

Crown the global drinks can manufacturer chose Environmental Water Systems (UK) for its water treatment needs at its new state of the art plant in Slovakia.



Founded in 1892 in Baltimore, USA, Crown is now a global leader in can manufacturing employing over 20,000 people worldwide.

Crown have recently built a new beverage can manufacturing base in Slovakia that will supply local and international customers in the region.

It was imperative for Crown, when building their new plant to minimize the environmental impact. Water is a vital component in the can making process and Crown insisted on sourcing the latest sophisticated water treatment technology. Their goal was to recycle 90% of the water used in production.

Environmental Water Systems (UK) Ltd (EWS) were approached, and subsequently selected as Crown's key partner for this project. Crown quickly realised that EWS have industry experts and the latest equipment to achieve their goal.

Once appointed EWS worked closely with Crown to deliver a number of different water treatment solutions throughout the manufacturing process. EWS quickly advised Crown that the local town's water supply needed treatment to bring it up to the required standard.

This was achieved by supplying a **multimedia filter, RO system** with sodium



Multi Media RO

Bisulphite and anti-scalent dosing as pre treatment and a recovery RO. This minimises the volume of RO concentrate ensuring maximum efficiency.

For the recovery of demineralised water from the production line, EWS supplied cartridge filtration, an activated carbon filtration unit feeding a **bespoke duplex deionisation plant** which was specifically designed to ensure it was robust enough to deal with the return water quality. Of the 5m³ / hr water that is used in the rinsing process 4.5m³ is recovered and reused.

Following-on from the success of the first can line in Slovakia, Crown decided to install a second line at the site. EWS were asked to be the main contractor for the additional water treatment at the site as we had proved our capabilities on the first line.

To ensure the success of the second line, EWS suggested and subsequently made the following alterations to the process improving its efficiency:



Deioniser



RO Plant

- Addition of another multimedia filter and primary RO, to meet the increase in demand from the second line.
- Re-commission the duplex deioniser changing the operating parameters, giving the extra capacity for both lines.
- A second stream waste water recovery system included a DAF (dissolved air flotation) unit. The post-DAF filter system was replaced with a continuous backwashing sand filter, which provided improved performance of the system.
- The operating parameters of the system were adjusted to give better control of the metal precipitation, leading to improved sludge recovery and treated water quality.

All of the work was completed on time and to budget. By dealing with a single contractor on site the whole process was made much easier.

“EWS were chosen for their technical expertise and ability to provide us with a water treatment solution with a single point of contact. We have found them to be very good to work with, not only in their technical knowledge but with the backup support they provide.” Perry Goodwin, Production Engineer

Overall Crown now recycle 90% of the water in the can making process, helping minimise the environmental impact from the site. EWS provide service and support to the Slovakian site both via telephone and with people on the ground. EWS are also continuing to train site personnel ensuring Crown having the knowledge and support they require.



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