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HOW PRINGLES CUT ONSITE WATER USE BY 50% THROUGH INDUSTRIAL REUSE



END CUSTOMER
Kellanova - Pringles

LOCATION
Mechelen, Belgium

SECTOR
Fruit & Vegetable processing

OEM PARTNER
Pantarein Water

APPLICATION
New Build

KEY WINS

50%

Lower annual water consumption at the Pringles production facility in Mechelen, reducing reliance on externally supplied water.

TARGET EXCEEDED
The original goal was a 30% reduction by 2030. Mechelen went beyond that ambition after only two years of operation.

GROUP-WIDE IMPACT
One site delivered enough water savings to meet the entire Kellanova group's global water saving targets.

THE CHALLENGE

Producing 100,000 tonnes of potato snacks a year requires significant amounts of water. In 2015, the plant used 400 million litres of water every year, sourced from Pidpa, the local water utility. Put simply, this meant that four litres of water were required for every kilogram of potato chips produced.

Belgium is classified as a high water-stress area. Water has become both a growing financial cost and a strategic sustainability concern for Kellanova.

Wastewater treatment also presented demanding conditions, including free and emulsified oils and high salt content.

THE OBJECTIVES

Three objectives were set for the Mechelen manufacturing plant:

01 Reduce total water consumption by 30% by the end of 2030

02 Refurbish or replace the wastewater treatment plant

03 Explore onsite wastewater reuse as a water-saving option

Kellanova chose Pantarein Water to design a compact plant for onsite water reuse, using **BLUE FOOT**'s flat sheet ultrafiltration membranes.

> **You're protecting yourself from any future changes in water prices and the volatility of water as it becomes scarce.**
> *Michel Geenen, senior technical operations manager at Kellanova*

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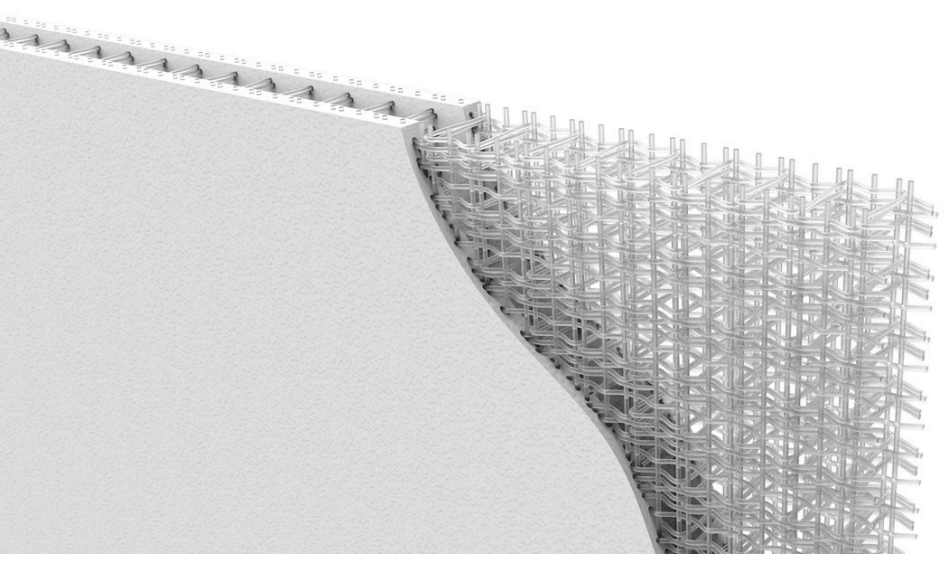
BUILT FOR WATER REUSE
PROVEN IN MECHELEN

THE APPROACH

Pantarein Water replaced the original technical building with a modular, containerised service that was pre-built, pre-assembled and delivered to the site. This can easily be expanded, moved, or dismantled as needs arise.

Within the containers, Pantarein utilised specific technologies to tackle the water challenges presented on the site: pre-treatment with a dissolved air flotation unit, balancing the sludge load and bacteria, and adding nutrients to the bioreactor.

With water reuse being one of the major requirements of the new plant and limited space to work in, Membrane Bioreactor (MBR) technology was an obvious treatment choice.



BLUE FOOT MEMBRANE TECHNOLOGY

BLUE FOOT's patented Integrated Permeate Channel (IPC®) membrane combines a PVDF membrane layer with a three-dimensional woven textile support in one integrated structure. The membrane layer is cast directly into the textile support, without gluing or welding it onto a separate backing.

This robust construction enables effective backwashing to help control fouling and support stable long-term operation. Every membrane sheet is pressure-tested to **2 bar** during manufacturing.

24 membrane modules | **8 stacks of three**

Each stack uses one aeration box, helping minimise footprint and energy costs. The modular configuration offers potential for further expansion within the same site footprint.

> **You can clean one tower and still work with the seven remaining ones. When you have done your design properly, then you can treat a little bit more water in the seven remaining towers.**
>
> *Piet de Langhe, Pantarein's CEO*

Less water used. Greater water security.

ANNUAL WATER CONSUMPTION



220 million
litres less per year

Annual water consumption reduction in 2025 compared with the 2015 baseline

After only two years' operation, the Kellanova plant at Mechelen has more than halved its water usage: from 400 million litres a year in 2015, to 180 million litres in 2025. This far exceeds the target set in the Better Days Promise. The Mechelen facility has saved enough water that it has met the entire Kellanova group's global water saving targets.

> The Mechelen site has become **a reference facility within the Kellanova group.** The modular, containerised solution delivered by Pantarein and enabled by BLUE FOOT Membranes demonstrates how onsite water reuse can **strengthen water security, reduce costs and exceed sustainability targets.**