# Iberdrola's i-DE highlights the need for investment in Spain's energy transition



Iberdrola’s Spanish distribution business, i-DE, plays a crucial role in the transformation of Spain’s energy infrastructure, managing around 40% of the country's distribution network, which spans approximately 270,000 km across a service area of 200,000 km². In a conversation with Jonathan Spencer Jones for Industrial News, Estibaliz Goñi, i-DE’s Director of Processes and Technology, highlights that while the company possesses the technologies needed for innovation, a clear investment outlook remains essential for progress.

The energy landscape in Spain is currently characterised by a growing demand for small distributed photovoltaic (PV) systems, electric vehicles, and heat pumps, alongside the overarching requirement for extensive electrification. As outlined in Spain's draft national Integrated Energy and Climate plan, an estimated €53 billion is needed for investments in the transmission and distribution grids between 2021 and 2030, which translates to approximately €5.3 billion annually. Of this figure, 70% will be allocated to enhancing the distribution network—an undertaking that requires doubling the existing investment cap.

Goñi notes, “We have a huge challenge ahead of us in terms of investments,” emphasising the complex interplay of grid modernisation, automation, and digitalisation efforts. In adapting from a ‘network operator’ to a ‘system operator', i-DE is keenly aware of the necessity to expand transmission grids to incorporate new clean energy sources while enhancing the distribution grid's flexibility and cybersecurity in anticipation of distributed generation.

Goñi articulates that customers' needs must be central to every investment decision. The intention to modernise the distribution network directly correlates with improving service resilience and reliability, as well as reducing environmental risks—values which are crucial for utility companies. The organisation is committed to innovation, with the establishment of the Global Smart Grids Innovation Hub serving as a testament to this dedication. Established in 2021, the Hub is a collaborative initiative that brings together various stakeholders, including vendors, manufacturers, academia, and start-ups, to foster innovation in smart grid solutions.

In reference to the Hub, Goñi remarks, “It’s not just innovation for the sake of innovation.” This ecosystem's purpose is to stimulate marketable solutions that can be integrated into the grid, aiming to identify and double the number of innovation projects within smart grids. Currently, over 120 projects focused on grid digitalisation, renewable energy integration, and electric vehicle deployment are in the pipeline.

Artificial intelligence (AI) plays a vital role in these initiatives, with applications ranging from network operation and asset management to predictive maintenance and vegetation management. A notable innovation is the Innovation Data Space (IDS), serving as a virtual laboratory where companies can safely share real data sets to accelerate AI-driven innovation. With the capability to harness images captured by various methods, AI is employed to refine asset information and enhance business processes.

Customer experience remains a focal point in these developments. Goñi emphasises that digitalisation is intertwined with improving customer interactions, highlighting advancements such as providing real-time access to smart meter data and the online distribution of planned maintenance maps. Significant improvements in outage restoration algorithms have also been implemented, offering estimated restoration times not only for individual customers but for broader communities and policymakers as well.

Looking ahead, Goñi notes the pressing issue of the current investment cap, indicating a need for regulatory improvements before the next regulatory period commencing on 1 January 2026. As all Spanish energy companies, including Iberdrola and i-DE, present their cases to the Comisión Nacional de los Mercados y la Competencia (CNMC), the potential delay in investments could hinder the country’s energy transition, impacting competitiveness and security.

Data governance also poses a challenge, with i-DE defining itself as a data-driven organisation focused on ensuring data quality and availability for informed decision-making across the board. Goñi further stresses the urgency for digital skills in the workforce, with a noted shortage that impacts the entire ecosystem, comprising network operators, manufacturers, academics, and policymakers.

The long lead times associated with project construction and permitting, sometimes exceeding a decade, additionally threaten the pace of electrification and renewable integration. “Customers want new connections, but find out that there is a lack of capacity in the network,” Goñi explains, indicating the need for timely grid preparedness to prevent bottlenecks in the sector.

In response to these challenges, collaboration on local, national, and European levels is deemed essential to facilitate necessary advancements before time runs out.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

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