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Development and Implementation of a Business Technology Program Based on Techniques for Reusing Water in a Colombian Company

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Abstract : This project sought to mitigate the high levels of water consumption in industrial processes in accordance with the water-rationing plan promoted at national and international level due to the water consumption projections published by the United Nations. Water consumption has three main uses, municipal (common use), agricultural and industrial where the latter consumes a minimum percentage (around 20% of the total consumption). Awareness on world water scarcity, a Colombian company responsible for generation of massive consumption products, decided to implement politics and techniques for water treatment, recycling, and reuse. The project consisted in a business technology program that permits a better use of wastewater caused by production operations. This approach reduces the potable water consumption, generates better conditions of water in the sewage dumps, generates a positive environmental impact for the region, and is a reference model in national and international levels. In order to achieve the objective, a process flow diagram was used in order to define the industrial processes that required potable water. This strategy allowed the industry to determine a water reuse plan at the operational level without affecting the requirements associated with the manufacturing process and even more, to support the activities developed in administrative buildings. Afterwards, the company made an evaluation and selection of the chemical and biological processes required for water reuse, in compliance with the Colombian Law. The implementation of the business technology program optimized the water use and recirculation rate up to 70%, accomplishing an important reduction of the regional environmental impact.

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