

The forum  
for **electrical innovation**

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# JOINING FORCES FOR THE POWER SYSTEM OF TODAY AND OF TOMORROW

Power systems are the heart of the electricity business. They connect producers and consumers; allow choices of generation types to be connected with variable pricing; maintain security of supply; and are key to the development of a mix of generation (hydro, fossil, nuclear, renewables). Electricity consumption is expected to increase by almost 75% by 2030, largely due to the growing needs of emerging economies. Permanently evolving power systems will continue to be the key facilitator of sustainable electricity.

CIGRE, the Council on Large Electric Systems, calls on professionals from across the globe to meet these challenges by sharing expertise and joining forces to improve existing systems and to build the electrical power systems of the future. International experts working together and exchanging information across the industry is key to the sustainable development of electric power.

Founded in 1921, CIGRE is an international non-profit association for promoting collaboration on a national and international level. As research workers, academics, engineers, technicians, CEOs and other decision makers, our members offer expertise, best practice and unique perspectives to all industry stakeholders, from system operators, manufacturers and producers to traders and regulatory bodies. Our goal is to continuously build our knowledge base, fostering technology innovation in the interests of everyone in our community and industry.

# COLLECTIVE INITIATIVES TO ENHANCE POWER SYSTEMS

More than 2,500 experts from across the globe actively collaborate in structured work programmes with CIGRE, through approximately 220 different Working Groups. Their efforts are coordinated by 16 Study Committees, which are overseen by a Technical Committee to ensure that their work is in line with CIGRE's strategic directions. Research efforts are anchored to four interlinked objectives in the sector of electrical power systems.

## DESIGNING AND DEPLOYING A POWER SYSTEM FOR THE FUTURE

Systems of the future will have to wheel bulk power from non-carbon sources over long distances. There will be a need to interconnect grids to compensate for local electricity insufficiencies and to optimize dispersed generation, intelligent loads and local power storage or microgrids. These systems will use ultra-high voltage, AC, DC and power electronics, while increasingly integrating new information technologies. Synergies between engineers and industry experts will be further enhanced.

## OPTIMIZING EXISTING EQUIPMENT AND POWER SYSTEMS

At the same time as developing tomorrow's power systems, we must implement better maintenance, refurbishment and replacement strategies. We need to improve the availability and reliability of these systems in a constantly changing industrial environment, encompassing the whole range of technologies, markets and regulatory environments. How best to maintain existing infrastructures and networks using new methodologies and technologies? This is the key question.

## RESPECTING THE ENVIRONMENT

Integration of low-carbon energy sources is critical to tomorrow's electrical power systems. New ways of reducing greenhouse gases need to be explored, including renewable energy, to meet growing needs in a sustainable manner, including networks themselves.

## FACILITATING ACCESS TO INFORMATION

CIGRE is an independent association which acts as an ambassador for all electrical power industry players. It gathers, collates and provides open access to technical information thanks to collaboration between international experts, and by common sharing of research and studies. It is an unrivalled source of information for opinion leaders and the public alike. The quality and impartiality of this information is critical to the rapid and environmentally-friendly deployment of tomorrow's power systems, and the development of new equipment.



“CIGRE offers a unique opportunity for both junior and senior professionals in my company to access the technical information they need to bring innovative solutions to our national business.”

Dominique MAILLARD (France),  
President RTE

“CIGRE gives my company access to practical high-voltage solutions to today’s problems.”

Mike HEYECK (United States),  
Senior Vice President, Transmission,  
American Electric Power

## KEY MISSIONS

**IMPROVE AND DISSEMINATE TECHNICAL KNOWLEDGE AND INFORMATION**  
by sharing expertise in electrical power systems



## CONFERENCES AND MEETINGS

CIGRE is an open forum for all industry professionals, staging numerous events where participants can expand their knowledge base and discuss new developments and innovations, while building a network of colleagues.

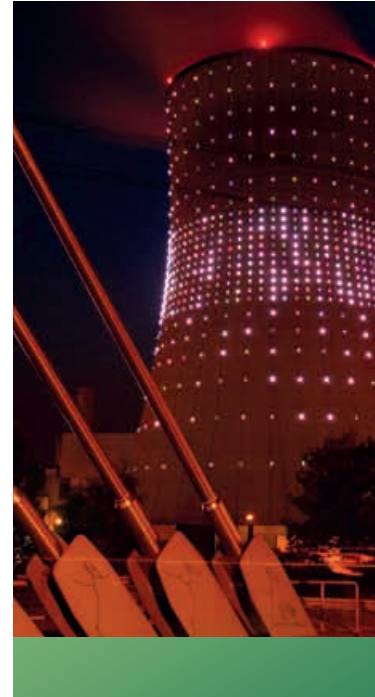
The CIGRE Biennial Session, is held in Paris, France in even number years, bringing together some 3,000 international attendees. Around 400 papers, focused on the association’s 16 fields of activity, are discussed.

Symposiums, are held in odd number years, in various countries where CIGRE is present, focusing on specific subjects of topical interest.

Other regional meetings and colloquiums are held to discuss issues specific to a country or region.

CIGRE is also committed to the development of engineers of the future and holds tutorials during many events aimed at less experienced engineers, to educate them and stay in tune with the industry.





