Strategy 2026

Study Committee A2
Transformers and Reactors

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SC A2

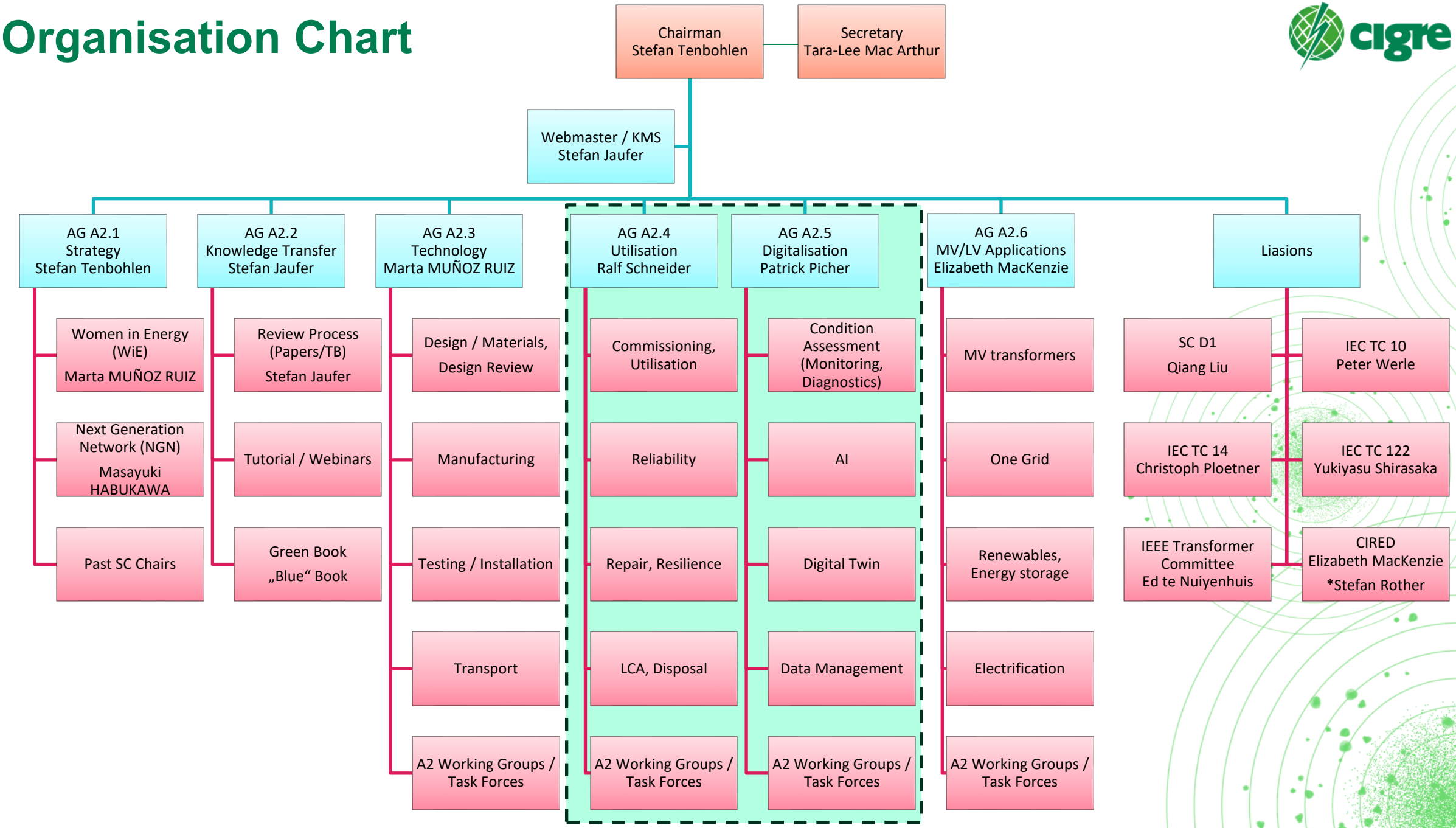
Goals of SC A2 Transformers and Reactors

- To monitor **current trends** in transformer technology
- To facilitate the **integration of transformers** in networks and in the environment
- To maintain its leading position in the field of transformers by **providing unbiased and neutral information** on all essential transformer aspects;
- To be **recognized by the industry** as a leading and reliable **partner** with competence in all engineering issues related to power transformers
- Promote **diversity, inclusion**, and **broad representation** across all Study Committee A2 activities.
- To encourage the **participation of experts** from emerging market and **developing countries** in the activities of Study Committee A2

Objectives

- SC member engagement
  - Confirm current roles and areas of involvement (AGs, WGs, TFs, liaison roles, reviewing pool)
  - Reinforce expectations that all SC A2 members should contribute in at least one capacity.
- Increase of NGN participation in AGs and WGs
- Broader, stronger technical review pool for A2
  - Broadening the reviewer base
  - Improving review quality and timeliness, and
  - Enhancing transparency and effectiveness of the review process.
- Assessment of AI tools to improve efficiency and quality of reviews
- Create a centralised database to capture and track ideas
  - This will support the identification and prioritisation of new technical topics, Working Groups (WGs), Task Forces (TFs), Sessions and Symposiums.
- Extension of Best Practice document

Organisation Chart



Expectations from SC Members

- Connecting NC, national experts and sharing ideas with the SC
- Share / prepare NC updates
- **Active** member of an Advisory Group
  - Proposal of new WGs
  - Monitoring of WGs
  - Review of TBs
- Review of papers

Workshop Preparation

- Assignment of members to AGs
- Explanation of objectives of the AGs by AG chair
- Organization of the future work (meeting dates, KMS, …)
- Proposals for new work items, WGs and Preferential Subject for Session 2028

- AG 2.2 Knowledge Transfer: Room 111
- AG 2.3 Technology: Room 112
- AG 2.4 Utilization: Room 353
- AG 2.5 Digitalisation: Room 353
- AG 2.6 MV/LV Application: Room 113

Questions or Comments?

