CIRED WG 2019-1
DC DISTRIBUTION NETWORKS

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BASIC DATA

Title: CIRED WG 2019-1 DC distribution networks

Duration: April 2019 – December 2020 (1st phase)

Number of Members:	25 (active:~10,core:4)
Manufactures:	8
Utilities:	7
Academic/Research:	9
Regulators:	1

Scope covers mainly Session 1 & 5 topics:

- DC components setup DC distribution grids
- planning issues, standardization & regulatory framework
- LV, MV, HV distribution networks
- Public networks & industrial, buildings, facilities
- Pilots and use cases

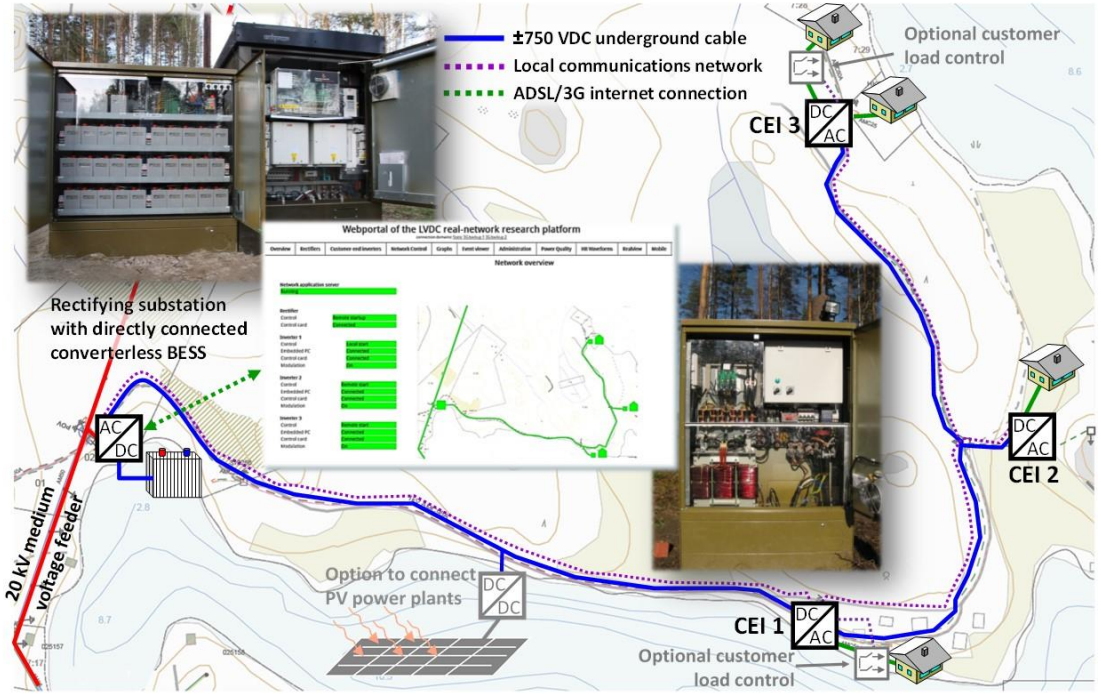
Time Schedule:

1.	Kick-Off Meeting (Skype):	25.04.2019
2.	1st Physical Meeting (Madrid):	06.6.2019
3.	2nd Physical Meeting (Finland):	11.12.2019
4.	3rd Physical Meeting:	tbd. (e.g. Q1 2020)
5.	**Final Draft Report (1st phase):**	**June 2020**
6.	3rd Physical Meeting:	tbd. (eg. Q4 2020)
7.	**Final Report (1st phase):**	**December 2020**

Among these dates VoIP-meetings of the WG / sub-groups, on request.

Actual Status to keep Time Schedule**: challenging**

LVDC PILOT VISIT LAPPEENRANTA (FINNLAND 10.12.19)



https://www.lut.fi/web/en/lvdc-projects/pilot-sites-and-demos

DELIVERABLES

Identified deliverables

	Title	Subgroup members	Responsible
D1:	**Main drivers, needs, for DC distribution networks, deduction of a vision/goal** (technical & economical)	Dai, Kleftakis, Rupp, Vočko	tbd.
D2:	**Use-cases and functionalities of DC-distribution networks** Sub: Comparison DC with AC - technical, economical (possible developments: DC stand-alone/hybrid AC+DC/AC to DC)	Dai, Haim, Kleftakis, Lin, Rupp, Vočko	tbd.
D3:	**State of the art of components & solutions** (technologies) Sub: Lessons learned from existing pilot projects (benefits, gaps/restrictions, risk evaluation)		tbd.
D4:	**State of the art of standardization and regulatory framework**	Kleftakis	Rupp
D5: **(after D1-4)**	**Network development and large-scale implementation of DC-solutions** (new grid structures including DC in a large-scale context, integration of renewables and DC-loads like PV, Wind, EV and battery storages, etc. which are internally already working on DC)	Dai, Lin	tbd.

ACTION LIST

Action list to have deliverables done

	Title	Subgroup members	Responsible	Deadline
✓	**Task 1:**	MS Word (.doc) template to implement material in the Cloud + Info per Email about new things		Jambrich	ongoing
✓	**Task 2:**	Share status of existing knowledge/applications/initiatives within the group		All	ongoing
	Task 2a:	Benchmarking on existing knowledge/status over different countries		after Task2, individual	15.09.2019
Draft	**Task 3:**	Define and prioritize use-cases for dc distribution grids (private and public) – step by step	Murdoch, Kazeroomi	Rupp	15.09.2019
	Task3a:	functional analysis out of use-cases (first analyze from system side, then define specifications for the components)		after Task3, individual	15.09.2019
Draft	**Task 4a:**	Positioning for DC from each manufacturer based on exiting DC solutions (questionnaires): ABB, Eaton, Schneider, Siemens, Hawker Siddeley, MR, NR	All Manufactures	Allais	15.09.2019
Draft	**Task 4b:**	Positioning for DC from each utility based on exiting DC solutions (questionnaires)	All Utilities incl. EDF (Enedis)	Rose	15.09.2019
Draft	**Task 4c:**	Positioning for DC from each academic/research institute based on exiting DC solutions (questionnaires)	All Universities and Research Institutes	Burt	15.09.2019
	Task 5:	Definitions for dc distribution grids		afterwards	

SYNERGIES AND STRATEGY

Use and allow for synergies

- Mainly between Session 1 and 5 topics (refer to Madrid conference)
  - Joint Round Table 15 New components for MV and LV DC network and integration in grid planning

- Work and results CIGRE WG C6.31: MVDC Grid Feasibility Study (2015-2019)
  - Voltage range between 1,5 kV (+/-750 V) and 100 kV (+/-50 kV)
  - Status: Technical Brochure for review (Jan. 2019)

Strategy for WG 2019-1 (TC board)

- Focus on LVDC and MVDC grids
- Starting to produce asap. a first report on LVDC
- MVDC could be covered in a second stage