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## **INCREASING ENERGY EFFICIENCY OF WASTEWATER TREATMENT PLANTS BY UPGRADING THE CONVENTIONAL TREATMENT PROCESS WITH NEREDA TECHNOLOGY**

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### **Abstract**

Granular sludge technology – NEREDA is one of the most significant achievements in environmental biotechnology of the XXI<sup>st</sup> century. NEREDA is the latest innovative technology for biological wastewater treatment, which purifies water using the unique characteristics of aerobic granular biomass. Unlike conventional processes, bacteria of the biological process naturally focus in compact granules with good settling properties.

Due to the variety of biological processes that occur simultaneously inside the granular biomass (nitrification, denitrification), NEREDA is able to produce a high quality effluent with low power consumption. The study investigates the performance of Epe wastewater treatment plant, the Netherlands, before and after the implementation of NEREDA technology. Good research results developed by Dutch specialists are confirmed by this Case study and certify that this technology is a reliable and sustainable one in terms of economic and environmental performance.

*Key words:* biological treatment, energy efficiency, granular sludge, water quality indicators

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