

G3-PLC Alliance



INFOLETTER No. 01/19

I. Technology & References

First product certified for CENELEC B in March 2019

In March this year G3-PLC Alliance certified the first product for CENELEC B for M&F SMART TECHNOLOGY. M&F is part of LEF group, which develops among others PLC technology for railways and railway stations smart management. LEF is the first company to have certified a device compliant with the G3-PLC protocol in CENELEC B band opening the way for use of this technology in civil and industrial applications. LEF has developed and manufactured devices that see their use in Railway SMART STATIONS, along high-speed lines (AV) and in railway tunnels. By interfacing the various users with these PLC devices, it was possible to create remote management and monitoring systems for:

- Lighting of railway stations
- Security lighting in the gallery
- Access controls
- Lifts
- Underpasses
- Water lifting pumps
- Smart Metering
- Control systems for railroad sweepers
- Environmental monitoring systems.

All these applications, thanks to the power line already being present, were made without any additional infrastructure. Moreover, well defined technical rules by RFI (the Italian Railway Company) describe the application layer to be used in Power Line Communication based on G3-PLC CENELEC B. This compliance guarantees the complete interoperability between devices of different producers.



LEF Group: l'eccellenza del Made in Italy

LEF Group è un'azienda leader nel settore delle telecomunicazioni per la gestione intelligente delle infrastrutture ferroviarie. Grazie alla sua tecnologia G3-PLC, LEF ha realizzato soluzioni innovative per la gestione delle stazioni, dei tunnel e delle linee ferroviarie, contribuendo alla sicurezza e all'efficienza del sistema ferroviario italiano.

Nuova sede e Vision

LEF Group ha inaugurato la sua nuova sede a Roma, dove ha avviato la costruzione di un nuovo edificio che ospiterà la sua attività principale. La nuova sede è stata progettata e costruita con il massimo rispetto per l'ambiente e la comunità, e rappresenta un importante passo avanti nella crescita dell'azienda.

Railway

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Core Business

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The Italian newspaper "Il Sole 24 Ore" published an article about LEF and the first CENELEC B certification. The Italian article as well as an English text version can be found on the G3-PLC Alliance website at <http://www.g3-plc.com/what-is-g3-plc/presentations/>.

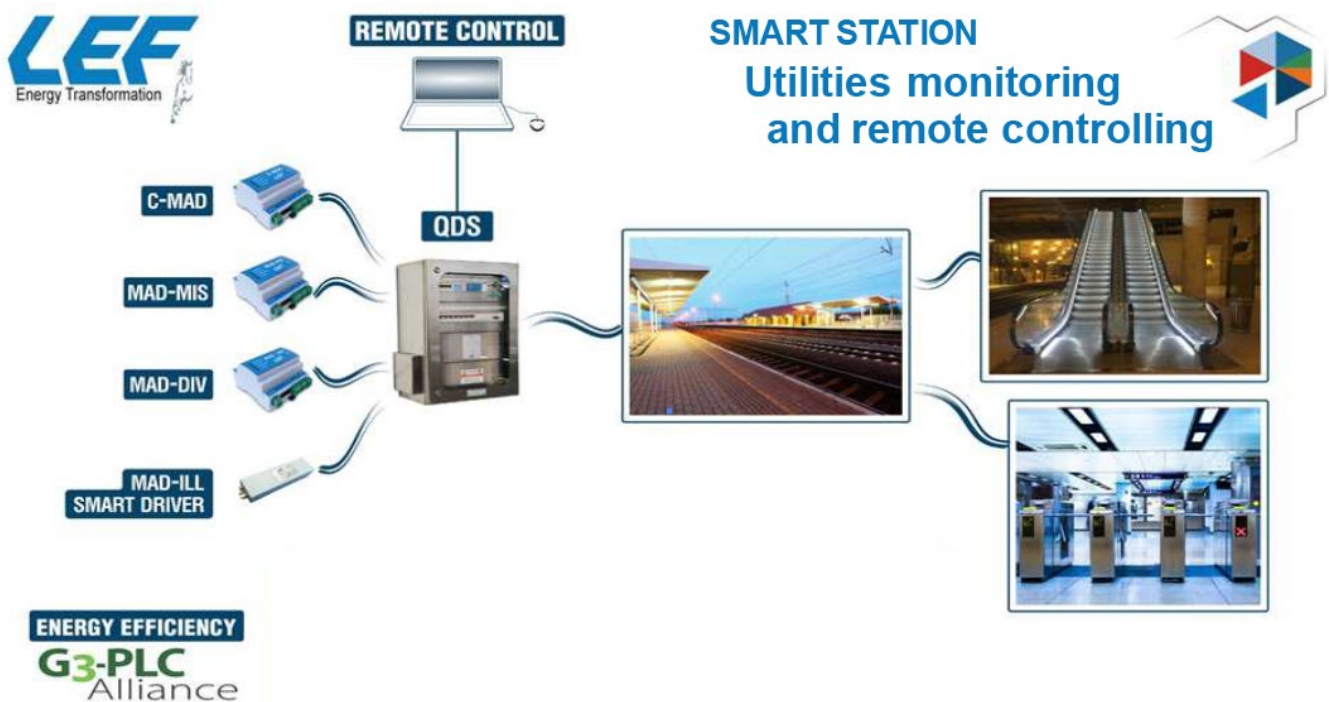
You will find more about the railway use cases in the following.

