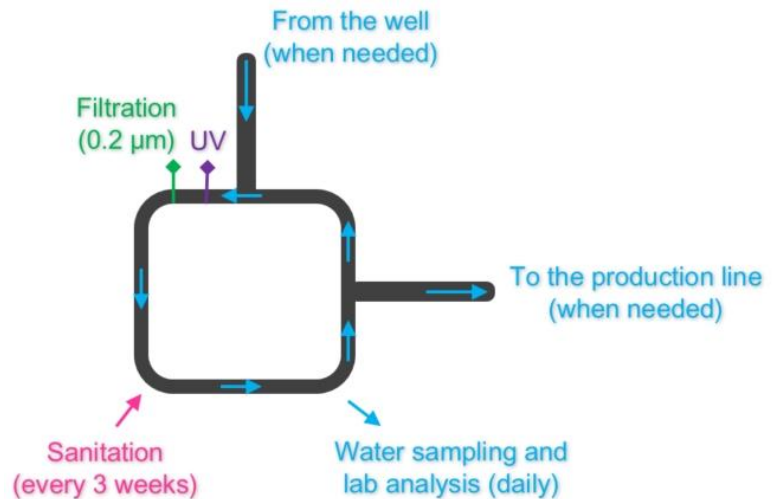
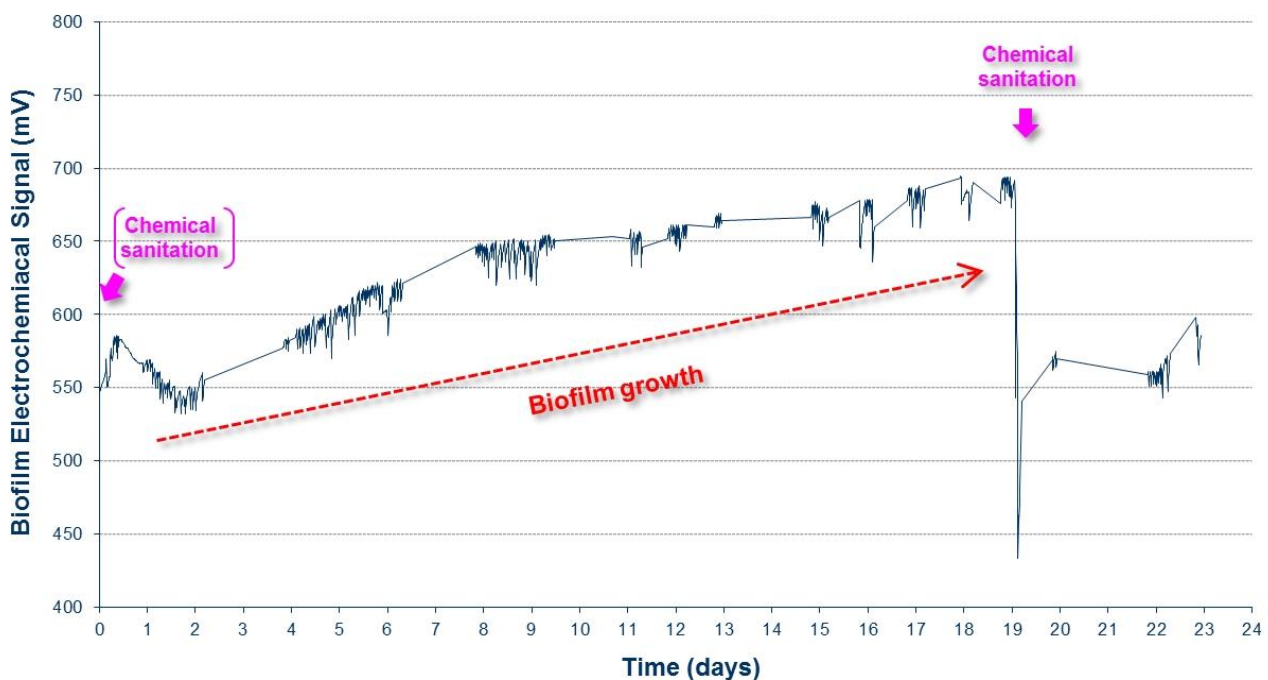


Biofilm represents a huge threat in food production plants, since this microbiological layer is the ideal environment for the survival and growth of pathogenic bacteria. Moreover, biofilm can be up to 1000 times more resistant to sanitation treatments with respect to free-floating bacteria.

In this food production plant, when the flavour of the product had to be changed, water was used to pump the product out of the pipeline and to wash the pipes. The water employed for this process was stored in a closed loop, continuously flowed, treated with UV light and filtered (down to 0.2 microns). After use, the water was discharged. Once every three weeks, the closed loop was cleaned using chemicals, and the filters were sterilized using steam.



After a period of use of such system, the quality control staff noticed a frequent increase in the bacterial count in water samples taken from the loop. Initially the staff thought that this was due to a damage in the filters, and replaced them. This did not solve the problem. They decided to install an ALVIM System, in order to check if there was any biofilm growth inside the closed loop. Thanks to the ALVIM System it was possible to see that, just after the sanitation of the loop, biofilm immediately started to grow again.



This means that some bacteria passed the filters and survived the UV treatment, then they colonized the pipelines of the loop. Indeed, it has been widely demonstrated that 0.2 microns filtration, UV and most chemical treatments cannot achieve 100% effectiveness in removing bacteria. At the same time, ALVIM showed that the chosen cleaning strategy was not able to completely remove biofilm from the water loop. Cleaning frequency was increased, and subsequent laboratory analyses on water samples showed that bacterial proliferation was under control. This was confirmed also by ALVIM sensor.

**Do you have a similar problem with biofilm? Contact our experts and ask for a free custom-tailored consultancy, you will receive further information about ALVIM products and services.**

The ALVIM Biofilm Monitoring System is a reliable tool for the early detection of bacterial growth on surfaces, on-line and in real time, in industrial production lines, cooling water systems, etc.

The ALVIM Technology has been developed in collaboration with the Italian National Research Council, Institute of Marine Sciences, and it is currently used worldwide in many different application fields.

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