

Strategic Plan of CIGRE Study Committee D2 2024 – 2028

1 Purpose

The purpose of this document is to describe the strategic plan of the CIGRE Study Committee D2 in Information Systems, Telecommunications, and Cybersecurity.

This strategic plan applies from 2024 to 2028.

Within this period, minor updates to this strategic plan may be carried out to respond to the community's evolving needs and the power industry in the areas within the scope of Study Committee D2.

2 Mission

The mission of Study Committee D2 is to develop, facilitate collaboration, and disseminate knowledge within the power industry in the areas of Information Systems, Telecommunications, and Cybersecurity.

3 Scope

The scope of Study Committee D2 is shown in Table 1.

Table 1 - Scope of Study Committee D2

No.	Area	Description	Examples of topics
1.	Information Systems	Application of information systems in the power industry.	Artificial intelligence, big data, cloud computing, server infrastructure, edge computing.
2.	Telecommunications	Application of telecommunications in the power industry.	Legacy systems, packet-switched networks, network management and automation, wireless and cellular technologies.
3.	Cybersecurity	Application of cybersecurity in the power industry.	Cybersecurity standards and regulation, cybersecurity architectures, controls.

All three areas are equally important, and SC D2 will aim to provide a well-balanced coverage of our activities in these three areas.

The above areas of study are applied cross-sectionally to all CIGRE domains of the power industry, as shown in Figure 1.

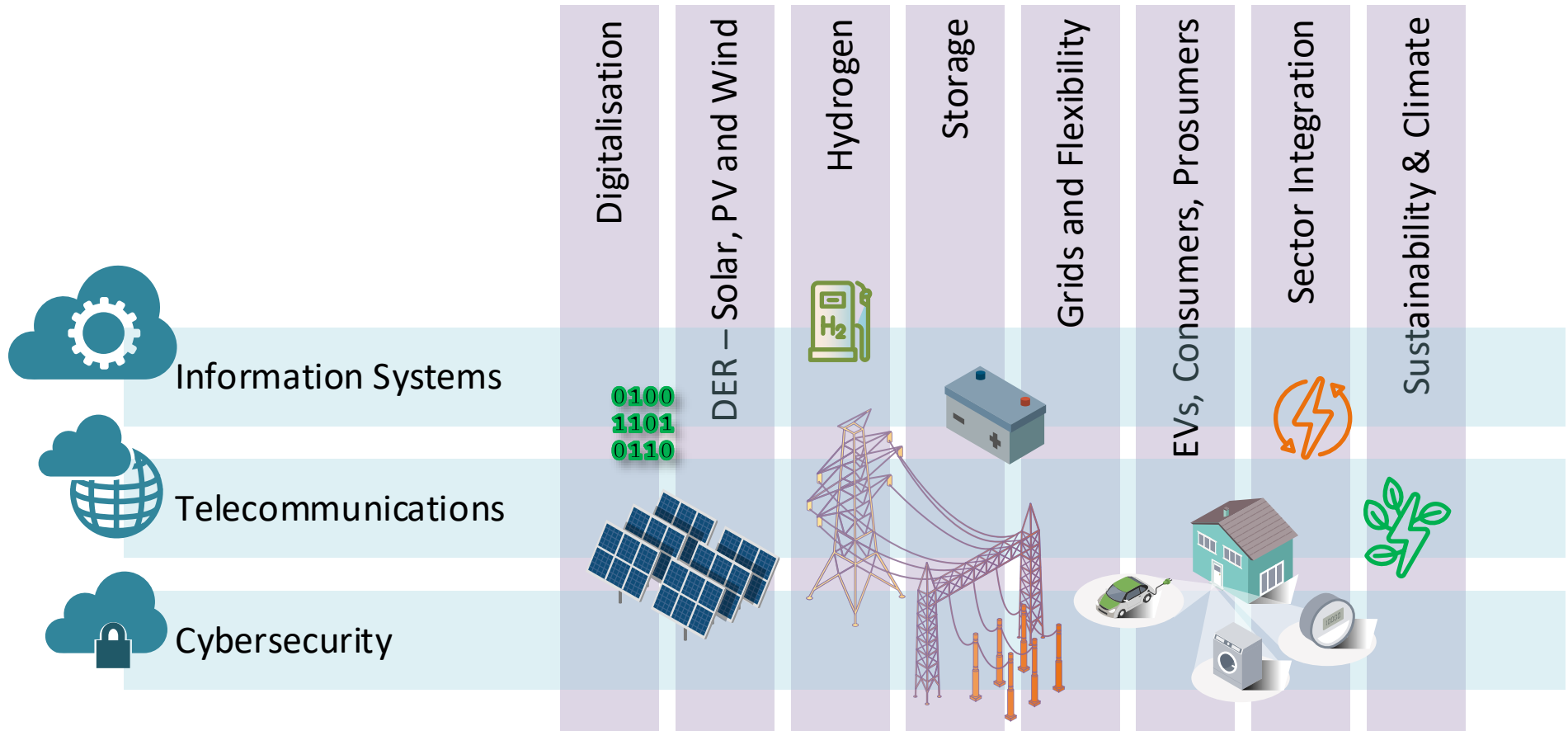


Figure 1 - Scope of Study Committee D2

4 Target Audience

The primary purpose for SC D2 is to benefit the CIGRE members, followed by the power industry in general.

