questa ottica la biodiversità svolge un ruolo centrale e come tale va divulgata e applicata. In questo la Devulder sottolinea quanto in Francia diverse aziende stiano già lavorando in modo sinergico nel *programma denominato act4nature* che, come anticipa ad e7, la RTE ha in programma di ampliare presto su più nazioni. In questo processo olistico lo sviluppo del capacity market svolge un ruolo importante. Di seguito vedremo come quattro differenti nazioni (*Australia, Brasile, Giappone e Francia*) stanno affrontando questa sfida.

Intanto lo sviluppo delle reti in alta tensione è sempre più un affair che interessa le società asiatiche, pronte anche in questo a proporsi al Vecchio Continente come terreno di conquista (guarda anche l'*intervista video alla società cinese Nari, a pagina 18*).

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Biodiversità, una strategia di sviluppo per i TSO

Abbiamo chiesto a **Nathalie Devulder, Directrice developpement durable di RTE,** di approfondire per i lettori di e7 il concetto di biodiversità e le possibili azioni che le aziende possono svolgere in tal senso.

Perché la biodiversità è strategica per sostenere le sfide dei TSO sull'energia e sui mutamenti del clima?

Come è possibile integrare tutto questo all'interno di una strategia industriale?

CIGRE e WBG insieme per cogliere la sfida dell'elettrificazione in Africa

A. C.

5 settembre '18 - Altra novità di questa edizione è l'avvio di una collaborazione con il World Bank Group. L'iniziativa nasce con un sguardo sopratutto verso l'elettrificazione dell'Africa che sottolinea la mission del gruppo finanziario per i progetti di produzione, distribuzione e trasmissione di energia sostenibile nel mondo.

Abbiamo intervistato **Kwawu Mensan Gaba, global lead an power system del World Bank Group**, in merito a questa operazione e alla visione della WBG verso sostenibilità e ruolo dell'elettricità per raggiungerla.

La World Bank al CIGRE 2018 ha sottolineato il suo ruolo di facilitatore per una elettrificazione volta al progresso e alla sostenibilità ambientale.

Nello specifico vi siete proposti per l'elettrificazione dell'Africa ma qual è la visione della WBG rispetto al sfida climatica e energetica?

La collaborazione con il CIGRE nasce quest'anno? Quale obiettivo vi siete dati e perchè avete deciso di cercare una partnership con i TSO?

DSO-TSO:
quanto è resiliente la rete?

AGNESE CECCHINI

5 settembre '18 - Come gestire una rete con sempre maggiori connessioni di risorse energetiche distribuite? Una domanda che TSO e DSO su diversi tavoli operativi si stanno ponendo e su cui, nel corso dei gruppi di lavoro promossi dal CIGRE, è stata svolta un'indagine che ha prodotto la brochure tecnica 711 "Control and automation system for elettricity distribution network of the future". Abbiamo incontrato al CIGRE **Giuseppe Mauri convenor del gruppo di lavoro** e per l'RSE Capo del Gruppo di Ricerca Tecnologie ICT per la gestione e la sicurezza informatica delle reti T&D nel Dipartimento di Tecnologie di Trasmissione e Distribuzione.

"All'indagine hanno risposto circa 50 DSO in rappresentanza dei cinque continenti" spiega Mauri a e7 "il che rappresenta per noi un importante risultato in grado di realizzare una fotografia rappresentativa del livello di automazione delle reti a livello mondiale. Di fatto è emersa una necessità per i DSO di acquisire strumenti più sofisticati per le gestione di alcune nuove peculiarità della rete, facendole assomigliare un pò di più, nella modalità di gestione, ai TSO".

Dall'indagine è emerso come i DSO in tutto il mondo stanno conducendo diversi test per avviare un maggiore controllo e monitoraggio della rete e aumentare i sistemi di controllo in real time per passare ai TSO alcune informazioni essenziali per la gestione del sistema. Anche le previsioni meteo più evolute rientrano nelle nuove esigenze delle DSO.

"Un più efficiente scambio informativo tra TSO e DSO permetterà al TSO di avere maggiore visibilità sulle reti del DSO, favorendo previsioni più accurate anche a breve termine e azioni più tempestive e precise di gestione delle reti attive, migliorando l'efficienza complessiva del sistema". Conclude Mauri "Queste sono implementazioni necessarie per ottenere molte delle funzionalità di esercizio e di mercato essenziali per il sistema elettrico del futuro, tuttavia da quanto emerge dal sondaggio, sembra che le funzionalità che dovranno essere introdotte nelle reti elettriche dei DSO, avranno solo una relazione indiretta con la pianificazione operativa delle reti di distribuzione".

October 2018 by Agnese CECCHINI

Paris Welcomes CIGRE

The world's experts on large high-voltage electric systems will be visiting the city of Paris, France, in August to attend CIGRE 2018.

By **Gerry George**, International Editor

CIGRE's 47th General Session is an International Conference on Large High Voltage Electric Systems that will attract some 3290 delegates and 6600 exhibition visitors to this weeklong event of extensive, wide-ranging activities in Paris, France. This biannual event gathers worldwide experts in even-numbered years to discuss, learn and share experience on the future of the electricity industry, from generation to distribution. The increasing importance and popularity of this event for electricity industry professionals has resulted in record numbers of technical contributions, delegates and exhibitors registering for this conference.

The CIGRE 2018 General Session will be staged in the Palais des Congrès, a concert venue, convention center and shopping mall situated in northwest Paris, on the edge of the Boulogne Woods and near the Arc de Triomphe, the Champs-Élysées and the Louvre. This superbly appointed large conference facility will comfortably accommodate all the scheduled activities and events included in the technical program as well as the supporting exhibition.

The electricity industry continues to face increasing challenges as the demand for economic, reliable and secure electrical energy worldwide continues to increase when generation is becoming increasing dependent on renewable energy resources. Faced with concern regarding the environment, technical issues linked to integration of the intermittent renewable energy sources, wind and solar, coupled with energy storage in transmission and distribution systems, are becoming more important. This year's conference will focus on the range of new technologies that have been developed to accommodate the variable and unpredictable generation from renewable energy projects.

The continuing development in high-voltage direct-current (HVDC) technologies and the application of both extra-high-voltage (EHV) AC and DC transmission interconnections is enabling these increasingly higher voltage systems to optimize system capacity and facilitate international-based energy marketing opportunities.

CIGRE presents a unique learning opportunity for all industry professionals as well as those young engineers entering the profession. All attendees are able to derive tremendous benefits from the knowledge and experience exchanged between the industry's experts on international research and development, manufacturing capabilities, utility management and energy marketing. The well-structured technical conference extends over a five-day period, during which all the industry's current and future issues will be discussed. Every technical session is very well managed with planned time slots available for all attendees to contribute and benefit from the participating industry specialists.

The Palais des Congrès is an excellent facility, well able to accommodate the four-track program of technical meetings in well-equipped auditoriums that are all adjacent to the large areas assigned for the technical exhibition.

Official Opening Ceremony

The official opening ceremony will be held on Sunday, Aug. 26 and will include a keynote presentation on Future Electricity Markets and Business Models by Audrey Zibelman, CEO, Australian Energy Market Operator. This will be followed by the first social meeting opportunity for all delegates and their guests.

Technical Meeting Schedule

The technical meetings schedule starts on Monday, Aug. 27 and continues daily until Friday, Aug. 31. On Monday, the schedule will include the following sessions:

- Opening panel: The Future Sustainable Power System: Organic, Disruptive and Secure
- Workshop: Large disturbances
  Part 1 – Market disturbances
  Part 2 – System disturbances
- Conference: Integrated Power System: Changing from Consumers to Proconsumers
- Association meeting: Presentation of the results of the General Assembly of June 2018.

Technical Meetings

Subject	Special Subject (Number of technical papers submitted to the study committee)
Tuesday, Aug. 28	A1 – Rotating Electrical Machines (27 papers) B4 – HVDC and Power Electronics (48 papers) C4 – System Technical performance (54 papers) C6 – Distributed Systems and Dispersed Generation (35 papers)
Wednesday, Aug. 29	Next Generation Network Forum A3 – High Voltage Equipment (33 papers) B5 – Protection and Automation (41 papers) C5 – Electricity markets and Regulation (30 papers) D1 – Materials and Emerging Test Techniques (40 papers) B4 & CENELEC Workshop – System Aspects of HVDC Grids
Thursday, Aug. 30	CIGRE Women in Engineering Forum A2 – Transformers (38 papers) B3 – Substations (44 papers) C2 – System Operation and Control (46 papers) D2 – Information Systems and Telecommunications (24 papers) A3 & B4 Workshop: DC Circuit Breakers
Friday, Aug. 31	B3 Workshop: Safe Working in Substations B1 – Insulated Cables (41 papers) B2 – Overhead Lines (morning)/Joint B2 & C3 (afternoon) (32 papers) C1 – System Development and Economics (38 papers) C3 – System Environmental Performance (24 papers)

Technical Meetings Schedule

The four-track technical meetings schedule starts on Tuesday, Aug. 28, allowing all delegates the opportunity to select their chosen topic from the 16 technical group meetings, two forums and two workshops. Each meeting will discuss a selection of the papers submitted for each of the 16 specialist subjects that are considered in advance by CIGRE's study committees. The technical committee has selected 595 papers submitted by authors from around the world for CIGRE 2018.

Prior to each of the conference technical meetings, the study committee's special reporters will identify common key issues that the authors from selected papers are invited to address at each technical meeting. This now-common standard style of session management allows time for all delegates to contribute and benefit from the knowledge and experience exchanged in these technical discussion meetings. Following these meetings, the special reporters will prepare short summaries of the presentations and discussions; the summaries will be made available to delegates on the following day.