Future Events

Heidelberg Symposium



Bangkok Symposium



Shaping the Future of Grids - Resilience, Intelligence, and Innovation for the Energy Transition

8-12 November 2027 | Queen Sirikit National Convention Center (QSNCC), Bangkok, Thailand

RESILIENCE
Systems that withstand and recover from climate, operational, and cyber challenges.

INTELLIGENCE
Digitalisation, data analytics, and smart controls for real-time optimisation.

INNOVATION
Advanced technologies and new solutions that enable the future grid.

CIGRE Symposium – Heidelberg - 26.-29.4.2027
Call for Papers - SC A2

PREFERENTIAL SUBJECTS



PS1 ONE GRID

- Planning and Operation of Distribution Systems (C5, C6, D2)
- Power Quality and Safety (C6)
- Protection, Automation and Control for High Penetration of Distributed Energy Resources (B3, B5, C6, D2)
- Customers, Regulation, Market Design and Risk Management [C5, C6, D2]



PS2 GRID EQUIPMENT

- Impact of Bidirectional Power Flow and Overload [A2, A3, B2, B3, B5, C6]
- Substations as Hubs for Power and Information between Transmission and Distribution [A3, B3, B5, C5, C6, D2]
- Evolutions of Asset Management, Monitoring and Environmental Requirements [A2, A3, B2, B3, B5, C6, D2]



PS3 SYSTEM MANAGEMENT

- Flexibility, System Stability, Coordinated Voltage and Congestion Management [A2, A3, B2, B3, B5, C6]
- Interfaces, Data Models and Communication Network Architecture [B3, B5, C5, C6, D2]
- Physical Resilience and Cybersecurity [A2, A3, B2, B3, B5, D2]

Study Committees

- **A2** Power Transformers and Reactors
- **A3** Transmission and Distribution Equipment
- **B2** Overhead Lines
- **B3** Substations and Electrical Installations
- **B5** Protection and Automation
- **C5** Electricity Markets and Regulation
- **C6** Active Distribution Systems and Distributed Energy Resources
- **D2** Information Systems Telecommunications and Cybersecurity

PS2:

- Operational Challenges of transformers due to renewables, overloading, temperature limits
- Advanced Transformer Monitoring and Analytics - Exploring digital twins, AI, and predictive maintenance strategies for improved reliability

PS3:

- Resilience and Risk Management - design, redundancy, mobile transformers, emergency planning

CIGRE Symposium – Bangkok – 8.-12.11.2027
Call for Papers - SC A2

PREFERENTIAL SUBJECTS

PS1 RENEWABLE ENERGY INTEGRATION, STORAGE, AND CROSS-BORDER INTERCONNECTIONS

PS2 DIGITALIZATION AND SMART MONITORING FOR THE ENHANCEMENT OF POWER SYSTEMS

PS3 GRID INFRASTRUCTURE FOR FUTURE ENERGY TRANSITION AND DECARBONIZATION

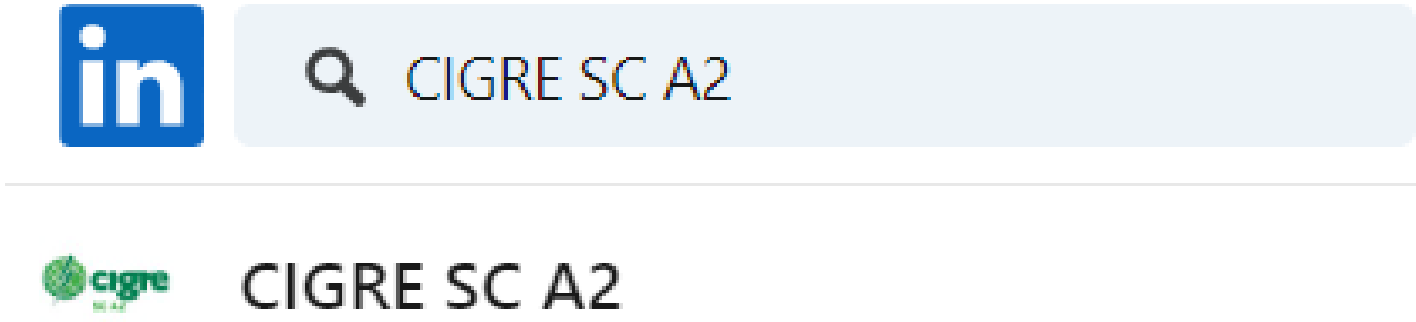
PS2:

- Application of Artificial Intelligence and Machine Learning (AI/ML) and advanced data analytics for power transformer online monitoring, predictive maintenance and fault detection.

PS3:

- Advanced transmission technologies, materials and testing methodologies.
- Resilience and adaptation to extreme climate events (floods, lightning, geomagnetic storms, etc.) including methods of analysis, design innovations, new materials, and restoration strategies
- Sustainable grid projects, including eco-design, sustainable materials, certificates of origin, and low-carbon solutions
- Asset management strategies under high renewable penetration, including inspection, predictive maintenance, refurbishment planning, climate stress and aging infrastructure – balancing reliability, cost, and sustainability

Thank you !



➔ Stay informed throughout the conference and between events
➔ Learn about our latest publications, activities, and working groups
➔ Discover opportunities to contribute and engage with the A2 community