LEF – G3-PLC railway application in Italy

G3-PLC Alliance member LEF from Italy is active in the energy transformation market and strongly focused on developing new technologies to increase the quality of services provided in the electricity distribution, transport infrastructure and public and private lighting areas.

For RFI, the public railway company and one of the leading industries in Italy, LEF developed embedded devices for several applications based on powerline communication using G3-PLC in CENELEC B band and in accordance with well-defined technical rules of RFI, like DTC STS ENE SP IFS LF 169 for lighting and power systems. It describes the application layer to be used in Power Line Communication. Both these conformances guarantee RFI the complete interoperability and one to one replacement between devices developed by different producers.

For utilities monitoring and remote controlling in smart stations, LEF developed a powerline system, that offers a range of functions. Several utilities can be remotely controlled, interfacing them to the PLC devices, e.g. lighting, water level pumps for bridges, firefighting systems, access controls, elevators and electricity, water and gas meters.



Another PLC installation is used for monitoring electric heating track switches. It enables to monitor the power consumption of the self-heating cables, the status of the power transformer in case of anomaly detection, the on/off status of the power switch as well as the temperature of the heated rail and ambient temperature.



REMOTE CONTROL

Track switches electric heating



QDS

ADP

001000001000001000100010

C-MAD

PLC
concentrator

REMOTE CONTROL
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MAD-RED
PLC
field device



A G3-PLC installation used for tunnel safety offers to monitor emergency lighting switch on, the status of the push-buttons and the power consumption of each lamp, with alerting in case of anomaly detection.



REMOTE CONTROL

Tunnel safety



QDT

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MAE-UM1

PLC
concentrator

MAE-UM2

SMART DRIVER

PLC
field device

PMAE
PLC
field device



ENERGY EFFICIENCY
G3-PLC
Alliance

All these functions are carried out over the existing powerline without any additional infrastructure.



II. Events & Fairs

India Smart Utility Week

G3-PLC Alliance had a successful exhibition and conference at India Smart Utility Week, that took place from March 12th to 16th in New Delhi. The booth had a very good position within the exhibition floor and counted many visitors and interest for G3-PLC including government officials and DSO's. Renesas gave a presentation titled "G3-PLC Solution for the Indian Smart Grid System", showing the full product availability for the Indian Market. The whole presentation can be found on the G3-PLC Alliance website at [http://www.g3-plc.com/fileadmin/user_upload/ISUW_2019 - G3 PLC solution for the Indian Smart Grid System - Renesas-Neona.pdf](http://www.g3-plc.com/fileadmin/user_upload/ISUW_2019_-_G3_PLC_solution_for_the_Indian_Smart_Grid_System_-_Renesas-Neona.pdf). Also positive to mention is that several members attended the conference, including Delta, EDF, Iskraemeco, Itron, Landis & Gyr, Panasonic, Renesas and STMicroelectronics.