Tutorials

This year CIGRE has launched a new four-day program of tutorials that will be held Monday through Thursday. These four-track tutorial daily sessions will address topics linked to the 16 specialist subjects. The tutorial meetings program is open to all registered delegates but requires prior registration.

Poster Sessions

This year the organizing committee has arranged poster sessions that will be open to delegates from Monday afternoon, Aug. 27 until Friday morning, Aug. 31.

Companion and Social Events

The CIGRE organizing committee has arranged an extensive program of activities to suit all tastes for all those companions accompanying conference delegates. Companions can enjoy the city's iconic features, including the Eiffel Tower, Notre-Dame and Champs-Élysées, in addition to museums, bistros, boutiques and designer shops. They will also have the opportunity to experience the delights of French cuisine, wine tasting and also visit beautiful French countryside that surrounds Paris.

The many evening functions will give all attendees the opportunity to relax and enjoy leisure time with fellow professionals in a convivial atmosphere, starting with the cocktails in the conference halls on Monday, Aug. 27 at 6 p.m. All delegates and companions are also invited to a cocktail dinner arranged by the French national committee that will be held at the Cité de la Mode et du Design on the evening of Thursday, Aug. 30.

Technical Exhibition

The Palais des Congrès also will stage more than three floors the largest-ever CIGRE technical exhibition with more than 240 exhibitors from 33 countries. The exhibition will be open to all delegates and visitors daily at 9 a.m., remaining open, until 8 p.m. on Monday, Aug. 27, until 4 p.m. on Friday, Aug. 31, and until 6 p.m. on all other conference days.

The exhibition hall will feature many of the world's leading manufacturers and service providers presenting their latest technologies and product showcases designed to engage and encourage delegates to participate in lively in-depth discussions. All the current demands of the power generation and transmission utilities will be presented, giving delegates hands-on experience to handle equipment and analyze the latest software and services linked to the design and execution of EHV and HV power-delivery systems.

The CIGRE exhibition is now a well-established forum that encourages all visitors the opportunity to develop and strengthen the networking between the research associates, manufacturers, end-users and industry decision-makers. Additionally, this exhibition attracts the specialist companies and research institutions that continue to offer the electricity industry unique contract services, research and testing facilities. This relaxed business atmosphere is designed to ensure every delegate will derive long-term benefits benefit from the time spent visiting this large international-based exhibition.

About CIGRE

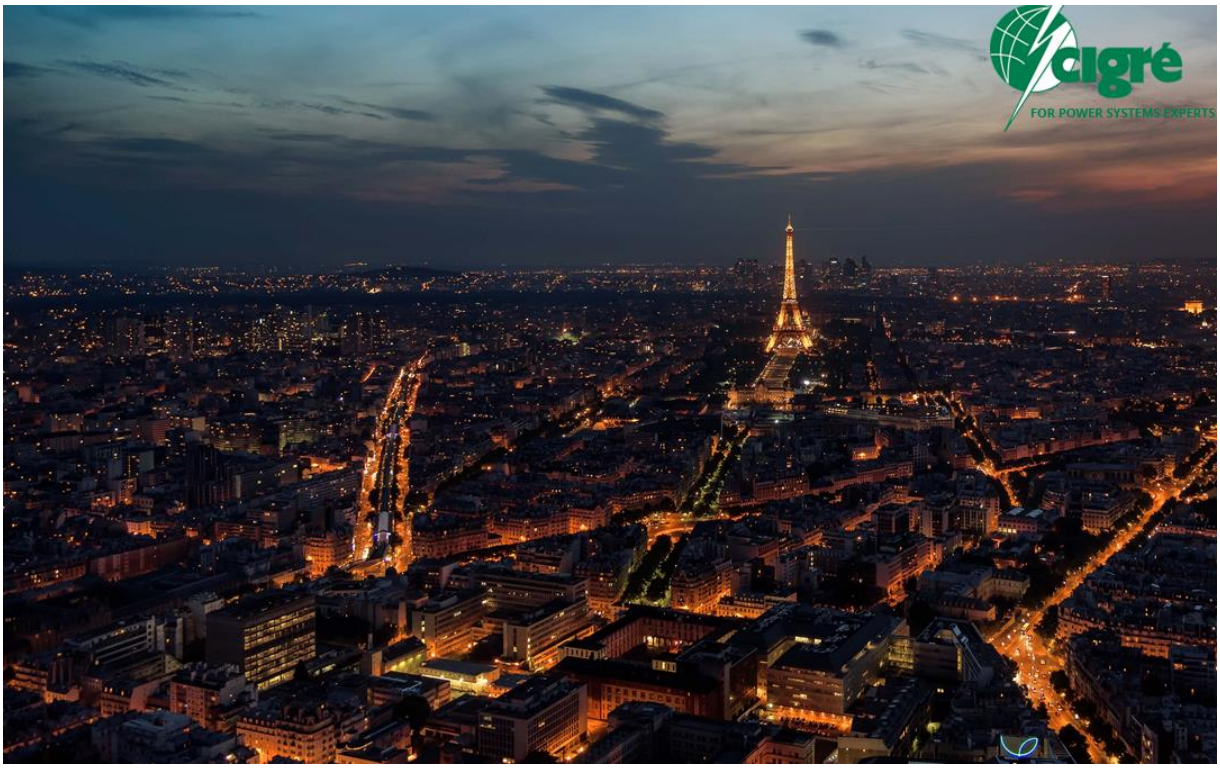
CIGRE, the International Council on Large Electric Systems founded in 1921, is an international non-profit association for promoting collaboration on a national and international level. With more than 15,000 equivalent members composed of researchers, academics, engineers, technicians, CEOs and other decision-makers, CIGRE allows experts from nearly 100 countries to share and join forces to improve existing systems and build the electrical power systems of the future, from generation to distribution.

POWERTECH RESEARCH - Germany

Our range of publications, from Analyst Impressions about latest news in the market to White Papers, Thought Pieces and Conference reviews, will provide you a insights about the developments in the Electric Power and Industrial Automation equipment markets. In addition to that, our publications offer a view in to our methodology and the way we see the correlation between markets such as power generation, transmission and distribution, and between electric power and industrial automation.

CIGRE 2018 – Conference Impression

by Mike Sheppard, Saqib Saeed | 2018, September, 11



Power Technology Research (PTR) had the opportunity to visit CIGRE 2018, held in Paris, France which took place from August 26-31.

During the last CIGRE, PTR had followed four of the key trends: Eco design of equipment; maintenance, refurbishment, and life time; real time monitoring; and development of DC solutions. PTR would again support these to be the most critical trends; however would include Information systems as increasingly important to a new paradigm of electrification in European markets.

Reducing O&M time:

A foundational form of resilience to the grid (N-1) is being rethought as a result of developments in O&M technologies. A solution showcased, a submersible inspection robot (submarine), by ABB called the TXplore, reduces transformer and rectifier maintenance downtime by limiting when oil must be drained from a reservoir. Going a step further, some of these concepts are non-invasive in nature, removing the need to open devices entirely. One example of this is the work being done by GE utilizing X-ray machines to analyze circuit breakers. Citing their work with Morocco's national utility, the Office National de l'Electricité et de l'Eau Potable (ONEE).

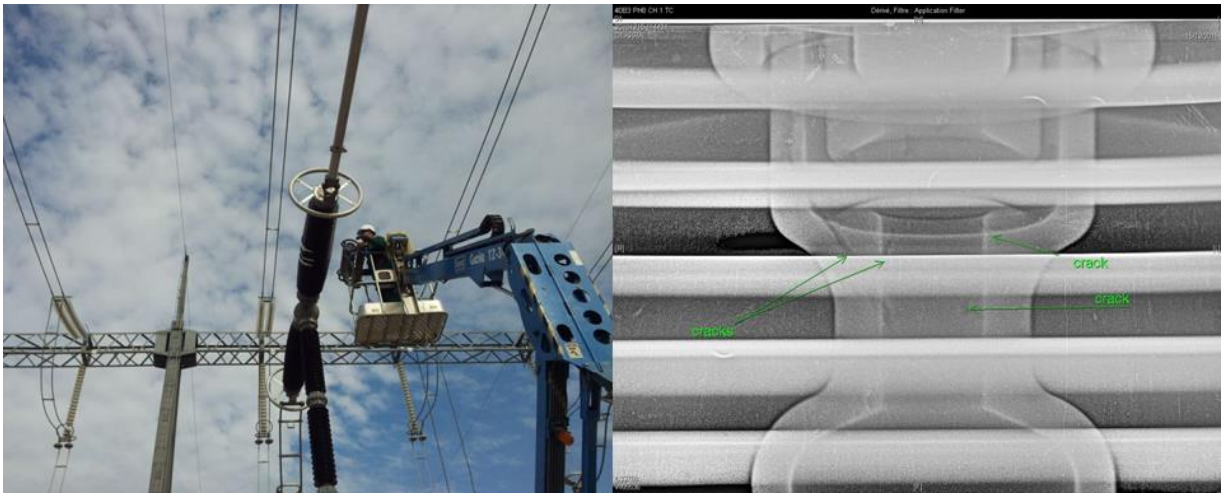


Fig.1. GE's X-Ray imaging for grid equipment.

A wave of new products to the arena of 'Digital Assets' seeks to mitigate planned maintenance all together by utilizing assets more efficiently. Siemens presented its digital substation at the conference with capability of making raw data from digitally enabled assets into tangible solutions such as automation and power quality. In addition, ABB also showcased its digital power transformer (introduced earlier last April) after it successfully launched a digital distribution transformer last year. This transition of digitally capable assets from distribution products towards high power applications is a clear indication of early success and traction gained by these products from utilities and system operators.

