



**Project Partner:** Atium AB

**Country:** Sweden

**Industrial ecosystem:** Energy-intensive

**Date of the award:** 29/09/2023

**Duration:** 01/12/2023 – 30/11/2024

~ Enabling selective and resource efficient removal of mercury from water and chemicals ~

With Circln Water's support, Atium pushed its electrochemical mercury filter from TRL 5 to TRL 9. Five full-scale units were added downstream of standard amalgam separators in four Swedish dental clinics and ran 12 months without a single interruption. During that time each unit removed  $\approx 4$  million micrograms Hg per year while cutting dissolved-mercury levels by up to 200 micrograms per liter on average, all with no impact on clinic workflow. Collectively the modules captured over 19 million micrograms of dissolved Hg, preventing contamination of >19 million liters of drinking water.

The field tests confirmed compatibility with the existing water treatment workflows for all the common amalgam separator brands. The project was also complemented by an independent, peer-reviewed scientific article, and has led to the technology being requested in several public procurement processes by the Swedish public dental care organization Folk tandvården.

CE-marking has been completed and initial production is underway, with distribution in collaboration with Stena Recycling and Sweden Recycling. Over the next 24 months the company aims to scale manufacturing and expand across the Nordics and EU.

To summarize, the project closed the final technical gap for the solution, proving year-long, maintenance-free performance at full scale and opening a scalable, resource-efficient pathway for efficient mercury removal from dental clinics - the largest source of mercury emissions to the municipal water network.

