



International Conference on Renewable Energies and Power Quality
(ICREPQ'24)
Bilbao, Spain, 26 -28 June 2024

Innovation and smart grids, a key aspect for the growth of renewable energies

By

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Abstract

In the quest for a more sustainable and environmentally friendly future, the decarbonisation of the electricity sector is a priority. At i-DE Redes Eléctricas Inteligentes, we are committed to leading and facilitating the transition to a more sustainable and responsible energy future. We strongly believe in the importance of taking meaningful action to mitigate the impact of climate change and promote a clean and efficient energy model.

Power grids play a crucial role in this transition. Grids are the backbone of the new energy model and the path to the transition to a green economy, which allows the integration of more renewables, sustainable mobility and electric vehicles, smart cities and self-consumption.

Investment in grid infrastructures is essential for the optimal integration of renewable energies. According to IAE, Investments in grids are to be x2 by 2030 and x4 by 2050, to 1:1 investment ratio Networks/Renewables (considering average T&D investments from 2021-2050). A flexible and well-interconnected grid makes it possible to efficiently manage decentralised renewable energy generation, ensuring a stable and balanced supply.

One of the biggest challenges for the DSO is being able to operate and plan the distribution network more flexibly and dynamically, which implies, at the same time, the use of state-of-the-art electronic equipment, the digitalization of processes or artificial intelligence for the efficient management of the enormous amount of data generated by the new smart grids.

With the aim of contributing to the decarbonisation of the economy, Iberdrola will commit to digitizing more than 80% of its transmission and distribution networks around the world by 2025, a process in which i-DE is a global leader.

To do this, it is necessary to advance both in regulation and in technology. In addition to having professionals who are experts in digital skills that Smart Grids already demand to address these challenges.

At i-DE Redes Eléctricas Inteligentes we rely on the Global Smart Grids Innovation Hub, as an open innovation tool and a fundamental lever to respond to these challenges. Located in Bilbao, is consolidating its position as a global centre of innovation and knowledge in smart grids. The centre acts as a driving force for innovation, combining Iberdrola's technological capacity with that of more than 100 collaborating entities and companies.

Short biography of Mrs. Noemí Alonso



N. Alonso, who holds a degree in Industrial Engineering from the University of the Basque Country, obtained a Master's Degree in Renewable Energies Integrated into the Electricity System with a scholarship from the Iberdrola Foundation. After her experience at the Artech Group, Noemí Alonso joined the Substations and Protection Department of i-DE Redes Eléctricas Inteligentes in 2015. In the period 2015 – 2020.

She specialized in aspects related to power quality, protections and distributed generation, with special emphasis on its effect on customers. He has participated in R+D+i projects on storage, distributed generation or automatic analysis of incidents in the grid, as well as in international committees focused on the control and protection of microgrids. In 2020 she was appointed head of the Global Smart Grids Innovation Hub and since then she has led the design of the centre's operating model, carrying out the overall coordination of it.