With all of these new components, systems, and measurement techniques, more so than ever is the need for rapidly deployable trainings. PTR believes Virtual Reality (VR) is an excellent way for these techniques to be digested by technicians, operators, and engineers. This obviously requires a step beyond what most are positioning as a product marketing tool and GE has been doing exactly that with specific trainings from GIS bay maintenance to crane operation. Combining with on-site Augmented Reality (AR) should be able to complete the training, improve safety, and further reduce the not only O&M costs but also to design of the systems themselves.

Utility business model changes:

The biggest question remains if the O&M value proposition is relevant for a utility whose primary business model is founded on CAPEX and OPEX. Historically, asset utilization did not completely correlate with profitability; however, if this were to change, as PTR has noticed in de-regulated markets, adoption of these technologies will take off.

This takes us to a core issue on the minds of many DSOs and regulators is how to convert from a pure-regulatory framework of business, to one that utilizes assets to their highest potential. Despite a lot of efforts from the DSOs, EV charging infrastructure ownership business model has tilted towards the competitive market based model. When it comes to the ownership of charging infrastructure, right now a number of stakeholders operate in a competitive landscape (e.g. Charge Point Operators, e-mobility service providers or municipalities). The aspect of EV Infrastructure falling under DSOs remit has not happened with in fact the opposite occurring with Italy's AEEGSI and the AFI Directive. This trend is not limited to Europe but throughout the world. Only a very few markets (e.g. Greece, Cyprus), where regulatory framework has not been defined yet, DSOs are responsible for installation of publicly accessible charging infrastructure. Regardless of ownership status, DSOs are responsible to upgrade the infrastructure to facilitate installation of high power charging stations.

Grid Equipment Market Research

Relegation to being a pipe operator though may not have to occur with creative approaches to some of the assets a utility already has. Two of these assets are land agreements for land easements as well as the trust of their existing base of customers. With those two assets, a new business model has arisen for power utilities: fiber optic networks. The model is simple whereas business customers like TELCO's can save significant money by outsourcing network deployment thus paying for network usage. Alternatively, as pointed out by Huawei during the exhibition, a few utilities, like LYSE in Norway, have gone directly to end-users and thus adding another section to their existing bill, for Video services.

61850 + Agility = Cybersecurity:

A high priority, albeit an uncertain-to-execute one, for many utilities is protection of digital assets against attacks in the 61850 era. Relying solely on protocols and standards to be developed will always put an implementing company at risk. This is especially true as these newly created intelligent electronic devices (IEDs) are now interoperable.

Aligning themselves more closely than most to this threat we find Schneider Electric. What was clear from their approach is that a global team is required to always be monitoring for attacking and updating security definitions. Learnings must be translated and fixed implemented quickly to all exposed to these risks. The ownership, but more importantly the value of these systems will need to be accretive to the aforementioned business model; otherwise will only be following the old regulatory landscape. The biggest hurdle for utilities adopting this technology can be read between the lines as what Schneider Electric has done is to apply an Agile methodology to their service offering. This model, established in software but newer to electric utilities, requires a significant overhaul of their operations.

China pushes HVDC R&D:

Both utilities operating in China, State Grid Corporation of China (SGCC) and China Southern Grid (CSG) had representation of their R&D focused companies at the conference. PTR has been keeping a close eye on the market developments in high power electronics grid components i.e. High Voltage Direct Current (HVDC) and Flexible AC Transmission Systems (FACTS). In the last couple of years, analysis of our global HVDC market tracker, always pointed us towards the Chinese market. Whether it was about breaking through the highest DC transmission voltage barrier or multi-terminal VSC projects , a lot of developments are always coming from China. SGCC and CSG have invested a lot on R&D of HVDC in the past some years. SGCC's subsidiary Global Energy Interconnection Research Institute focuses on grid technologies such as HVDC, FACTS, DC Grid and power semiconductor devices. Similarly, CSG's subsidiary Electric Power Research institute (EPRI) has been focusing on new technologies in HVDC such as Hybrid HVDC projects, HVDC transmission system analysis and design platform and UHVDC experiment platform. The upcoming 'Wu Dong De multi-terminal Hybrid UHVDC' project is one of its kind where for the first time Voltage Source Converter (VSC) is planned to operate at 800 kV DC. With such fast advancements in the field of HVDC such as meshed DC grids, the focus of one of CIGRE's study committee (SC-A3) is primarily focusing on the most important aspect in this regards i.e. protection and control of DC grids. HVDC circuit breakers and switchgear are the key areas of interest for the researchers and upcoming HVDC projects in China are studied from application perspective of DC protection devices.

Our HVDC Projects Research

In addition to HVDC, PTR is also keeping a track of advancements happening in FACTS devices such as Static Var Compensator (SVC) and Static Synchronous Condenser (STATCOM). Siemens launched a variant of SVC called Frequency Stabilizer (FS) at the end of last month which combines the traditional functionality of reactive power compensation by SVCs with high power capability of super-capacitors (supplied by Maxwell Technologies). Additionally, Maxwell Technologies has grid scale storage solutions with applications like primary frequency control and power quality.

Event Follow Up:

For any additional questions about the event, or trends in power systems, please feel free to reach out to us.

About CIGRE-Exhibition

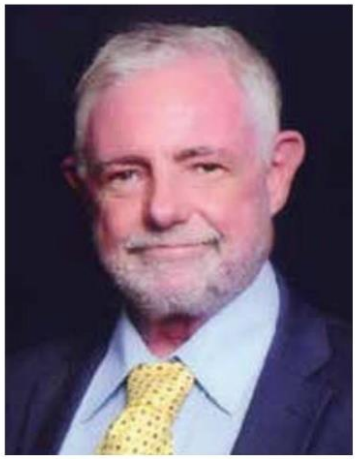
CIGRE-Exhibition is a leading event for Power Systems Experts with attendees from Utilities, TSOs & DSOs, OEMs, and technology experts from the worldwide Power Industry. The exhibition is held every 2 years in Paris with 6 days of Conference and 5 days of Technical Exhibition.

https://powertechresearch.com/cigre-2018-conference-impression/

REE – France https://www.see.asso.fr/revue-numero/23109_ree-2018-3

July 2018

47e session du CIGRE, du 26 au 31 août 2018 à Paris
Entretien avec Rob Stephen, président du CIGRE



Fondé en 1921, le CIGRE (Conseil international des grands réseaux électriques) est une association internationale, à but non lucratif dont la vocation est de favoriser la collaboration entre experts internationaux pour améliorer les réseaux électriques existants et construire ceux de demain. A l'occasion de sa 47e session, la REE a rencontré son président, Rob Stephen.

REE : M. Stephen, cette interview, à l'approche de la session du CIGRE, est maintenant devenue traditionnelle, dans le cadre du partenariat établi entre votre association et la SEE. Il y a deux ans, j'avais eu le plaisir de rencontrer votre prédécesseur, Klaus Froehlich ; merci à vous de maintenir cette tradition.
Pour commencer, je vous propose d'évoquer les grands sujets qui sont aujourd'hui au cœur des réflexions des responsables des secteurs électriques dans le monde. Puis nous parlerons du CIGRE en tant qu'organisation et, bien entendu, de la tenue de votre prochaine session.
Dans un contexte globalisé, il y a des problématiques qui impactent le monde entier, et d'autres probablement plus spécifiques ou régionales. Commençons par le les grands sujets d'intérêt commun.

Rob Stephen : Le sujet qui me semble majeur, aujourd'hui, et dans tous les pays, c'est le développement des énergies renouvelables, favorisé par la réduction de leur coût et par l'accroissement de leur puissance. Aujourd'hui on voit apparaître des turbines d'éolienne allant jusqu'à 12 MW, avec des machines approchant les 200 mètres de diamètre. A en croire nos collègues chinois, ils travailleraient même sur des éoliennes de 20 MW, avec des pylônes de 120 mètres et des pales de plus de 100 mètres de longueur.

D'une façon générale, le développement des « *inverter based resources* » (ressources énergétiques réparties à base d'onduleurs) est au cœur des réflexions : il imposera le développement massif de moyens de stockage de l'énergie à faible inertie. De ce point de vue, le stockage mobile, utilisant les batteries des véhicules électriques, aura un rôle à jouer ; ce rôle sera certainement très important à partir des années 2040, avec la généralisation du véhicule électrique.

Du point de vue de l'exploitation et de la gestion des systèmes électriques, le progrès des systèmes d'information conduit tous les pays, y compris les pays en voie de développement, à travailler sur les apports de l'Internet des objets, du *big data* et de la *blockchain*.

REE : Sur le plan des réseaux électriques eux-mêmes, quelles sont les évolutions majeures et les grands sujets de réflexion ?

R. S. : Au cœur de nombreuses réflexions, on trouve maintenant le développement des réseaux à courant continu et le choix entre courant continu et courant alternatif. Cette question, que l'on croyait tranchée depuis la fin du 19e siècle, est redevenue actuelle dans le domaine des liaisons de grande longueur et de forte puissance, pour lesquelles le courant continu peut présenter des avantages techniques, et donc économiques, indéniables. Aujourd'hui, la question est également posée par certains en ce qui concerne les réseaux de distribution à moyenne et basse tension.

Dans mon propre pays, l'Afrique du Sud, nous nous étions, dès les années 1990, posé la question de l'utilisation de la distribution en courant continu, qui présenterait un certain nombre d'avantages, tels que, par exemple la facilité du contrôle de la tension ou la lutte contre les vols. Les progrès technologiques peuvent maintenant rendre le courant continu plus compétitif, par exemple en développant des réseaux d'une tension intermédiaire entre la moyenne et la basse tension, de l'ordre de 1 000 V. Le CIGRE a mis en place un groupe de travail sur le sujet, piloté par la Chine.

