Technical Committee - Stategic Agenda

2008 -2018

Klaus Fröhlich
Chairman of the TC

CIGRE's Key Activities

- Biannual Session in Paris
- Worldwide: Symposia, Colloquia, Tutorials
- Currently more than 200 working groups, elaborating:
  - **Technical Brochures**
  - **Electra publications**
  - **Working group reports**
- Acces by members through:
  - **Electra**
  - **TB download**
  - **E – Cigre (search machine)**

A WORLD-WIDE AUDIENCE
Une audience mondiale

6700 MEMBERS in **85** COUNTRIES **58** NATIONAL COMMITTEES

ALGERIA
ANDEAN NC
ARAB STATES GULF
ARGENTINA
AUSTRALIA
AUSTRIA
BELGIUM
BOSNIA HERZEGOVINA
BRAZIL
CANADA
CHILE
CHINA
CROATIA
CYPRUS
CZECH AND SLOVAK REPS.
DENMARK
EGYPT
ESTONIA
FINLAND
FRANCE
GERMANY
GREECE
HUNGARY
ICELAND
INDIA
INDONESIA
IRAN
IRELAND
ISRAEL

ITALY
JAPAN
JORDAN
KOREA
LIBYA
MACEDONIA
MALAYSIA
MEXICO
MONTENEGRO
NETHERLANDS
NEW ZEALAND
NORWAY
PARAGUAY
POLAND
PORTUGAL
ROMANIA
RUSSIA
SERBIA
SLOVENIA
SOUTH AFRICA
SPAIN
SWEDEN
SWITZERLAND
THAILAND
UKRAINE
UK
UNITED STATES
VENEZUELA
VIETNAM

CIGRE's Mission

- Cover all facets of the Electric Power Sytem (EPS) in technical economical-, environmental- and social aspects
- Facilitate and develop the exchange of engineering knowledge and information
- Add value to the exchanged knowledge by synthesising state of the art and world best practises
- Produce and deliver high quality technical documents

Challenges

- Environmental Pressure
  - **Integration of renewableenergy sources (often intermittent)**
  - **Public pressure on OHL‘s /ROW/EMF/Noise**
  - **Increasing frequency of extreme weather conditions**
  - **Substitutes for various insulation materials (oil, SF6)**
  - **Enhance electric power system efficiency**

- Changing Customer demands
  - **Increasing role of electricity in the total energy sector (energy mix changing) ➔example:Vehicle to grid**
  - **Fast growth in developing countries**
  - **Access to electricity supply for all people**
  - **Local differenciation on quality of supply**
  - **Changes of historic seasons pattern**

Challenges
(continued)

- Regulation, Legislation and Targets
  - **Goverments setting new rules, fuel politics (fuel mix)**
  - **Security of supply**
  - **Standards for EMF levels (AC,DC)**
  - **CO_2 emission standards**
  - **Increasing involvement of energy users on decisions about future energy sources**
  -

- New and developing technologies
  - **New energy generation technologies,**
  - **Energy storage devices are needed**
  - **New materials emerging**
  - **New IT tools/methods for automation, control and diagnostics are available**

Challenges
(continued)

- Maintaining and expansion of the electric power system
  - **Need for bulk power transmission in HVDC and/or UHV**
    - **Implementation of bulk renewable (intermittent) energy sources (wind, PV)**
    - **Overlay network**
  - **System stability**
  - **Management of assets**
  - **Development of new power systems (developing countries)**

Main Strategic Directions of the TC

- Future network
  - **New intelligent grid concepts for reception of intermittend dispersed sources**
  - **New concepts for long distance bulk power transmission**
  - **Methods to strengthen the power grid (UHV, DC)**
  - **Use of energy storage**
  - **More intelligence for system operation and -control**

- Focus on environment and sustainability
  - **Public acceptability**
  - **System efficiency**
  - **Environmental friendly insulation materials**
  - **New regulations, targets**

Main Strategic Directions of the TC
(continued)

