STRATEGIC PLAN 2018 – 2028
of CIGRE Study Committee D2: " Information Systems and Telecommunication "

1. Introduction

1.1 Purpose of the Strategic Plan

The Strategic Plan defines the longer-term objectives and ambitions of CIGRE Study Committee D2. This plan outlines how SC D2 will cope with the technical and administrative challenges facing the CIGRE community regarding Information Systems and Telecommunication.

1.2 Mission of SC D2

SC D2 mission is:

- To facilitate and promote the progress of engineering and the international exchange of information and knowledge in the field of information systems and telecommunication for power systems;

- To add value to this information and knowledge by means of synthesizing state of the art practices and making recommendations.

1.3 Scope of activities

The activities cover the assessment of ICT (Information and Communications Technology) services including operational management used by EPUs (Electric Power Utilities) and issuance of recommendations. In addition, SC D2 will monitor the emerging ICT in order to provide a sound technical support to EPU.

Other organisations are dealing with the development of ICT such as protocols, architectures, materials etc. SC D2 will use their inputs in order to assess their use in EPU.

1.4 Work Organisation

As defined by CIGRE structure, SC D2 is a horizontal SC which means that its goal is to interact with the rest of SCs in order to gather their specific requirements and disseminate the knowledge in the field of information and telecommunication technologies.

SC D2 is structured in Strategy Advisory Group (SAG), Advisory Groups (AG) and Working Groups (WG).

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The SAG is in charge of the strategy of SC D2, identifies the issues of main concerns for EPU. It is also in charge of communication and exchanges with the other Study Committees and CIGRE stakeholder. The SAG is composed at minimum of the AGs convener and the SC D2's secretary and chairperson.

Advisory Groups' task is to coordinate and align working group activities to the SC D2 Strategy and to prepare the Terms of Reference of new WGs.

There are 3 Advisory Groups:

- AG D2.01: Core business information systems and services. This advisory group will be Information and Telecommunication Systems` (ITS) users oriented. It will in particular monitor the needs and the stakes of the users in their core business, which is linked with ITS like Telecontrol, asset management, customer relationship etc.

- AG D2.02: Cybersecurity. This Advisory Group will foster the adoption of specialized cybersecurity measures to protect Operational Systems

- AG D2.03: Telecommunication networks, services and technology. This Advisory group will focus on pure telecommunication issues like transmission media, protocols, network architecture, service provision, etc.

2. Challenges within the operational environment

The evolution of the power utilities in all their activities has been linked to improvements in the information and telecommunication systems, offering new opportunities, new capabilities, new capacities – thereby allowing the utilities to be more efficient in their core business. In fact, ICT plays a key role in the evolution of power systems.

The deployment of the latest generations of information systems and telecommunication technologies leads to a major evolution. EPU's were historically operated as asset-centric companies. They are now becoming data-centric companies, using digital technologies to:

- optimize asset management,

- improve network stability and security,

- integrate distributed energy resources (RES) and off-grid premises,

- implement new market mechanisms,

- improve operational performance .

3. Customers of Study Committee D2

The following Target Groups are considered the key customers or stakeholders of SC D2:

- Study Committees;

- Executive Management (especially of SC D2 member organisations);

  - Electricity Network Grid Operators, System Operators, Market Operators, Generation Companies, Industrial Product Manufacturers, Telco Operators, ICT services providers, Energy Regulators, Certification Entities;

- International Standardisation Organisations : IEC TC 57 (liaison A), IEEE, Web Consortium (W3C), UTC, ...;

- CIGRÉ Internal: Technical Committee, Regional Organisations (AORC, RIAC), National Committees, Ordinary Members, Young members etc.

4. Objectives and Strategy

4.1 Ambitions and objectives

Within its field of activity SC D2 aims to:

- Fulfill the needs of its Target Groups;

- Develop joint work with other Study Committees;

- Promote and recommend innovative solutions and concepts considering every relevant factors (economical, technical, environmental, social and others);

- Be well balanced between information systems, telecommunications, telecontrol and automation;

- Draw the interest of its Target Groups for the work done in the SC D2;

- Develop reciprocal exchange with other international bodies with similar scope (e.g. IEC) to strengthen links and avoid duplication of work.

4.2 Strategic technical directions

The direction of present and future technical activities of the study committee should address:

- TD 1: Telecom network technologies and management.
  Studying and considering telecommunication technologies and architecture evolution. Assessment of technologies and architecture to ensure business continuity and disaster recovery. Telecommunication network management when deploying new technologies and architectures.

- TD 2: Implementation of the networks of the future.
  Monitoring of on-the-field experiences and proof of concepts of smart technologies, impact on the existing ICT systems such as telecommunication network and equipment, SCADA, enterprise business functions (Smart Grid Architecture Model domain)

- TD 3: New digital trends used by EPU and new business services.
  Monitoring on the field experiences on the deployment of digital equipment such as IEDs, PMUs, IoT, Fog and Cloud Computing, Network Function Virtualization, as well as the processing of large quantity of information (big data) in the domains of asset health, system operation, metering…

- TD 4: Cyber Security.
  Assessment and promotion of best practices, tools and solutions of cyber security from field equipment (protection) to corporate IT supporting the whole resilience strategy along the system life cycle: design, implementation, testing, operation and maintenance. Cyber security challenges related to new devices, technologies and DER interconnection and the additional data exchanges between Transmission System Operators, Distribution System Operators and Significant Grid Users, as required by the flexibility management of future grids.

4.3. Strategic Administrative Directions

In order to adequately address the technical directions, SC D2 will also adopt the following administrative strategy:

- AD 1 Work Organisation
  The organisation of the Study Committee and its way of working will be adapted and streamlined for the changing environment, to give increased flexibility and short response time, including encouraging and promoting the ongoing recruitment of new engineers. Management of the SC activities should ensure that the appropriate deadlines for Technical Brochures publication will be respected.

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- <u>AD 2 Enhanced Communication</u>

    o Increased international profile: Regular publications and contributions to CIGRE Symposia, Paris Sessions and Electra. Strengthen cooperation with CIGRE Regions (presentations during regional conferences); organisation of Colloquia in conjunction with Study Committee meetings; organisation of workshops and tutorials in conjunction with WG-meetings; selection of venues to maximise the benefit and international profile of CIGRE and SC D2.

    o Improved internal and external communication: Improve communication with customers, CIGRE members, non-members and other potential "customers", including Distribution customers. Improve feedback from the Target Groups and develop communication with decision makers. Maximise and develop use of the KMS and SC D2 web site.

    o Development of Tutorials: Tutorials will be organised in conjunction with Colloquia, Symposia or other CIGRE events with SC D2 involvement.

- <u>AD 3 Enhance CIGRE members' involvement by demonstrating business value.</u>
  Enhancing and demonstrating the value of membership and participation in CIGRE activities by members and experts in business terms. This will be achieved by focusing efforts to maximise benefits, and helping members and experts convincing their management on the strategic and business value of CIGRE participation.