REE : Et qu'en est-il des réseaux d'interconnexion, terrain de prédilection traditionnel du CIGRE ?

R. S. : En très haute tension, et de façon quelque peu paradoxale, les Chinois nous annoncent l'étude de liaisons de transport à longue distance en courant alternatif : sept couloirs de lignes de 4 500 km, exploitées à 1 100 kV, chaque couloir pouvant atteindre 10 000 MW. Nous ne savons pas encore quelles solutions techniques ils envisagent de mettre en œuvre (postes intermédiaires pour le contrôle de la tension ?).

Dans le même temps, d'autres pays présentent des projets de transport en courant continu : par exemple, en Afrique australe, un réseau multi-terminaux de 3 500 km de longueur et d'une puissance de 5 000 MW.

On voit donc que le débat est aujourd'hui très ouvert, des interconnexions internationales jusqu'à la distribution locale.

Le CIGRE présentera à Paris un document sur le réseau du futur, présentant les 10 aspects qui doivent être traités de façon simultanée, notamment : systèmes de protection, méthodes de planification, *big data*, stockage, etc. Ce document traite aussi des relations entre les parties prenantes, question beaucoup plus complexe que par le passé, avec, par exemple, la problématique de la fourniture des services auxiliaires ou celle des compteurs intelligents.

La question de la cybersécurité est également évoquée dans le document présenté. La « convergence IT/OT » (intégration des systèmes d'information et du contrôle opérationnel de l'exploitation) rend cette question incontournable. Elle doit être prise en compte dès la conception du système.

REE : Vous avez évoqué votre pays, l'Afrique du Sud. Plus largement, que pouvez-vous nous dire à propos du secteur de l'électricité en Afrique, et notamment de la question de l'électrification dans les pays d'Afrique subsaharienne ?

R.S. : Le CIGRE s'intéresse de plus en plus à l'Afrique. Nous avons notamment mis en place des groupes de travail communs avec la Banque mondiale, centrés sur le développement des compétences. Le CIGRE apporte ses compétences et la Banque mondiale finance les actions de formation, notamment la tenue des tutoriels et le déplacement des participants (formateurs et étudiants). Dans ce cadre, nous avons par exemple récemment hébergé en Afrique du Sud une formation sur la conception des lignes et des postes, avec la participation d'experts australiens. Une trentaine de participants africains (et pakistanais) en ont bénéficié. Ce n'est qu'un exemple.

Le CIGRE a aussi mis en place un protocole d'accord avec la Commission électrotechnique africaine de normalisation (AFSEC). Nous échangeons des informations et nous pourrons par exemple organiser des tutoriels lors de leurs réunions. Nous développons aussi les échanges (conférences, tutoriels, etc.) avec les organismes de coopération sous-régionale que sont les quatre pools énergétiques africains. Nous visons ainsi à éviter le travers habituel de l'assistance technique, qui consiste à lier cette assistance à la mise en œuvre d'une technologie particulière, avec un objectif mercantile évident et des inconvénients non moins évidents pour les pays concernés.

Concernant le processus d'électrification, la première observation que nous pouvons faire est que les populations concernées préfèrent la connexion à un réseau plutôt que l'utilisation directe d'une source d'énergie au travers d'un moyen de stockage. En particulier, elles ne veulent pas être limitées par la puissance d'un panneau photovoltaïque individuel et elles veulent payer pour l'énergie qu'elles consomment réellement. Nous devons donc privilégier le concept de micro-réseaux qui, le moment venu, pourront être connectés au réseau général. Dans le passé, le problème de l'approvisionnement en fuel rendait ce concept difficile à mettre en œuvre. Problème aujourd'hui résolu par l'utilisation d'énergies renouvelables et de moyens de stockage.

REE : Le CIGRE, ce n'est pas seulement un grand congrès biannuel ; c'est aussi le fonctionnement permanent d'un ensemble de comités d'étude et de groupes de travail. Si l'on considère par exemple les deux dernières années, qu'est-ce qui a changé dans ces comités et groupes de travail ?

R. S. : L'évolution la plus notable est l'extension de notre champ d'action en direction de la distribution. Plusieurs groupes de travail se sont élargis et ont renforcé leur expertise du côté des réseaux MT et BT, de façon que le CIGRE couvre effectivement l'ensemble du système électrique, de la production jusqu'aux compteurs des usagers.

REE : Et cela ne pose pas de problème vis-à-vis des distributeurs et de « leur » congrès, le CIRED ? L'exemple français me laisse quelque peu dubitatif vis-à-vis de cette évolution…

R.S. : Dans la plupart des pays, les comités nationaux du CIGRE et du CIRED travaillent ensemble, voire sont hébergés par le même organisme, par exemple une société savante du secteur de l'électricité. Cela facilite l'intégration. Cela dit, les gestionnaires de réseaux de transport restent largement majoritaires parmi les participants à la session CIGRE, mais l'élargissement du champ d'action des comités d'étude vers le domaine de la distribution devrait aller dans le sens d'un rééquilibrage des participants aux sessions.

Lors de la prochaine session, un événement va traduire cette volonté du CIGRE de couvrir toute la chaîne de valeur, de la production jusqu'aux consommateurs. Il s'agit d'une conférence, qui aura lieu le premier jour de la session et qui est intitulée *Integrated power system : changing from consumer to prosumer.*

REE : Dans la tenue de la prochaine session, y aura-t-il des innovations marquantes ?

R.S. : Outre cette conférence que je viens d'évoquer, nous aurons aussi un *CEO event*, c'est-à-dire une réunion dédiée aux managers des compagnies. Pour l'ensemble des délégués, une application informatique permettra de suivre en temps réel le déroulement des débats dans les différentes salles, ce qui leur permettra de s'y rendre en fonction de leurs centres d'intérêt, avec une assistance à la géolocalisation des salles. Cette application facilitera aussi les interactions entre les participants et les présidents de séance.

J'ajoute que la prochaine session sera l'occasion de rajeunir quelque peu notre logo, qui y sera alors présenté et de remettre de la cohérence dans la déclinaison qui en est faite dans les différents pays. « CIGRE » ne sera d'ailleurs plus un acronyme, dans lequel « grand réseau » peut être compris comme « réseau de transport », par opposition à « réseau de distribution », mais un nom propre.

REE : Pour conclure, comment voyez-vous le développement des échanges entre le CIGRE et la SEE ?

R.S. : Notre politique générale est de privilégier la collaboration avec les entités nationales ou internationales travaillant dans les mêmes domaines que nous, pour autant qu'elles restent dans une perspective « non lucrative ». C'est le cas avec l'IEEE ou l'IEC. C'est aussi le cas avec la SEE. Nous devons rationaliser l'utilisation des ressources d'expertise, organiser des événements communs et associer nos logos. Couramment cette collaboration est pilotée par le comité national du pays concerné. Je ne peux donc qu'encourager toutes les initiatives allant dans le sens de la collaboration et du partage des ressources entre le comité national français du CIGRE et la SEE.

Les dernières sessions du CIGRE, en quelques chiffres

Année	2010	2012	2014	2016	Projection 2018
Congressistes	3 015	3 226	3 024	3 227	3 310
Pays représentés	81	83	85	84	86 - 90

En 2016 : 9 000 participants (congressistes + exposants + visiteurs), 250 exposants.
Exposition : 17 300 m² (dont 2 300 m² pour 16 sessions posters).

• Contributions présentées

Année	2012	2014	2016
Contributions "préparées"	810	798	766
Contributions "young member"			22
Contributions "spontanées"	450	390	501
Total contributions	1 260	1 188	1 376

• Tutoriels

- 6 en 2016
- 16 en 2018

• Réunions "women in engineering"

- Jusqu'en 2012 : aucune
- 2014 : networking lunch
- 2016 : forum de 3 heures : ouverture, 6 orateurs invités, networking
- 2018 : forum de 3 heures (programme en cours de construction). ■

Rob Stephen *est titulaire d'un doctorat en génie électrique et d'un MBA, il a, depuis 1980, assumé de nombreuses et importantes responsabilités au sein d'ESKOM, la compagnie nationale d'électricité d'Afrique du Sud. Celles-ci se sont exercées dans l'ensemble des domaines techniques concernant le transport de l'électricité : systèmes de protection, planification, conception des matériels et normalisation, exploitation. Il est actif au sein des comités du CIGRE depuis 1988 ; il y a animé de multiples groupes de travail et comités d'étude. Il a été élu président du CIGRE en 2016, premier Africain à occuper ce poste.*

GLOBAL TRANSMISSION REPORT – Germany & world

*Our leading products are **Global Transmission Report** (a monthly newsletter), **Global Transmission Weekly** (a weekly update), and www.globaltransmission.info (website). The monthly newsletter offers insightful content on transmission industry covering policy, regulations, projects, contracts, investments, latest technologies, transmission utilities, and data and statistics.*

October 2018

Features

CIGRE 2018

A report on the Paris Session

CIGRE's 47th session was held in Paris from 26 to 31 August 2018. CIGRE organises this event every two years. According to the organisers, over 3,600 delegates among 9,600 participants from 98 countries attended CIGRE's technical exhibition. Over 300 companies exhibited their products and services in this exhibition. It was interesting to see that apart from the traditional transmission and distribution (T&D) equipment and services providers, the exhibition attracted several companies offering products and services targeted for the grid of the future.

The electricity industry is going through a significant transformation brought upon by the demands for a reliable, secure and cleaner energy system. Integration of cleaner and distributed generation, digitisation of infrastructure, and empowerment of the customer are the three main objectives driving innovation in the industry.