- Make the best use of the existing system
  - **Asset management and efficient use of assets**
  - **Improve system operation and control for better stability and recovery**
  - **Implementation of new technologies/principles (materials, apparatus, IT)**
  - **Fulfill electricity market needs**

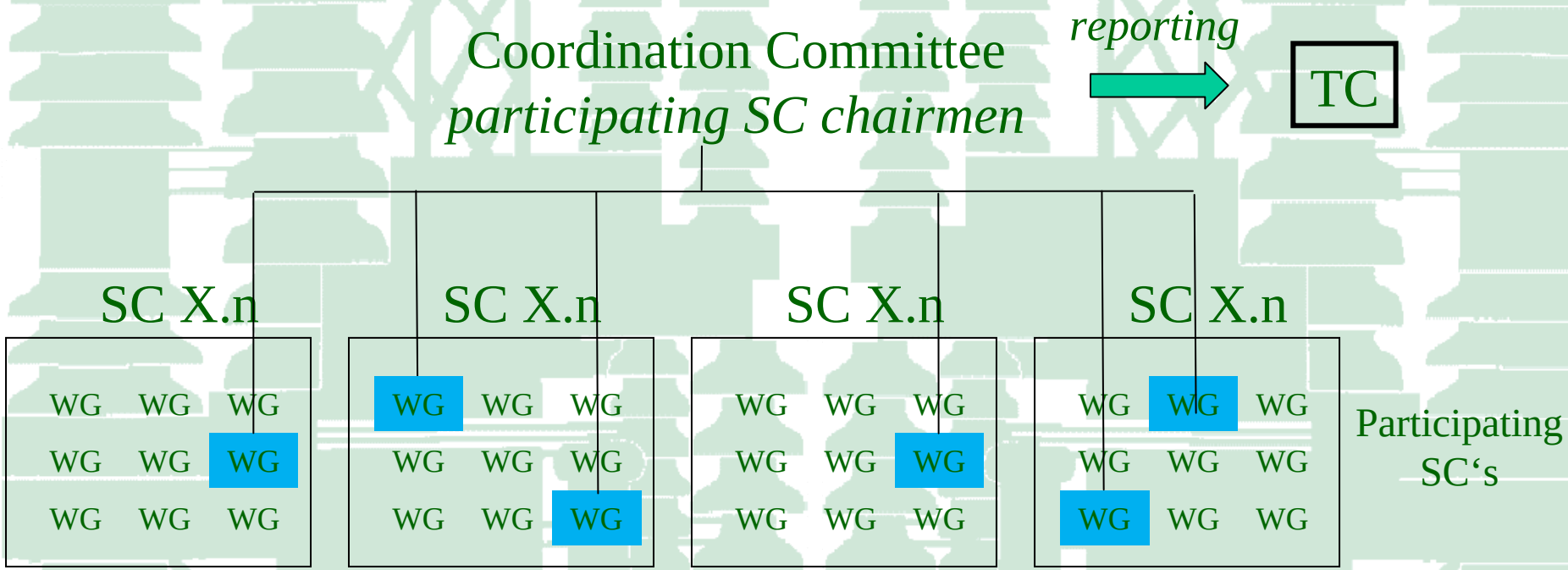
- **Frame conditions:**
  - **The electric power system covers all voltage levels (transmission through low voltage distribution as far as it concerns system aspects)**
  - **Economical considerations on all levels**
  - **Electricity for everybody**

TC-internal procedures

- Installation of TC projects for interdisciplinary tasks
- Enhance value of Electra by additional scientific reviewed articles
- Increase number of tutorials (Ambassadors of CIGRE)
- Invite young engineers to particpate events and workbodies
- Prevent loss of knowledge in the electrical power sector
- Establish stronger ties with National Committees

TC projects – the way how to handle topics of strong interdisciplinarity

Aim: Deal with widely interdisciplinary topics of utmost importance for CIGRE with involvement of several SC‘s



Current examples: UHV, future power system

CIGRE is an open association

Young researchers and engineers are invited to participate in CIGRE‘s events and work bodies

Today CIGRE provides for students easy access to conferences and events