IEEE ISPLC

The alliance also attended this year's IEEE ISPLC, which took place from 3rd to 5th April in Prague. The alliance was Platinum Patron and Cédric Lavenu gave a keynote speech focusing on added value of G3-PLC beyond communication. It was also about the future perspectives for the alliance including a co-simulation approach for channel modelling and telco simulation. The whole presentation can be found on the G3-PLC Alliance website at [http://www.g3-plc.com/fileadmin/user_upload/ISPLC_2019 - G3-PLC Alliance Keynote - Cedric Lavenu.pdf](http://www.g3-plc.com/fileadmin/user_upload/ISPLC_2019_-_G3-PLC_Alliance_Keynote_-_Cedric_Lavenu.pdf).



Beyond that, Cédric was invited to participate in a panel discussion. The Panel on State of the Industry and Standardization, chaired by Prof. Andrea Tonello, was joined besides Cédric Lavenu by Len Dauphinee (Max Linear, Homegrid Forum), Jean-Philippe Faure (Progilon, HD-PLC Alliance), Alfredo Sanz (Microchip, both member of G3-PLC and PRIME Alliance) and Markus Rindchen (Power Plus Communication AG). The panel's final messages underline, that the standards are the key for developing large-scale industrial systems. While it seems that we are at the end of a cycle for academia and research in the field of PLC, the potential of PLC beyond smart metering is just about to be discovered and taken advantage of. The representatives also stated, that Machine Learning and AI are new approaches to be investigated jointly with industry and academia.

Upcoming Events

The next event G3-PLC Alliance will attend is African Utility Week, taking place in Cape Town, South Africa, from 14th to 16th May. The alliance will be present with a booth at the exhibition. We look forward to meeting you there!



As the alliance plans to strengthen its focus besides African as well on Asian and Middle Eastern markets, we will also take part in this year's Asian Utility Week in Kuala Lumpur, Malaysia, from 3rd to 4th September. The alliance will appear as sponsor and will be present with a booth at the exhibition.

The European Utility Week, taking place in Paris, from 12th to 14th November, will conclude this year's event season.



III. Administration & Organization

New voted steering committee

At the Strategic Steering Committee Meeting held on January 14th in Paris, the steering committee election resulted in three changes. Marc Delandre has been elected Chairman of the G3-PLC Alliance. Marc Delandre, currently Director of the ENEDIS Metering Division and working for 30 years for EDF Group (R&D, Business Entities, Network Division), gave the floor for Leon Vergeer, who has been elected General Secretary. Leon Vergeer has been working as a management consultant for over 20 years. He worked for a wide range of international clients in a variety of industries. He has broad experience in utilities and worked in the smart metering program of Enexis in The Netherlands. He has been working with the G3-PLC Alliance since 2014 in setting up and later coordinating the G3-PLC certification program. Furthermore, Cédric Lavenu has been elected WS1 Chair. Cédric Lavenu is expert research engineer at EDF R&D, where he has been working in the field of powerline communications and related

smart grid applications for more than 10 years. He has made significant contributions to the G3-PLC standard within the G3-PLC Alliance and is active in various Standard Development Organizations such as IEC, CENELEC, IEEE and IETF. He joined EDF in 2008 after graduation at ESIEE (Ecole Supérieure d'Ingénieurs en Electrotechnique et Electronique) engineering school, France.

