IEEE Communication Society Technical Committee on Power Line Communications (PLC)

Meeting, 21 November 2022

Date: 21 November 2022
Time: 16:30 (European Central Time)
Location (virtual): Zoom

Attendance (12)

Gerd Bumiller
Francisco Canete
José Antonio Cortes
Lutz Lampe
Cédric Lavenu
Ralf Lehnert
Tara McNally
Shiwen Mao
Anil Mengi
Gatham Prasad
Markus Rindchen
Thokozani Shongwe

Agenda

1. **Approval of the agenda**
   Agenda was approved without objection.

2. **Approval of the previous meeting minutes**
   Minutes were approved.

3. **Report on TC-PLC recertification**
   José quickly presented the recertification questionnaire.

   The questionnaire was sent on 07 September 7 2022, which addressed the following matters:
   - Attendance to TC meetings
   - Activities: conferences, workshops, lectures, talks
   - Publication activities: TC members serving as editor, EiC, guest editors
   - Number of members advanced for IEEE/ ComSoc awards/ ComSoc distinguished lecturer/IEEE fellow in the last 3 years

   TC-PLC has been recertified but improvements are needed.
   The TC-PLC Recertification approved on 05 October 2022. However, the following recommendations were made:
   - Standardization committees and projects the TC is actively involved in
   - Please make more efforts to promote the attendance of TC meeting.

- Please organise more activities to increase the exposure of the TC.
- Please provide a six month plan for improvement and provide status of progress before June 2023 .

4. Report on TC restructure
- ComSoc would like to restructure the technical committee as there is a lack of industry participation.
- Due to the amount of a bureaucracy for a TC as small as TC-PLC, there is a high probability that TC-PLC could be downgraded to a WG by June 2023 (no criteria are defined yet).
- In case TC-PLC becomes a WG, it is not clear yet which TC the future PLC WG will report to.

5. Report on webinars and student challenge organization
- It's been 20 years the same ideas are repeated in papers ➔ there is a lack of visibility on current usage and status of PLC technologies.
- Idea to "promote" PLC in a dedicated "PLC for the smart grid" webinar to be scheduled in early 2023 ➔ 2 industry presentations are expected on standardization, applications and challenges + Q&As
- Idea to organize a student challenge to attract students to ISPLC/WSPLC as initially proposed in WSPLC 2016. ➔ proposal to have one "theoretical-oriented" challenge for ISPLC and one "practical-oriented" challenge for WSPLC. Industry and academia are requested to help the TC-PLC on that.
  o Anil suggests we could for example select "powerline sensing" (of underground cables) amongst other use cases applications of PLC applied for smart city (and smart lighting in particular)
  o We need to have a broader outreach beyond the "inner circle" PLC community.

6. Conferences activities
a. Status of ISPLC 2023
- Ralf gave a short update as follows:
  o Deadline extended twice already (29th of Nov. for the latest deadline)
  o 7 registered papers, 8 submissions (no evolution since last deadline)
  o Amongst the 8 submissions, 1 is already out of scope
  o We could expect up to 14 papers already (7+7)
  o Ralf already reached out to several colleagues: funding and research on PLC has been reduced so less results to be presented at a conference as well.
  o If we have 20 submissions or even less, then only 10 accepted papers do not justify the organization of an ISPLC (2-day) conference. Contributors may be redirected to ICC Special Track on PLC.
- Anil answered that industrial sessions under the sponsorship of G3-PLC Alliance may be organized (chip manufacturers from the UK for example). Yet, it won't help with respect to IEEE rules.
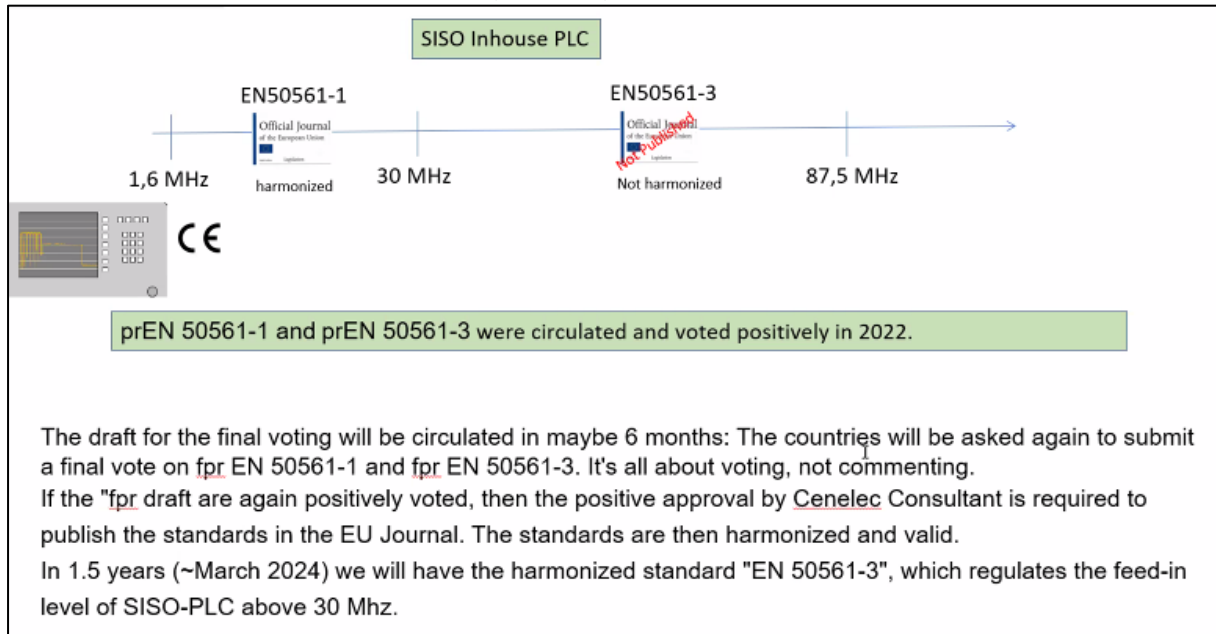
b. Status of WSPLC 2023
- José gave a short update as follows:
  o WSPLC is scheduled for autumn 2023 and hosted by PPC
  o PPC committed to have it in Q4 2023 preferably in September, but logistics issues related to the venue are experienced (space no longer available)
  o Registration fee estimated to 200-250€ which may be increased if the new venue requires to do so.