Renewables, distributed energy resources (DER), storage, microgrids, electric vehicles (EVs), blockchain and artificial intelligence (AI) are some of the themes resonating in the industry.

The electricity system is changing and new market structures are needed that value flexibility, support multidirectional flow of data, and facilitate the integration of new aggregators, prosumers and emerging business models.

New technologies and services are emerging to address the challenges and harness the opportunities emerging through the transformation of the electricity industry.

transformer health data collected through sensor-based technology. These transformers will be equipped with a digital hub that can leverage a portfolio of smart devices on a modular platform with plug-and-play capabilities, the company said in a press release.

GE's Power Grid Solutions business also introduced new digital solutions at CIGRE 2018, including a 'digital twin' for power transformers. This digital twin enables effective asset performance management to extend asset life and maximise operational performance.

In a press statement, GE stated that advanced sensor technology with a digitised secondary system delivers condition-based data and statistic models to build a software-enabled model of the transformer or even the entire substation: the twin.

This interactive model allows operators to move from reactive to predictive maintenance solutions and improve system efficiency.

Another new technology/application that caught the interest of the visitors was the use of virtual reality (VR) in digitised grids.

ABB is using VR as a design tool to allow customers to experience the project realistically even before construction has begun, and to make timely changes.

This allows the project construction process to be optimised, increasing efficiency in terms of time and costs, and improves safety.

GE also exhibited its VR applications for training services for its customers, such as utility, power generation and mining companies. According to GE, VR offers a flexible, affordable and safe alternative to training in the field.

These new technologies not only help T&D utilities predict, manage and control increasingly complex and decentralised electricity networks, they also aid in improving customer relationships.

At the same time, more informed and engaged customers are likely to play an increasingly active role in helping utilities meet energy efficiency, energy management, flexibility and grid balancing objectives.

CIGRE's 2018 conference and technical exhibition showcased and debated on emerging trends and new technologies shaping the evolving grid.

'Digital' was definitely the buzzword at the CIGRE exhibition. The big T&D equipment giants such Siemens, ABB and GE showcased their latest offerings in this space. Siemens presented its digital substation technology, what it calls *the future built in*.

In a press release, the company explains that its new approach to digital substation solutions offers digital, systemic and physical protection to support asset and power grid resilience, making use of comprehensive data connectivity through an open cloud-based platform for the Internet of Things (IoT).

ABB showcased its digital power transformers under the ABB Ability™. These solutions come with transformer monitoring capability – aggregating, analysing and managing

Apart from these, various companies showcased several other new technologies and solutions to optimise operations and maintenance (O&M) processes and reduce time and costs.

The use of these technologies is becoming even more relevant with the changes in market structures and business models where asset utilisation and optimisation becomes very important to maintain profitability.

In line with the changes taking place in the electricity industry, CIGRE has also changed its logo. This was announced by the CIGRE president, Rob Stephen, at the opening ceremony of the 47th session.

CIGRE has changed its tag line from 'International Council on Large Electric Systems' to 'for power systems expertise'. It now presents itself as a collaborative global community sharing knowledge and expertise.

One of CIGRE's recent collaborative initiatives involves effective dissemination of CIGRE know-how in Africa, an effort being jointly undertaken with the World Bank.

Rob Stephen, president of CIGRE, is from Eskom, South Africa's integrated electric utility. We have written a special feature on this in our current issue.

For more information on CIGRE's 2018 session, please visit CIGRE's website www.cigre-exhibition.com◆

POWER TRANSFORMER NEWS - Germany

Power Transformer News.com provides the people and companies in the transformer business with daily updates on the latest relevant news from across the globe. The website is operated independently of any companies or organizations.

August 31, 2018 Posted by Patrick Haddad

Cigre 2018

Over 10,000 visitors attend CIGRE 2018 in Paris

Thousands of energy industry experts have met in Paris this week at CIGRE 2018 to share ideas and collaborate.

CIGRE is an international non-profit organisation for promoting collaboration on a national and international level. Experts from over 100 countries come together “to share and join forces in order to improve existing systems and build the electrical power systems of the future, from generation to distribution.”, according to a press release.

This year over 10,000 visitors attended, including 3,800 delegates and 300 exhibitors. This was an increase on the 2016 session where 3,200 delegates attended with 250 exhibitors.

It is the largest event ever organised in Europe for power system experts and is held every two years in Paris at the Palais des Congrès.

The program included technical meetings, tutorials, technical exhibitions, and social events over a period of five days. Topics ranged from ‘Women in Engineering’ to ‘Market and System disturbances’.

Source: CIGRE

Photo (for illustrative purposes): CIGRE 2018/ CIGRE/ With permission

https://www.powertransformernews.com/2018/08/31/cigre-2018-comes-to-paris/

ELECTRIC ENERGY ONLINE – Canada

Serves the fields of electric utilities, investor owned, rural and other electric cooperatives, municipal electric utilities, independent power producers, electric contractors, wholesalers and distributors of electric utility equipment, manufacturers, major power consuming industries, consulting engineers, state and federal regulatory agencies and commissions, industry associations, communication companies, oil & gas companies, universities and libraries.

https://electricenergyonline.com/event/energy/63000/n/cigre-session-2018.html

The CIGRE Biennial Session, is held in Paris, France in even number years, bringing together some **3,500 international experts and other decision-makers from the electrical power industry**. Around 400 papers, focused on the association's 16 fields of activities, are discussed.

2016 Session photo gallery: click here!

Since 1994 this prestigious event has been complemented with a **Technical Exhibition** held in the same premises. The week-long exhibition offers the opportunity to all visitors, including delegates, to discover new services, tools, equipment and materials as well as the most advanced technologies in the field of power systems.

An event designed to meet the expectations of each and everyone through

- **A week-long Technical Programme**
- **A week-long Technical Exhibition (3 floors)**
- **A unique opportunity to interact** with **more than 8000 trade visitors, CIGRE Experts and decision-makers** from the worldwide Power Industry.

More information regarding the last Session: click here

More articles to come

KONCAREVAC – Croatia

Corporate magazine „Končarevac“ which is published monthly, in 4000 copies > October 2018 by I Sviben

Kontinuirano osposobljavanje za razne vrste komunikacija (površne, informativne, stručne), snalažljivost, izgled, verbalna i neverbalna komunikacija... sve su to elementi koji utječu na dojam posjetitelja. Sinergija i kvaliteta komunikacijskog tima mogu biti presudne u odluci hoće li se netko zaustaviti i zatražiti informacije ili nastaviti dalje.

Komunikacijske vještine dolaze do izražaja u najraznovrsnijim oblicima i situacijama, a bolje pripremljene osobe lakše će se snaći i bolje reagirati. Ne može se definirati obrazac ponašanja niti predvidjeti što se sve može dogoditi, ali je najvažnije pri tome imati na umu da moramo afirmativno predstaviti svoju tvrtku i proizvode, koristiti svoje znanje i provjerene informacije te se ne upuštati u nepotrebne i neargumentirane rasprave o pitanjima koja nisu vezana uz naš zadatak.

Prihvaćanje različitosti u kulturama, načinu ophođenja, odijevanju ili drugim elementima moraju biti sastavni dio uljudnog, ali odlučnog vođenja razgovora. Interaktivnost je sjajan način da se saznaju informacije o onome tko nas je došao posjetiti. Ako netko postavlja pitanja, dobro je znati tko je i zašto ga to zanima. Razmjena posjetnica je idealna prilika za to, a izgovori o tome kako ih nema mogu zamijeniti pitanja i razgovor. Sve kontakte treba zabilježiti na predviđene sajamske obrasce, kako bismo sebi ili drugima točno prenijeli informaciju o razgovoru i potrebi budućih aktivnosti.

Izložbeni prostor je mjesto za razgovor i razmjenu informacija. Uporno davanje promotivnih materijala onima koji ih ne žele pokazuje našu nesigurnost ili nekompetentnost da razgovaramo o tom proizvodu ili temi te ne ostavljaju dobar dojam. Onaj tko želi, uzet će ili tražiti materijale. Ukoliko se vode dulji razgovori, goste se ponudi pićem, ali njihovo odbijanje ili nećkanje treba prihvatiti, a ne inzistirati da se ipak nešto popije.

Često nas posjećuju osobe sa zadatkom da saznaju što više o „unutarnjim“ pitanjima tvrtke: razvoju, planovima, problemima, osobama i funkcijama, a iskustvo i usredotočenost pomažu da prepoznajemo takve i da njima, ali ni drugima, ne pričamo o previše o tim temama. Ostati dostojanstven, ostaviti dobar dojam, dati pouzdane i točne informacije glavni su zadaci svakog tko sudjeluje na izložbenom prostoru. ■

CIGRÉ 2018.

Okupljanje međunarodnih stručnjaka za elektroenergetske sustave

U Parizu je od 26. do 31. kolovoza 2018. godine održano 47. zasjedanje Međunarodnog vijeća za velike elektroenergetske sustave – CIGRÉ.

Ovo savjetovanje održava se svake druge godine, a brojke od 8500 registriranih delegata i posjetitelja iz čak 93 zemlje potvrđuju da je CIGRÉ i dalje vodeći skup stručnjaka iz područja energetike.

Končarevci u radu Savjetovanja

Osim plenarnih zasjedanja, u stručnom dijelu Zasjedanja organizirano je šesnaest paralelnih studijskih odbora u sklopu kojih je prihvaćeno 578 stručnih radova – među kojima je bilo i pet radova autora iz KONČARA.

