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With MEDIX[®], John Cockerill innovates in the treatment of waste water potentially contaminated with COVID-19

An expert in water treatment, in the light of the COVID-19 crisis John Cockerill has recently been analyzing the performance of MEDIX[®], its technology for the biological elimination of pharmaceutical product residues in hospital waste. The results of this are: on the one hand, based on membrane filtration, MEDIX[®] enables 99.9% of SARS-CoV-2 (responsible for the Covid-19 illness) to be destroyed; and on the other, it establishes increased surveillance of the quality of the water, leading to rapid identification of new clusters of the illness.

Starting from the alarming observation that 90% of prescribed medicines end up in our waste water and that these rejects have a considerable impact on the eco-systems, for the past five years the Environment division of John Cockerill has been developing a process for the treatment of waste water, particularly where micro-pollution of medicinal origins is concerned, (anti-inflammatory drugs, antibiotics, endocrinal disrupters, cancer treatments...). Named MEDIX[®], this natural treatment concept, both modular and adaptable, allies biological degradation of micro-pollutants and ultra-filtration. It maximises the suppression of micro-pollutants while featuring a naturally low consumption of energy and an optimized ecological footprint.

A pilot station has been installed successively in two Belgian hospitals, firstly in the Hermalle-sous-Argenteau clinic – in collaboration with the Liège CHC grouping – and then from summer 2019 at the Saint-Pierre clinic in Ottignies. Analyses of the levels of destruction achieved on the ground have confirmed the anticipated performance: a reduction of over 80% of micro-pollutants (chemical molecules corresponding to different therapeutic groups).

Olivier Henriët, Product Technical Manager at John Cockerill: “During the COVID-19 health crisis, we have been able to calculate that our MEDIX[®] solution leads to the destruction of 99.9% of SARS-CoV-2, responsible for the Covid-19 illness, in the treated water. Going beyond these results, we turned our attention to the question of whether an analysis of the waste water would enable a calculation of the extent of the pandemic, and above all enable the most affected zones to be located. This question is taken very seriously in numerous countries because gathering readings from our waste water would enable the evolution and prevention of the epidemic to be better monitored. The importance of the quality of the water and the necessity of eliminating pathogenic substances and micro-pollutants from waste water, thus assumes greater significance.”

Today, although new scientific techniques have brought to light pollutants of which we were previously unaware, there is not yet any regulatory framework to constrain or encourage the players on the ground to invest in these solutions.

In Europe, these measures are absent at all levels of power. And yet the technology exists. With its MEDIX® solution, John Cockerill is thus positioning itself as a supplier of solutions for an ecologically responsible future and is putting its stakes on this future. There is no doubt that public opinion and European leaders will be sensitive to this.

About MEDIX®

MEDIX® is a consortium project under the leadership of John Cockerill in partnership with the Cebedeau (Water research and expertise centre, Liège), ULiège, LIST (Luxembourg) and the Symbioet SME supported by the GreenWin Walloon competitiveness pole, which treats pollution at source by directly isolating and treating the waste water collected from hospital establishments.

About John Cockerill

The John Cockerill Group perfects large scale technological solutions to respond to the needs of its times: preserving natural resources, contributing to greener mobility, sustainable production, fighting insecurity and facilitating access to renewable energy. Its offering to enterprises, States and public bodies is seen in services and allied equipment for the energy, defense, industry, environment, transport and infrastructure sectors. Stimulated since 1817 by the entrepreneurial spirit and thirst for innovation of its founder, the 6,000 members of the personnel of the Group enabled a turnover of 1.260 billion Euros to be achieved in 2019, across 23 countries on 5 continents.

An expert in the treatment of process water, of drinking water and of waste urban and industrial water, the **John Cockerill Environment** teams work in close collaboration with clients from all sectors of activity (light and heavy chemicals, the metals industry, plastics galvanization, pharmaceuticals, cosmetics, food processing, electronics etc.) in order to provide them with treatment solutions which optimize both investment and operating costs, while conforming to regulations involving waste.

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