

## THE 1.2 BILLION EUROS INVESTED SINCE 2016 IN DIGITISING ENDESA, KEY TO GUARANTEEING SUPPLY IN THIS CRISIS

- *Endesa will allocate another Euros 950 million between now and 2022 to the digitisation of its assets and processes.*
- *The installation of remote controls, which allows operations to be carried out distantly, cutting service restoration times in case of breakdowns and reducing operator call-out, is proving highly effective during the current COVID-19 crisis.*
- *Endesa has more than 20,000 remotely controlled substations, and this number will exceed 32,000 by 2022.*
- *Digitisation in power plants improves the operation and energy efficiency of the facilities.*
- *It is allowing us to provide remote assistance to customers in making payment terms more flexible, adjusting the contracted power or accessing the 'social bonus' (subsidised rate)*

**Madrid, 3 May 2020** – The stakes that Endesa has placed on digitisation in recent years, investing 1.2 billion Euros in the period 2016-2019, are more than paying off in the current emergency situation caused by the coronavirus, by helping to **assure the supply of electricity** in the best conditions, with maximum safety for workers, and allowing customer service to be maintained remotely. Last year alone, Endesa invested Euros 352 million in digitising its processes and assets, while at the same time strengthening cyber-security to minimise the risks associated with the digital transformation.

The company will intensify this commitment in the next few years, allocating nearly 950 million Euros more to digitisation projects from now to 2022, of which 778 million Euros or 82% are earmarked for the distribution network. Its digitisation is making it possible to carry out **operations from remote, cut service restoration times** in the event of breakdowns and reduce **operator call-out, increasing their safety** in the current health crisis.

### A more efficient electrical network

[E-distribución](#), Endesa's distribution subsidiary, has already installed more than 20,000 remote controls allowing operations to be carried out from the control centres remotely and in real time, thus reducing electricity supply restoration times in the event of incidents and avoiding the need for the teams to travel to the zone.



In the period 2016-2019, Endesa invested 290 million Euros in automating the electricity grid, and the objective is to accelerate this deployment so as to exceed 32,000 remote-controlled substations by 2022. This year alone, Endesa plans to invest Euros 90 million in further automating the electricity grid.

**Network automation** comes into its own in situations like the current COVID-19 crisis, helping to assure the quality of the electricity supply while at the same time easing the workload of field operators, since some of the incidents reported in the network can be resolved remotely. Remote control allows faster and more accurate detection of fault locations so that they can be isolated to limit the number of users affected, and shorter response times to improve the continuity and quality of the electricity supply.

It also allows **remote management of a large number of operations** on the nearly 12 million smart meters deployed by e-distribución, significantly reducing workers' movements.

Endesa's distribution subsidiary is in the midst of a global programme for the **digital transformation** of all its processes, which are opening up to new technologies and instruments ranging from big data and machine learning through augmented reality, artificial intelligence and robotics to the deployment of IOT sensors in order to improve the efficiency of the electricity grid.

Prominent among Endesa's digitisation projects in the distribution network is the Network Digital Twin, an **exact replica of the electricity grid** embedded in the computer, with which to carry out simulations in all possible conditions, check the operation of the different components in real time, perform preventive maintenance and interact with field staff more efficiently. Its roll-out started in 2019 with the work on the 3D modelling of physical assets by scanning substations in Barcelona and Malaga

### Improving plant operation

Endesa is also committed to **digitisation in the electricity generation field**, with investment of 21 million Euros for the period 2020-2022. During 2019, the Digi Plant Programme, which started in 2018, was implemented to deploy the digital technologies that contribute the greatest added value to Endesa's thermal power plants, to improve plant operation and maintenance, staff health and safety and energy efficiency.

For example, Endesa is already applying machine learning and data analysis techniques in its plants to carry out **predictive diagnoses** enabling it to receive warnings before machinery failures occur and thus avoid breakdowns. In this regard, digital tools have been introduced to optimise operation and maintenance and share information and best practices to improve the management of waste from plants, along with radio frequency solutions to streamline plant supply management and inventory work.

Through its renewables subsidiary ENEL Green Power España, during this past year Endesa also launched the Sentinel initiative, a mobile phone application that allows **real-time visualization of hydro, wind and solar assets**, as well as market prices and forecasts. Endesa has also installed a Monitoring & Diagnostic Room (MDR) for renewable energy in its Madrid headquarters (part of the O&M Wind & Biomass area of Maintenance and Technical Services), to evaluate the **condition of the global wind turbine fleet** of the Enel group, to which Endesa belongs, using as its main predictive maintenance (PdM) technique a system that analyses the vibrations occurring in wind turbines to anticipate possible breakdowns.

### New ways to be close to the customer

Another of the pillars of Endesa's digitisation strategy is **customer relations**, in which nearly 150 million Euros will be invested in the period 2020-2022 and which, during this crisis, is allowing it to serve users remotely, facilitating the deferment of payments, the reduction of contracted power and the management of the 'social bonus' (subsidised rates) for newly eligible groups.



As part of its digitisation strategy, the company has incorporated new functionalities and tools based on **artificial intelligence, robotics and blockchain** in its internal and customer services processes.

One example is the **Confía project**, which uses blockchain technology to streamline the handling of cases of energy poverty, since it will allow the municipal social services to detect customers at risk of exclusion in advance so that they can benefit from the 'social bonus'.

Endesa already has **4.7 million digital customers** (registered with endesaclientes or who interact through digital channels) and 3.8 million customers who have opted for electronic invoicing over traditional paper invoicing, a figure that is expected to reach 4.5 million by 2022.

In addition, it has given customers the chance to interact via voice assistants such as Alexa and Google Home and is promoting the **digitisation of call centre services** by incorporating artificial intelligence and virtual assistants, which will be able to serve 6% of interactions this year, a percentage that will reach 9% in 2020.

During 2019, more than 74,000 customer enquiries were managed on WhatsApp, Twitter and Facebook, almost double the previous year, while the number handled via email and chat exceeded 600,000.