U sklopu studijskog odbora A1 Rotacijski strojevi, Stjepan Tvorić iz KONČAR – Instituta za elektrotehniku prezentirao je rad „Primjena diferencijalne metode mjerenja magnetskog polja u otkrivanju kvarova namota rotacijskih strojeva kao dio ekspertnih monitoring sustava“ (A. Elez, J. Študir, S. Tvorić), a u sklopu studijskog odbora B3 Transformatorske stanice Antun Foškulo iz KONČAR – Inženjeringa za elektrotehniku prezentirao je rad „Optimirani proces donošenja odluka za odabir cijevnog sustava sabirnica tijekom faza planiranja i projektiranja korištenjem 3D BIM softvera“ (A. Foškulo, M. Kokoruš).

Oba spomenuta rada kolege su predstavili i na poster-sekcijama, a osim njih na isti način radove su prezentirali i Dalibor Gorenc iz KONČAR – Aparata i postrojenja („Simulacija i mjerenje porasta tlaka u GIS-u 145 kV uslijed unutarnjeg lučnog kvara“, D. Gorenc, K. Flegar, I. Lončar, E. Plavec), Bruno Jurišić iz KONČAR – Instituta za elektrotehniku („Istraživanja francuske elektroprivrede o modeliranju energetskih transformatora za brze prenapone“, P. Poujade, O. Moreau, M. Ryadi, A. Xemard, B. Jurišić) te Domagoj Peharda iz KONČAR – Inženjeringa za energetiku i transport („Upravljanje održavanjem opreme u trafostanicama bazirano na SCADA podacima regionalnih centara nadzora“, I. Ivanović, D. Peharda, D. Novosel, K. Žubrinić-Kostović, A. Kekelj).

Sve veće zanimanje izlagača

Održana je i tehnička izložba, koja iz godine u godinu budi sve veće zanimanje izlagača, ali i posjetitelja. Na 13 680 m² tijekom ovog Zasjedanja predstavilo se rekordnih 300 izlagača, među kojima već tradicionalno i KONČAR. Tema našeg nastupa bili su proizvodi i oprema za postrojenja za proizvodnju, prijenos i distribuciju električne energije, a KONČAREV štand bio je mjesto susreta s postojećim partnerima, ali i dobra prilika za širenje kontakata i nova poslovna poznanstva. ■ I. Sviben

KONČAR AT THE CIGRE SESSION IN PARIS, 26 – 31 AUGUST 2018

This year, KONČAR will traditionally take part in the 47th session of the CIGRE – International Council on Large Electric Systems in Paris.
CIGRE is one of the most esteemed professional organizations in the world, which includes educational and development institutions, and covers all areas of the power industry, from the manufacturers of electrical equipment to utilities.

CIGRE gathers more than 3,500 experts from all over the world, who actively participate in the structured programmes, coordinating 16 study committees, which are overseen by the Technical Council.

Their main goals are to design and implement a power system for the future, optimize the existing equipment and power systems, respect the environment and facilitate the access to information from the power systems.

At Palais des Congres de Pariz, level 3, exhibition booth no. 323, KONČAR will present its product range including power production and transmission equipment and facilities. As part of the conference, five papers written by authors from KONČAR will be presented at the CIGRE working groups.

http://www.koncar.hr/en/koncar-at-the-cigre-session-in-paris-26-31-august-2018/

+

August 27 > https://www.linkedin.com/company/kon-ar-electrical-industries-inc.

EE PUBLISHERS – South Africa

*The primary activity of **EE Publishers** is publishing in the print and electronic media, with a particular focus on the energy, electrical, electronics, measurement, automation, control, computer, information, geo-informatics and communication technology sectors of Southern Africa.*

October 26th, 2018, Published in Articles: EE Publishers, Articles: Energize

Electric energy associations sign historic agreement

http://www.ee.co.za/article/electric-energy-associations-sign-historic-agreement.html

Two of the world's largest electric energy associations, Cigré and GO15, have signed an historic memorandum of understanding (MOU). The signing cements the relationship between the two organisations and will strengthen collaboration efforts in solving issues facing the electrical power industry.

The signing took place GO15's Annual Steering Board meeting in Milan, just prior to the World Energy Council's 2018 World Energy Week, in the second week of October 2018.

Cigré has over 200 working groups involving 3000 experts from around the world working on common technical issues. The president of Cigré, Rob Stephen, says this MOU enables GO15 to find solutions or understand best practices from Cigré. At the same time, Cigré can benefit from the strategic direction and business model work undertaken by GO15, he says.

Rob Stephen and Thava Govender

GO15 is a voluntary association of the world's 19 largest electric grid operators around the world, including those from Africa, Asia, Australia, Brazil, Europe, Mexico, Middle East, Russia and USA. This group of 19 power grid operators which comprise the organisation, deliver electricity to over half the world's population, accounting for more than two-thirds of the global electricity consumption.

The president of GO15, Thava Govender met Stephen for the signing at GO15's fifteenth Annual Steering Board meeting which was hosted by Terna, Italy's transmission system operator. Govender said that collaborating with Cigré is an important step in the energy transition and the adoption of new technologies such as battery storage.

Govender said that it is crucial that the electrical power industry is ready and capable of balancing conflicting priorities as it continues to fulfil its mandate of providing green, reliable and secure energy for economic and social growth and development. GO15 commissioned three new strategic areas of research in the past year to respond to sustainable development goals:

- Sustainable grid and interconnection development
- Integration of renewable generation within transmission network
- Electricity infrastructure resiliency

Driven by a volunteer network of experts from each member company, the various research areas have provided invaluable insight and, once completed, will lead the way for the global industry. The GO15 grid operators will continue to deliver reliable electricity to customers demanding improved power quality, while integrating renewable generation consistent with ambitious clean energy policies, Govender said.

This signing was particularly significant and unique as the presidents from both organisations are South Africans who work for the national power utility, Eskom.

GO15 has appointed Fedor Opadchiy from Russia's ISO (SO-UPS) to be the new 2018/19 president elect of its steering board. Govender will remain on as vice president as per GO15's governance and constitution.

Send your comments to energize@ee.co.za

T&D WORLD – USA

https://www.tdworld.com/events/paris-welcomes-cigre-2018

By Gerry George | June 14, 2018

EVENTS

Paris Welcomes CIGRE 2018

The world's experts on large high-voltage electric systems will be visiting the city of Paris, France, in August to attend CIGRE 2018.

CIGRE's 47th General Session is an International Conference on Large High Voltage Electric Systems that will attract some 3290 delegates and 6600 exhibition visitors to this weeklong event of extensive, wide-ranging activities in Paris, France. This biannual event gathers worldwide experts in even-numbered years to discuss, learn and share experience on the future of the electricity industry, from generation to distribution. The increasing importance and popularity of this event for electricity industry professionals has resulted in record numbers of technical contributions, delegates and exhibitors registering for this conference.

The CIGRE 2018 General Session will be staged in the Palais des Congrès, a concert venue, convention center and shopping mall situated in northwest Paris, on the edge of the Boulogne Woods and near the Arc de Triomphe, the Champs-Élysées and the Louvre. This superbly appointed large conference facility will comfortably accommodate all the scheduled activities and events included in the technical program as well as the supporting exhibition.

The electricity industry continues to face increasing challenges as the demand for economic, reliable and secure electrical energy worldwide continues to increase when generation is becoming increasing dependent on renewable energy resources. Faced with concern regarding the environment, technical issues linked to integration of the intermittent renewable energy sources, wind and solar, coupled with energy storage in transmission and distribution systems, are becoming more important. This year's conference will focus on the range of new technologies that have been developed to accommodate the variable and unpredictable generation from renewable energy projects.

The continuing development in high-voltage direct-current (HVDC) technologies and the application of both extra-high-voltage (EHV) AC and DC transmission interconnections is enabling these increasingly higher voltage systems to optimize system capacity and facilitate international-based energy marketing opportunities.

CIGRE presents a unique learning opportunity for all industry professionals as well as those young engineers entering the profession. All attendees are able to derive tremendous benefits from the knowledge and experience exchanged between the industry's experts on international research and development, manufacturing capabilities, utility management and energy marketing. The well-structured technical conference extends over a five-day period, during which all the industry's current and future issues will be discussed. Every technical session is very well managed with planned time slots available for all attendees to contribute and benefit from the participating industry specialists.

The Palais des Congrès is an excellent facility, well able to accommodate the four-track program of technical meetings in well-equipped auditoriums that are all adjacent to the large areas assigned for the technical exhibition.

Official Opening Ceremony

The official opening ceremony will be held on Sunday, Aug. 26 and will include a keynote presentation on Future Electricity Markets and Business Models by Audrey Zibelman, CEO, Australian Energy Market Operator. This will be followed by the first social meeting opportunity for all delegates and their guests.

Technical Meeting Schedule

The technical meetings schedule starts on Monday, Aug. 27 and continues daily until Friday, Aug. 31. On Monday, the schedule will include the following sessions:

- Opening panel: The Future Sustainable Power System: Organic, Disruptive and Secure

• Workshop: Large disturbances

· Part 1 – Market disturbances

· Part 2 – System disturbances

• Conference: Integrated Power System: Changing from Consumers to Proconsumers

• Association meeting: Presentation of the results of the General Assembly of June 2018.