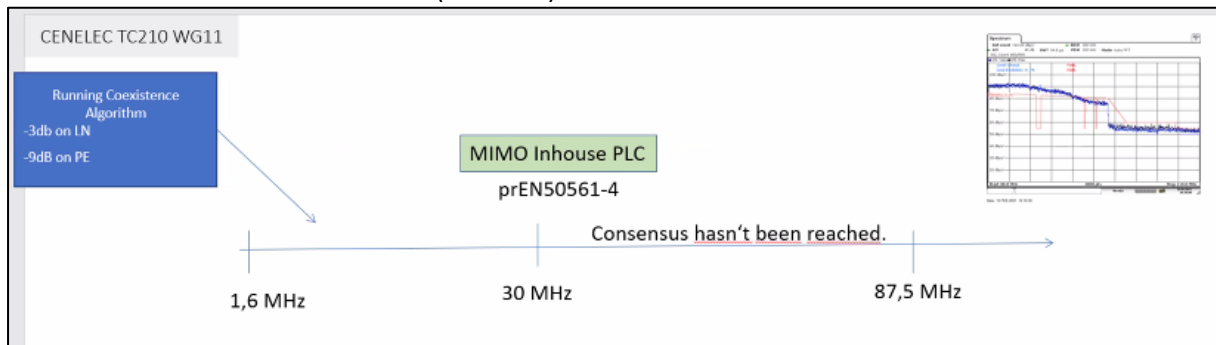## 6. Request for co-Chairs for Globecom2024 Symposia and SAC tracks

- No nomination within TC-PLC to serve as co-chair on PLC SAC
- Again the reduced visibility of PLC causes this situation; we will have to live with this.

7. Report on regulations and standardization activities

- Anil gave an update on CENELEC TC210 WG11
  - o EN 50561-1 and EN 50561-3 (in-house)

  - o MIMO PLC: EN 50561-4 (in-house)

  - o About EN 50561-5 on PLC in PV sites (outdoor) : Huawei new proposal ➔ discussion ongoing.
  - o EN 50561-2 on Access PLC (outdoor) was drafted but abandoned due to the lack of compromise (after negative vote). Markus added that there is no need to do further work as internet access is not more considered as a use case for PLC nowadays.
- Markus gave an update on recent work within IEEE 1901 and ITU-T SG15/Q3 (focusing on BPL).
  - o To answer José's question about the status of G.Hn2: work is in progress.
  - o Anil mentions that some manufacturers such as Signify invest in PLC (together with fiber and WiFi) in combination with VLC. Markus mentions that this has already been dealt with IEEE 1905 10 years ago.
  - o Anil mentions also that there is no significant activity on signal processing with respect to G.Hn2 (lack of interest from chip manufacturers) but as mentioned before the interest goes to upper layers (use of PLC as backbone)

- Cédric covered NB-PLC standardization topics:
  - G3-PLC Alliance: 2022 spec has been released in March (beta version) and a final version is expected end of 2022. The next version of the certification program is under preparation and is expected early 2023. Main new features are:
    i. Enhanced broadcast for data packets and LOADng routing protocol "RREQs" (enhanced flooding)
    ii. New extensions of the hybrid profile: new RF frequencies, frequency hopping to comply with worldwide RF regulation, last gasp feature
    iii. New PLC band plans: FCC sub-banding (possibility to split the FCC band plan 154-487 kHz into two sub-bands)
  - ITU-T SG15: G.9903 and G.9901 are under revision (Last Call comment resolution stage) to reflect the latest changes agreed within the G3-PLC Alliance.
  - IEC CISPR/H & SC77A JWG6: CDV stage reached for IEC 61000-6-3 which intends to limit non-intentional emissions in the range 9-150 kHz of general electrical devices connected to LV in residential areas. Next step is the revision of IEC 61000-6-8 which covers commercial and light-industrial environments.
  - CENELEC TC219/WG9 works on revision of EN 50065-1 with an attempt to extend the NB-PLC frequency range up to 500 kHz (or more; up to 1,6 or even 3,7 MHz) in Europe for both AC (typically distribution grid and LV installations) and DC (typically PLC over DC bus between different components of a photovoltaic plants) networks. Measurements are being conducted to make sure radio services are not disturbed, in close cooperation with CENELEC TC210/WG11.

8. Publication activities

- PLC DocSearch is now managed by the University of Malaga.
- Francisco recently updated the database which covers IEEE Xplore, ISPLC, WSPLC and papers outside of IEEE (MDPI, Elsevier, Springer…)
- TC-PLC members are invited to contact Francisco in case references are missing.

9. Any other business

- No other business was discussed.
- The meeting was closed at 18:15 CET