

## PROJECT COFINANCED BY THE EUROPEAN UNION

<b>Acronym - Title</b>	NEXTSTEP - <b>NEXT</b> distribution <b>SubsTation</b> improv <b>Ed</b> Platform
<b>Call</b>	18006
<b>Timeline</b>	2016-2021
<b>Total eligible budget (Incentive)</b>	Eligible Investment: 2.677.271 € Incentive: 1.617.339 €
<b>General Objective</b>	<p>The project aims to develop an innovative solution for Secondary Substation. Efacec, the consortium coordinator, together with project partners - Eneida, University of Coimbra, INESC TEC and ITeCons - combine the experience and expectations of the industry, and the scientific knowledge and capacity that SCTN entities bring to the project, aiming at the creation and application of new scientific knowledge, with demonstration in the Low Voltage (LV) distribution grid of E-REDES (ex-EDP Distribuição), an outsourced entity.</p> <ul style="list-style-type: none"> <li>• Efacec Energia - Máquinas e Equipamentos Eléctricos</li> <li>• ENEIDA Wireless &amp; Sensors</li> <li>• UC - University of Coimbra</li> </ul>
<b>Promoters</b>	<ul style="list-style-type: none"> <li>• INESC TEC - Institute for Systems and Computer Engineering, Technology and Science</li> <li>• Itecons - Institute for Research and Technological Development for Construction, Energy, Environment and Sustainability</li> <li>• E-REDES</li> </ul>
<b>Expected results</b>	<p>Several technological innovations will be developed in the project, namely:</p> <ol style="list-style-type: none"> <li>A modular housing granting high thermal, acoustic, physical, and mechanical performance.</li> <li>Solutions towards grid resilience: environment and electric values wireless sensors (energy harvesting, plug and play, inter-changeable/operable).</li> <li>A controller providing: modular and distributed architecture; monitoring and remote self-healing of the LV grid; asset condition monitoring; DER asset and street lighting management; automatic and agnostic smart meters mapping.</li> </ol> <ol style="list-style-type: none"> <li>A MV/LV transformer, according to eco-design, providing better energy efficiency and lower sound power, using a new partial discharges sensor.</li> <li>Less volume MV cells, adapted to the previous sensor and to the new fault detector.</li> <li>A device suitable for flexible applications – at the secondary substation and throughout the LV feeder – for: voltage regulation; grid services support, e.g., harmonic distortion mitigation, phase balancing, compensation of voltage dips and of power factor.</li> <li>An energy storage system, according to eco-design, for: adding dimension to the previous device function; bringing energy efficiency with capacity support during self-healing.</li> </ol>