



## Sound into Performance

The first and only company to use focused power ultrasound to remove fouling from industrial equipment with *no production stoppages* and *no equipment disassembly*

### The Problem = Fouling

This is a global problem for all industries. As an example, fouling in heat exchangers costs €30 billion per year in Europe only.

### Benefits

With Altum's Power Ultrasound cleaning approach:

- Increase production output
- No production downtime
- No chemicals needed
- Increase energy efficiency
- Decrease maintenance and cleaning time
- Comply with environmental legislations
- Improve dewatering
- Increase equipment lifetime
- Improve workplace safety

### Our Company

- Finnish cleantech company
- Disruptive patent pending technology
- Eliminating fouling & chemical pollution
- Improving industrial performance

### Solution & Technology

The system is externally applied to industrial equipment without the need of stopping the process. Altum's software allows to pinpoint where the ultrasonic cavitation cleaning cloud is needed inside the structure.

- Applicable to:
  - Steel and other alloys
  - Fiberglass
  - Plastics (needs special design)
- Works in fluids & liquid-carrying equipment:
  - N/A to dry content or gases

### Team

We have the most brilliant minds in ultrasonics from the University of Helsinki and Harvard University. Our team sums up more than 100 years of experience in ultrasound and electronics, including several patents.

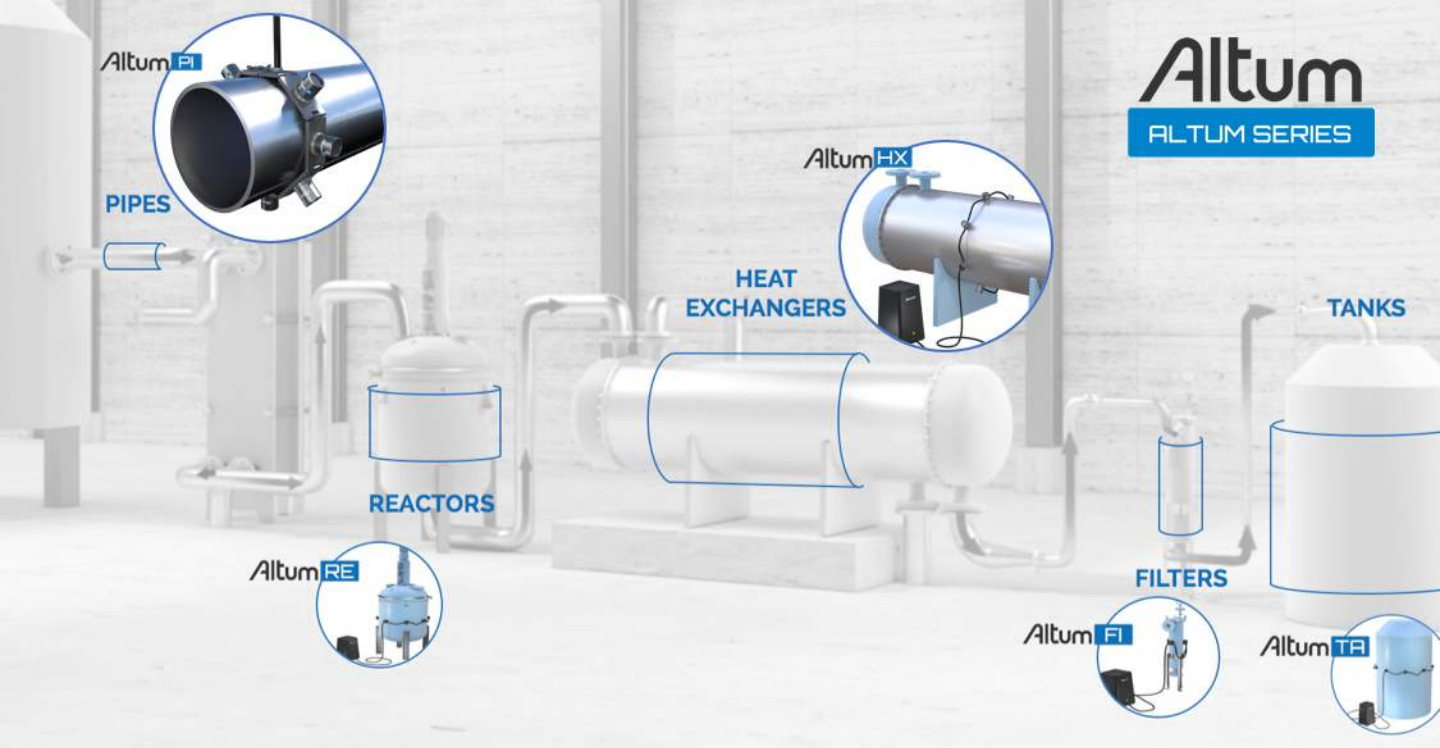
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## Results

The customer tried various chemicals, soda blasting, sand blasting and nothing worked.

Before



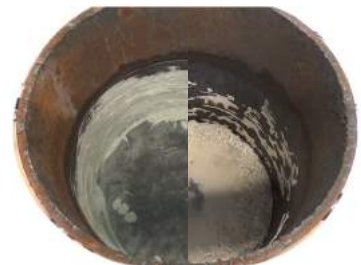
After



IN JUST 2 HOURS, **Altum HX** SOLUTION CLEANED THE HEAT EXCHANGER PLATES COMPLETELY

**Altum PI**, for pipes, in action:  
(Steel pipe with hard limescale,  
diameter: 500mm, wall thickness: 12mm)

Before



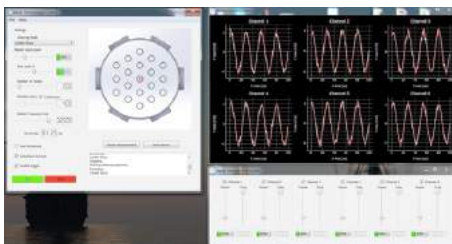
After



IT ONLY TOOK 60 SECONDS TO GET THESE RESULTS

## Modular Solution

**Software**  
user-friendly interface



**Central Unit**  
robust design



**Ultrasonic Transducers**  
clamp-on design



1 transducer = 1 channel = ~5 kW  
Pulsed sound = lower electricity consumption