Technical Meetings

Subject	Special Subject (Number of technical papers submitted to the study committee)
Tuesday, Aug. 28	A1 – Rotating Electrical Machines (27 papers) B4 – HVDC and Power Electronics (48 papers) C4 – System Technical performance (54 papers) C6 – Distributed Systems and Dispersed Generation (35 papers)
Wednesday, Aug. 29	Next Generation Network Forum A3 – High Voltage Equipment (33 papers) B5 – Protection and Automation (41 papers) C5 – Electricity markets and Regulation (30 papers) D1 – Materials and Emerging Test Techniques (40 papers) B4 & CENELEC Workshop – System Aspects of HVDC Grids
Thursday, Aug. 30	CIGRE Women in Engineering Forum A2 – Transformers (38 papers) B3 – Substations (44 papers) C2 – System Operation and Control (46 papers) D2 – Information Systems and Telecommunications (24 papers) A3 & B4 Workshop: DC Circuit Breakers
Friday, Aug. 31	B3 Workshop: Safe Working in Substations B1 – Insulated Cables (41 papers) B2 – Overhead Lines (morning)/Joint B2 & C3 (afternoon) (32 papers) C1 – System Development and Economics (38 papers) C3 – System Environmental Performance (24 papers)

Technical Meetings Schedule

The four-track technical meetings schedule starts on Tuesday, Aug. 28, allowing all delegates the opportunity to select their chosen topic from the 16 technical group meetings, two forums and two workshops. Each meeting will discuss a selection of the papers submitted for each of the 16 specialist subjects that are considered in advance by CIGRE's study committees. The technical committee has selected 595 papers submitted by authors from around the world for CIGRE 2018.

Prior to each of the conference technical meetings, the study committee's special reporters will identify common key issues that the authors from selected papers are invited to address at each technical meeting. This now-common standard style of session management allows time for all delegates to contribute and benefit from the knowledge and experience exchanged in these technical discussion meetings. Following these meetings, the special reporters will prepare short summaries of the presentations and discussions; the summaries will be made available to delegates on the following day.

Tutorials

This year CIGRE has launched a new four-day program of tutorials that will be held Monday through Thursday. These four-track tutorial daily sessions will address topics linked to the 16 specialist subjects. The tutorial meetings program is open to all registered delegates but requires prior registration.

Poster Sessions

This year the organizing committee has arranged poster sessions that will be open to delegates from Monday afternoon, Aug. 27 until Friday morning, Aug. 31.

Companion and Social Events

The CIGRE organizing committee has arranged an extensive program of activities to suit all tastes for all those companions accompanying conference delegates. Companions can enjoy the city's iconic features, including the Eiffel Tower, Notre-Dame and Champs-Élysées, in addition to museums, bistros, boutiques and designer shops. They will also have the opportunity to experience the delights of French cuisine, wine tasting and also visit beautiful French countryside that surrounds Paris.

The many evening functions will give all attendees the opportunity to relax and enjoy leisure time with fellow professionals in a convivial atmosphere, starting with the cocktails in the conference halls on Monday, Aug. 27 at 6 p.m. All delegates and companions are also invited to a cocktail dinner arranged by the French national committee that will be held at the Cité de la Mode et du Design on the evening of Thursday, Aug. 30.

Technical Exhibition

The Palais des Congrès also will stage more than three floors the largest-ever CIGRE technical exhibition with more than 240 exhibitors from 33 countries. The exhibition will be open to all delegates and visitors daily at 9 a.m., remaining open, until 8 p.m. on Monday, Aug. 27, until 4 p.m. on Friday, Aug. 31, and until 6 p.m. on all other conference days.

The exhibition hall will feature many of the world's leading manufacturers and service providers presenting their latest technologies and product showcases designed to engage and encourage delegates to participate in lively in-depth discussions. All the current demands of the power generation and transmission utilities will be presented, giving delegates hands-on experience to handle equipment and analyze the latest software and services linked to the design and execution of EHV and HV power-delivery systems.

The CIGRE exhibition is now a well-established forum that encourages all visitors the opportunity to develop and strengthen the networking between the research associates, manufacturers, end-users and industry decision-makers. Additionally, this exhibition

attracts the specialist companies and research institutions that continue to offer the electricity industry unique contract services, research and testing facilities. This relaxed business atmosphere is designed to ensure every delegate will derive long-term benefits benefit from the time spent visiting this large international-based exhibition.


Exhibitor List

About CIGRE

CIGRE, the International Council on Large Electric Systems founded in 1921, is an international non-profit association for promoting collaboration on a national and international level. With more than 15,000 equivalent members composed of researchers, academics, engineers, technicians, CEOs and other decision-makers, CIGRE allows experts from nearly 100 countries to share and join forces to improve existing systems and build the electrical power systems of the future, from generation to distribution.

CIGRE, which has established national committees in 58 different countries, achieves its mission through the work of its specialized study committees and working groups and through events, including sessions and symposiums.

CIGRE is looking forward to sharing its diverse range of technical expertise with all the fellow professionals attending CIGRE 2018. Please accept the CIGRE organizing committee's invitation to attend and participate in one of the world's largest international conferences in Paris from Aug. 26 through Aug. 31. ♦

For full conference details, please visit www.cigre.org.

INMR – Canada

Magazine sent to 17500 subscribers + on line publications on the field of electrical insulators, surge arresters, bushings and cable terminations.

August 18, 2018 •

A review of the program for the upcoming CIGRE General Session in Paris suggests record attendance, with more than 8000 participants expected from 93 countries. In addition, some 240 exhibitors will display new products, services and technologies over three floors. The Technical Sessions will be conducted using the traditional Special Reporter system, and can now be downloaded from CIGRE's web site. On the basis of questions addressed in these Special Reports, each participant can make a contribution during the Technical Session. This year, it is important that any proposed contribution be sent to the Study Committee Chairman, Secretary and Special Reporter no later than August 7. Note that this deadline might be somewhat different for various Study Committees, e.g. it is July 23 in the case of SC B2. Given the expected number of contributions, any document submitted after these dates will probably not be considered. This applies for Poster Sessions as well.

Looking into the Special Report of Study Committee B2 on Overhead Lines, a particularly interesting Technical Session is expected. There will be three Preferential Subjects (PS) covering a broad range of topics:

- **PS1 Overhead Lines & Information Technology**

– PS1/1 Dynamic Line Rating: forecasting and operational experience (3 Papers)
– PS1/2 Innovations to improve line performance and safety (4 Papers)

- **PS2 Experience Leading to Improvements of OHL**

– PS2/1 Studies and research to define electrical and mechanical parameters for OHL design (3 Papers)
– PS2/2 New methods and tools for design and inspection of overhead lines (5 Papers)
– PS2/3 Methods for increasing reliability of overhead lines (3 Papers)

- **Joint PS3 B2&C3 Technical and Environmental Aspects of Overhead Lines**

– PS3/1 Vegetation and right-of-way ROW (2 Papers)
– PS3/2 Public acceptance and Tower design (6 Papers)
– PS3/3 EMF, corona noise and insulation coordination (7 Papers)
– PS3/4 Life Cycle Assessment (LCA) (1 Paper)

The general content of PS1 deals with the fact that erecting new transmission lines these days can be particularly challenging. For example, high costs could be involved due to the need to meet local laws and regulations. Moreover, receiving permission for a line through a new corridor can prove time consuming. For these reasons, utilities in many countries are trying to optimize their systems within existing line corridors. Aside from application of alternative conductors such as HTLS-conductors, methods are being investigation to increase line capacity by monitoring conductor temperature along with local weather. One interesting question in this regard: What are the principal advantages and cost implications of using direct measurement of e.g. conductor temperature, sag, etc. versus indirect measurements involving ambient temperature, wind speed, etc. for calculating line rating?

The general content of PS2 covers availability and recent progress in technologies and software that optimize design of new lines and as well as improvement in reliability of existing lines. This includes new methods and tools for diagnostics. This PS will also provide information about long-term experience with HTLS conductor.

Joint PS3 is interdisciplinary. Each overhead line has an impact on the environment, from visual and public acceptance to mechanical factors to electrical aspects. Similarly, design of a new transmission line has seen an increase in number of stakeholders, including architects for landmark-like tower designs and environmental managers. For these reasons, Study Committees B2 and C3 initiated collaboration to cover these aspects and identify further synergies. Thanks go to Special Reporters Bertie Jacobs (South Africa), Kjell Halsan (Norway), Cécile Rozé (France) and Warren Funston (South Africa) for reading papers in advance and compiling the Special Report.

Dr. Frank Schmuck

http://www.inmr.com/preview-of-2018-cigre/

More articles coming soon

Announcement Event Egg

https://eventegg.com/cigre-session/

About CIGRE 2018

- **Biennial Session of the International Council on Large Electric Systems** is organized between 26 Aug and 31 Aug 2018.
The **Biennial Session of the International Council on Large Electric Systems** (**CIGRE 2018**) will take place at **Palais des Congres** in Paris, France.
There will be a chance to uncover the newest improvements in Energy, Power, Power Industry, Electrical System, Electricity, Environment and Sustainability at this crucial Meeting.

Biennial Session of the International Council on Large Electric Systems is a biennial Meeting.
This year more than 3500 of your colleagues from all around the world are coming together in Paris, France for **CIGRE 2018**.
The association of the **CIGRE 2018** is International Council on Large Electric Systems .

RUSSIAN media

visiting CIGRE Exhibition

- RIA NOVOSTI (Agence TASS) https://ria.ru/
  The most important media in Russia

- TV rttv RTTV.ru / http://www.trtv.ru/
  on the exhibition & Russian pavilion

- RBC TV http://tv.rbc.ru/

OTHER MEDIA > BORN TV

VIDEO ON CIGRE & EDF

https://vimeo.com/289125396

MDP: edfin2018

About exhibitors at CIGRE

Videos on Twitter

https://twitter.com/antgrasso/status/1034750249372405760

https://twitter.com/antgrasso/status/1034478393864204289

https://twitter.com/antgrasso/status/1034448247463522305

https://twitter.com/antgrasso/status/1034357642347667456

www.automotiveworld.com

Sumitomo Electric Industries, Ltd. will exhibit its products at CIGRE 2018 Technical Exhibition, held in Paris, France from August 26 to 31, 2018

CIGRE is an international power systems conference held every two years in Paris, France, where electricity industry representatives from around the world gather.