5 Objectives

5.1 Facilitating Collaboration

5.1.1 With Other SCs and External Parties

SC D2 aims to maintain and explore new collaborations with other CIGRE Study Committees and external parties.

When exploring and selecting collaboration opportunities, the criteria are as follows:

- The collaboration is mutually beneficial to both organisations.
- The collaboration enhances all other objectives, i.e. facilitating knowledge sharing and development of practices in the areas within our scope in the power industry.
- There is capacity for both parties to collaborate. For SC D2, the capacity depends on the availability and identification of an SC D2 representative as a liaison in the collaborative relationship.

5.1.2 During CIGRE Events

The CIGRE Paris session, which occurs every even year, and the Symposium or Colloquium, which occurs every odd year, are the main events of CIGRE.

SC D2 will aim to generate discussions and collaborations during these face-to-face events. These include the following mechanisms:

- Encouraging the WG meetings to be held during these events.
- Exploring using tools and technologies, such as Slido, to improve collaboration and participation during these events.
- Encouraging a diverse range of potential collaborators, including those belonging to WIE (Women in Engineering) and NGN (Next Generation Network), and encouraging existing SC D2 members to assist in these events.

5.1.3 Metrics

Table 2 shows the metrics which are to be measured for the objective of Facilitating Collaboration.

Table 2 - Metrics for the Objective of Facilitating Collaboration

No	Metric	Target Measures
1.	Joint working groups or liaison with another Study Committee	At least two joint working groups between SC D2 and other SCs, or another SC's working group with an SC D2 liaison assigned.
2.	SC D2 poll measuring regular members on the level of	At least 75% satisfaction level from regular members' feedback regarding the engagement

	engagement during face-to-face events.	level during face-to-face events. This will be measured within SC D2 only.
3.	Liaison relationship with external organisations	At least 3 liaison relationships are being reported in the SC D2 annual report.
4.	“Country in Focus” publications in SC D2 newsletter to encourage inter-country collaboration.	At least two “Country in Focus” publications in SC D2 newsletter per year.

5.2 Development and Management of Knowledge

5.2.1 Overview

CIGRE SC D2 country members represent a wealth of knowledge in our areas of focus.

The development and management of the body of knowledge is primarily achieved through CIGRE tools, including the KMS for working groups and technical content management and Conftool for session paper management.

Consistent with the SC D2 mission, the main principle of the review process is to facilitate collaboration and circulation of important knowledge, innovations, and experiences by assisting the authors of publications in communicating their knowledge and experiences with the community.

5.2.2 Working Groups

Working groups are a core activity for CIGRE Study Committees.

SC D2 will promote and encourage the development of new working groups.

Once a new working group is formed, it is important to ensure the health of working groups and that they remain active.

5.2.3 Publication Baseline Quality through a Pragmatic Review Process

A strategic goal in developing and managing knowledge is to ensure a baseline publication standard and quality level.

Our focus is not on achieving the rigour and robustness required by some academic journals (for example, IEEE journals, PhD-level thesis, etc.).

Rather, CIGRE papers and publications are an important mechanism used to communicate knowledge and practical experiences among member countries to the rest of the world in a timely and relevant manner and to facilitate discussion among peers in the industry.

This requires a balance between creating opportunities for discussion and collaboration, timely distribution of such materials, and having a baseline publication quality level.

A baseline level of publication quality, achieved through the review process described in this document, enables better collaboration by ensuring published papers and articles conform to the base-level editorial and technical standards whilst not hampering the other objectives.

To support this goal, an SC D2 Paper Review Guidelines document has been created to guide the review process of all publications, including session papers. This document will be updated as required.

5.2.4 Metrics

Table 3 shows the metrics to be measured for the Development and Management of Knowledge objectives.