**ADD VALUE**  
by bringing together  
innovative ideas

**PRODUCE AND DELIVER UNBIASED,  
HIGH-QUALITY INFORMATION**  
in support of the industry's needs

## PUBLICATIONS

Research studies carried out by CIGRE Study Committees are published as technical documents and can be accessed from our online library, one of the most comprehensive accessible database of relevant technical works on power engineering. Publications can be downloaded and/or ordered at **e-cigre.org**:

- **technical brochures** on the results of our Study Committees;
- **papers** presented at the biennial sessions papers and symposiums;
- **proceedings** of discussions of session reports;
- **technical articles** from CIGRE's bimonthly journal *Electra*.



“CIGRE provides an excellent platform for experts and scholars worldwide to share and learn about emerging technologies like Ultra High Voltage transmission and Smart Grid. Thanks to CIGRE, a broad range of experts are coming together to jointly define the future of electrotechnical researches.”

Yinbiao Shu (China),  
Executive Vice President,  
State Grid corporation of China

“CIGRE represents a unique forum where all stakeholders involved in the electric industry can work together at solving the relevant key technical/economic issues with a real international perspective.”

Carlo Alberto NUCCI (Italy),  
Professor, Chair of Power Systems,  
Univ. of Bologna

**ADDRESS ISSUES** related to every aspect of electrical power systems, from initial planning to design, construction, operation, maintenance and decommissioning

## OUR MEMBERS

CIGRE membership is open to all individuals, companies and organisations wishing to join our professional network.

For **individual members** – whether engineers, specialists, academics or researchers – CIGRE provides a unique opportunity for personal and professional development:

- Develop and share your technical expertise;
- Access international expertise and leading-edge techniques;
- Up to date information on the latest technology and industrial techniques;
- Tap into industry trends;
- Meet your counterparts;
- Understand international approaches to the environment, legislation and regulation.

With CIGRE membership, you will build your industry profile, better promote your company, and develop your professional network.

For **collective members**, who consist of legal entities, administrations, public or private companies, industrial and/or commercial character, scientific organisations, research institutes, educational bodies, etc., CIGRE fosters professional and technical development in myriad ways:

- Learn about global issues and perspectives;
- Be part of a unique network;
- Understand different cultures and know-how;
- Access a wide range of technical information at a reduced price.

CIGRE contributes to the personal and intellectual development of all its members.

**With CIGRE membership you will benefit from a higher international profile and visibility within the electrical power industry.**

“CIGRE’s working groups and activities allow industry people to work together, facilitating access to a global network of experts, engineers and scientists.”

Albert C. G. MELO (Brazil),  
Director General,  
Electrical Energy Research Center, CEPEL

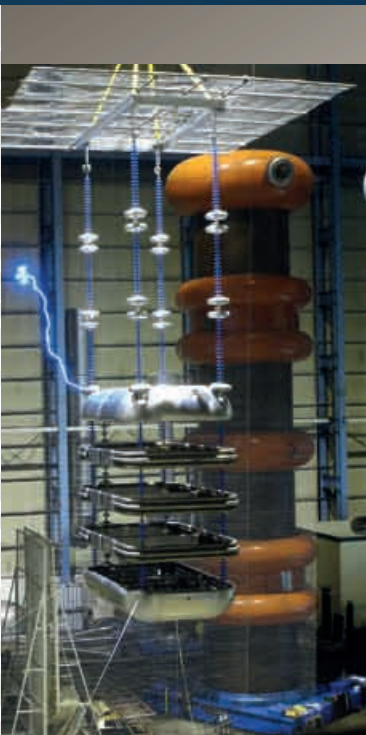
“Joining CIGRE is a great way for young professionals to develop the competencies they need for a career in the power industry.”

Jürgen SCHWARZ (Germany)

## JOIN US NOW!

By joining Cigre, you will become part of a global network of experts and build lasting partnerships with electrical industry organisations connected to our association.

## CONTRIBUTE TO THE DEVELOPMENT OF INTERNATIONAL STANDARDS (with IEC)



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## A GLOBAL PRESENCE

OUR NATIONAL COMMITTEES PROMOTE CIGRE IN THEIR OWN COUNTRIES,  
AND ENCOURAGE MEMBER PARTICIPATION IN CIGRE ACTIVITIES



Algeria	Germany	Netherlands
Andean Countries	Greece	New Zealand
Arab States of the Gulf	Hungary	Norway
Argentina	Iceland	Paraguay
Australia	India	Poland
Austria	Indonesia	Portugal
Belgium	Iran	Romania
Bosnia & Herzegovina	Ireland	Russia
Brazil	Israel	Serbia
Canada	Italy	Slovenia
Chile	Japan	South Africa
China	Jordan	Spain
Croatia	Korea	Sweden
Czech & Slovak Republics	Libya	Switzerland
Denmark	Macedonia	Thailand
Egypt	Malaysia	Ukraine
Estonia	Mexico	United Kingdom
Finland	Montenegro	United States
France	Morocco	Venezuela

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- Publications, e-cigre: [publications@cigre.org](mailto:publications@cigre.org)
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Visit us at [www.cigre.org](http://www.cigre.org) and benefit from a unique source  
of information by becoming a CIGRE member.



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