To mark our participation in this exhibition, we will launch a webpage for you to download product catalogs and learn about projects related to our exhibits.

https://www.automotiveworld.com/news-releases/sumitomo-electric-industries-ltd-will-exhibit-its-products-at-cigre-2018-technical-exhibition-held-in-paris-france-from-august-26-to-31-2018/

markets.businessinsider.com

mPrest Enters European Utility Market and Showcases Smart Energy Technology at CIGRE Paris 2018

At CIGRE, mPrest will be showcasing their production proven, Grid Modernization System of Systems applications and demonstrate their latest smart energy software products including the Distributed Energy Resource Management System (mDERMS), Asset Health Management, URD Cable Fleet Maintenance Optimization, and Critical Event Management. ……

https://markets.businessinsider.com/news/stocks/mprest-enters-european-utility-market-and-showcases-smart-energy-technology-at-cigre-paris-2018-1027472550

zonebourse.com

Paris La Défense, le 24 août 2018 - L'accroissement constant des besoins mondiaux de transport d'énergie nécessite une nouvelle génération de réseaux électriques toujours plus performants et efficaces. Depuis près d'un siècle, le CIGRÉ (Conseil International des Grands Réseaux Électriques) rassemble des experts du secteur afin de favoriser le partage de connaissances en vue d'améliorer les réseaux électriques d'aujourd'hui et de demain. A l'occasion de la Session 2018 du CIGRÉ, Nexans présente ses systèmes de câblage clé en main ainsi que les dernières avancées en matière de R&D dans le cadre des différents Comités d'Etudes et Groupes de Travail auxquels le Groupe participe……..

Enfin, les visiteurs du CIGRÉ 2018 auront l'opportunité d'en savoir plus sur les services de recyclage Nexans, permettant aux clients du Groupe de valoriser leurs déchets de câbles tout en réduisant leur impact sur l'environnement….

https://www.zonebourse.com/NEXANS-4676/actualite/CIGRE-2018-Nexans-presente-ses-solutions-dernier-cri-de-cablage-HT-pour-les-reseaux-sous-marins-et-27159287/

www.powertransformernews.com

At CIGRE 2018, Siemens Transformers presents its new, connective transformer product class: the Sensformer®. The journey into digitalization of transformers has started by focusing on a basic end-to-end product digitalization as a corner stone for digitalized grids……

https://www.powertransformernews.com/2018/08/05/transformers-meet-connectivity-the-sensformer/

Modern Power System

Siemens has launched what it describes as the "first compact gas-insulated switchgear (GIS) for high-voltage direct current applications."
Describing the technology in a presentation to the recent Cigre conference in Paris, Siemens says its new 320 kV gas-insulated switchgear uses up to 95% less space compared to previous air-insulated equipment. When used in an offshore HVDC converter platform for offshore wind, "the platform size can thus be decreased by approximately 10%", the company says.
www.modernpowersystems.com

businesswire

GE Power Launches New Innovations at CIGRE 2018 Including Revolutionary HVDC Control System

Product launches emphasize commitment to deliver innovative, software-enabled solutions to help customers navigate the shifting energy landscape……

At this year's CIGRE, GE Power's Grid Solutions business launched the following new products and services as part of their holistic approach to grid modernization:

https://www.businesswire.com/news/home/20180827005323/en/GE-Power-Launches-New-Innovations-CIGRE-2018

pulsenews

LS Cable & System unveils power cable innovations at CIGRE in France

South Korea's LS Cable & System announced on Tuesday it has unveiled product innovations including the world's thinnest 500㎸ power transmission cable at CIGRE 2018 in Paris, France to address customers' needs to adapt to a more productive and decarbonized energy landscape in Europe.

Founded in 1921, CIGRE (Conseil International des Grands Reseaux Electriques) is an international non-profit association for promoting collaboration with experts from 1,100 companies, universities and labs in 92 counties by sharing knowledge to improve electric power systems. ……..

https://pulsenews.co.kr/view.php?year=2018&no=540590

acrofan

LSIS participated in CIGRE 2018 held in Paris, France, from August 27-31 along with international leaders of the industry. Using a total of 6 exhibition booths (54m2), LSIS introduced its newest line of key development in ESS (Energy Storage System), PCS (Power Conditioning System), and FACTS (Flexible AC Transmission System)……

https://us.acrofan.com/detail.php?number=85852

tradearabia

ABB, a global technology leader, is demonstrating its innovative new 3D/VR design and planning tool to enable customers to “walk through” projects at CIGRE 2018, in Paris, France from August 27-31…….

http://www.tradearabia.com/news/IND_344475.html

newswiretoday

ABB is taking the digitalization of power grids design technology to the next level with its innovative new 3D/VR design and planning tool, being demonstrated live at CIGRE 2018, in Paris from August 27-31.
https://www.newswiretoday.com/news/167761/ABB-Demonstrates-Digital-Future-of-Power-Grid-Design-and-Planning/

https://www.youtube.com/watch?v=Zbwn3ZS1Mr4

zacks

General Electric Company’s (GE - Free Report) Grid Solutions business team unveiled the company’s latest product innovations at this year’s International Council on Large Electric Systems (CIGRE) exhibition. ….

https://www.zacks.com/stock/news/320184/general-electric-arm-unveils-products-for-grid-modernization

prtimes.jp_JAPAN

CIGRE 2018 TECHINCAL EXHIBITION」に出展し、当社の電力流通システム事業領域におけるデジタル化やバーチャルパワープラント、環境対応への取り組み等に関する製品やサービスを紹介します。

東芝エネルギーシステムズ（https://www.toshiba-energy.com/index_j.htm）は、フランスのパリ国際会議場において8月27日から8月31日にかけて開催される第47回 CIGRE（国際大電力システム会議）パリ大会に併設される展示会「CIGRE 2018 TECHINCAL EXHIBITION」に出展し、当社の電力流通システム事業領域におけるデジタル化やバーチャルパワープラント、環境対応への取り組み等に関する製品やサービスを紹介します。

https://prtimes.jp/main/html/rd/p/000000010.000032322.html

Newswire

LSIS fournit les solutions d'énergie les plus récentes aux dirigeants mondiaux de l'industrie lors du CIGRÉ 2018

- Exposition réussie de nouvelles solutions énergétiques au CIGRÉ 2018 (Conseil international des grands réseaux électriques) …….

https://www.prnewswire.com/fr/communiques-de-presse/lsis-fournit-les-solutions-d-%C3%A9nergie-les-plus-r%C3%A9centes-aux-dirigeants-mondiaux-de-l-industrie-lors-du-cigr%C3%A9-2018-859245519.html

THINK SMART GRIDS

Le CIGRE, un événement majeur pour le secteur de l'électricité

Le CIGRE se tient tous les deux ans au Palais des Congrès, à Paris. Quelques 300 exposants et 8500 visiteurs, issus de 93 pays, ont fait le déplacement.

Conférences, groupes de discussion, tutoriels, événements de réseautage, et enfin, exposition présentant toutes les dernières innovations et perspectives d'évolution pour les réseaux électriques, le salon du CIGRE est un événement majeur pour tous les acteurs du secteur.

https://www.thinksmartgrids.fr/actualites/bilan-de-la-presence-de-think-smartgrids-au-cigre/

VIDEO & Photos made by exhibitors

CAMLIN GROUP

https://vimeo.com/287669077/0515c1e1a6

DERANCOURT

Nous sommes heureux de vous présenter ces quelques photos de notre participation en tant qu'exposant au CIGRE, le Congrès International des Grands Réseaux Electriques.

Cette session 2018 a été un franc succès pour les organisateurs avec + de 300 grandes entreprises exposantes dont DERANCOURT et + de 9000 spécialistes et délégués qui ont participé activement aux 6 jours de conférence, tout cela avec un public international à 90%.

CIGRE est l'une des principales organisations de l'industrie en matière de partage de connaissance et de collaboration. L'équipe DERANCOURT

https://www.derancourt.com/cigre-2018-paris-palais-des-congres-26-au-31-08-2018.html

VIDEOS YOUTUBE (a few examples)

Russian National Committee of CIGRE. Youth Section. Video#1

РНК СИГРЭ / CIGRE Russian NC

Ajoutée le 26 août 2018

https://www.youtube.com/watch?v=nzj3jdpz2GI

Russian National Committe of CIGRE. Youth section. Video#2

РНК СИГРЭ / CIGRE Russian NC

Ajoutée le 26 août 2018

https://www.youtube.com/watch?v=rPOq_ybwtzo

A vision about HVDC in Europe by Nari

ajoutée le 5 sept. 2018
Interview at CIGRE 2018 Paris with Vincent Hu responsable commercial La Francophonie
https://www.youtube.com/watch?v=E6BUahegwLU

LumaSense at CIGRE 2018

Ajoutée le 27 août 2018

https://www.youtube.com/watch?v=Bmnul3Nq6zQ

ENGIE FABRICOM

CIGRE Technical Exhibition est un événement de dimension internationale pour tous les professionnels du secteur électrique, qui y découvrent les évolutions et solutions les plus récentes pour l'ensemble de la chaîne de valeur, de la production à la distribution.
ENGIE Fabricom ne peut manquer à l'appel, fort de ses 60 ans d'expérience en réseaux haute et basse tension au service des gestionnaires de réseaux de distribution, grandes entreprises industrielles et sociétés d'électricité.
http://www.engie-fabricom.com/FR/Profil/Agenda/Pages/Exposition-technique-CIGRE-2018.aspx

…and many more on You tube