Table 3 - Measurable Metrics for Development and Management of Knowledge

No	Metric	Target Measures
1.	New Working Groups	At least two new working groups within a calendar year.
2.	Completed Technical Brochures	At least two completed technical brochures within a calendar year.
3.	Tutorials	At least one a year.
4.	Webinars	At least one a year.
5.	SC D2 Reviewers	Maintain at least 25 reviewers in the pool of SC D2 reviewers. This is recorded in the SC D2 reviewers' register.
6.	SC D2 Guide to New Working Group Convenors	Annual review and modification (if required).
7.	SC D2 Review Guidelines for Session Papers and Publications	Annual review and modification (if required).
8.	Main CIGRE publications	This is measured as per the CIGRE publications schedule, including the Future Connections newsletter and Electra. The schedule is agreed upon during TC meetings.
9.	Working group reports	Quarterly. A summary progress report, describing the meetings held, progress of TB development and timeline changes, is to be submitted by the WG Convenor quarterly.

6 Leadership and Organisation Strategy

6.1 AG and SAG

SC D2 is one of the 16 Study Committees.

The SC D2 Chair is a member of the Technical Council, which consists of the Chairs of the 16 SCs.

SC D2 is required to adhere to the overall CIGRE direction and strategy communicated through the Technical Council.

The SC Chair appoints and is supported by the following SC D2 advisory groups:

No.	SC D2 Advisory Group	Purpose
1.	AG D2.01 – Information Systems	Supports and advises the SC Chair in achieving the SC’s objectives in the area of Information Systems.
2.	AG D2.02 – Cybersecurity	Supports and advises the SC Chair in achieving the SC’s objectives in the area of Cybersecurity.
3.	AG D2.03 – Telecommunications	Supports and advises the SC Chair in achieving the SC’s objectives in the area of Telecommunications.
4.	Strategic Advisory Group	Supports and advises the SC Chair in achieving the overall objectives of the SC.

6.2 SC D2 Country Members

SC D2 Country Members are appointed by their Country’s National Committee.

These may be regular members, observer members, or additional regular members. The number and types of membership are defined by the main CIGRE leadership and communicated through the Technical Council.

SC D2 Country Members are expected to contribute to the Study Committee in a meaningful way.

6.3 Metrics

No	Metric	Target Measures
1.	Technical Council Direction Communication to the SAG	SC D2 Chair is to summarise the key discussion points of a TC meeting during an SC D2 SAG meeting. This is to communicate the overall CIGRE direction to the SC D2 AG and SAG members.
2.	Advisory Group Effectiveness	Each AG is to hold a meeting at least twice a year.

		<p>This is to form opinions, generate new ideas such as new topics and working groups, and advise the SC Chair on potential opportunities to consider.</p>
3.	<p>SC D2 Country Member Participation</p>	<p>Meaningful contribution to SC D2's objectives. These include the following:</p> <ul style="list-style-type: none"> • Being a paper reviewer. • Mandatory attendance in SC meetings. • WG contribution as a member or convenor. • Proposal of WGs. • Annual country report. <p>Each country member's activity and contribution are reported annually, and recorded in the SC D2 activity register.</p>

7 Technical Focus Areas

This section describes the current technical focus areas of SC D2.

These technical directions are the current focus of SC D2, consistent with our scope as shown in Figure 1.

Due to the rapid pace of technological changes, especially in the context of Energy Transition, these areas may be revised as required.

Focus Area	Description	Supervising Advisory Group
AI and Machine Learning	Use of Artificial Intelligence, including new techniques, algorithms, infrastructure requirements, tests and trials, use cases and models including LLM (large language models), and evaluation of efficacy in the context of power utility applications.	AG D2.01
Cybersecurity standards	Study of the applicability of cybersecurity standards to guide power utilities in achieving better cybersecurity posture and architecture.	AG D2.02
Application of cybersecurity in DER use cases	Application of cybersecurity controls, standards, best practices, and guidelines, in the areas of DER, including EV infrastructure, PV, Solar Farm and BESS (battery energy storage systems) connections to the grid, situational awareness.	AG D2.02
Information Systems Innovations in Asset Management	Use of information systems, algorithms, software and techniques to improve power utility asset management, including information exchange between OT and corporate networks, organisation of data, and infrastructure requirements, use of drones, CIM.	AG D2.01
Cellular (5G, LTE) and wireless technologies	Application of cellular (5G, 4G, LTE, NB IoT) and other wireless technologies (satellite, LoWPAN).	AG D2.03
Telecommunications technologies and techniques for critical infrastructure	Critical communication, teleprotection over packet-based networks, time synchronisation, network management	AG D2.03
Network architecture design patterns	Best practice architecture design patterns for power utility use cases, including remote access, third-party connections, IEC 62443 zones and conduits recommendations and examples, information flow best practices.	AG D2.02, AG D2.03.

Disaster Recovery studies	Best practices and scenarios for Disaster Recovery in power utilities, including use of standards.	AG D2.01, AG D2.02, AG D2.03
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8 Review

This strategic plan will be reviewed annually and approved by the SC D2 Chair to assess the relevance of the strategy, its consistency with the overall CIGRE Technical Council strategy, and to monitor the metrics.