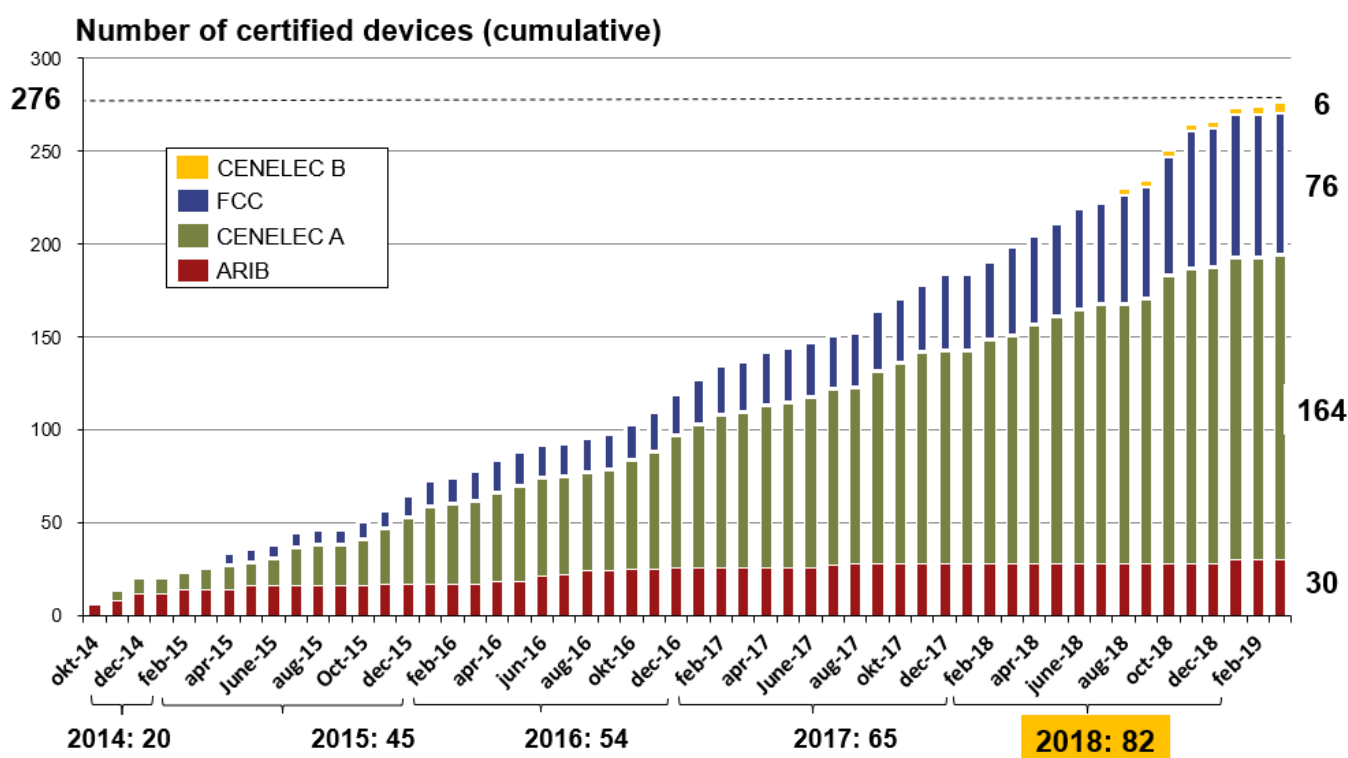
Last Steering committee meeting

The last Strategic Steering Committee Meeting was held on March 27th in Paris. There it was agreed that the technical working group WS1 will develop a roadmap including a plan for the mid to long-term evolution of G3-PLC. This will also include the publication of user guidelines to share all the expertise there already is in implementing and deploying the G3-PLC protocol stack. Furthermore, as the G3-PLC technology expands to new markets in Asia, Middle East and Africa, G3-PLC Alliance working group WS1 plans to address local specificities related to emerging markets by publication of FAQ, white papers, companion specifications or updates of the G3-PLC Specifications following the CCTT/ETT process.

Number of certified devices continues to increase steadily

At Strategic Steering Committee Meeting in March, the Certification Process Executive Committee (CPEC) gave an update about the certification program. In 2018, G3-PLC Alliance certified 82 devices and now has 276 certified devices in total consisting of 162 platforms and 114 products from 46 different vendors. The CPEC introduced electronic signing of the issued certificate by the chair, which strongly reduced the time it takes before a newly issued certificate can be published on the website.

A detailed overview of all certified G3-PLC devices is available on the G3-PLC website: <http://g3-plc.com/content/g3-plc-certified-products>.



SAVE THE DATE: General Assembly

On June 4th, the next General Assembly will take place in Madrid during CIRED from 5-8 pm followed by a dinner. If you have a specific topic you want to share, please contact leon.vergeer@g3-plc.com to see if we can fit it in the agenda.