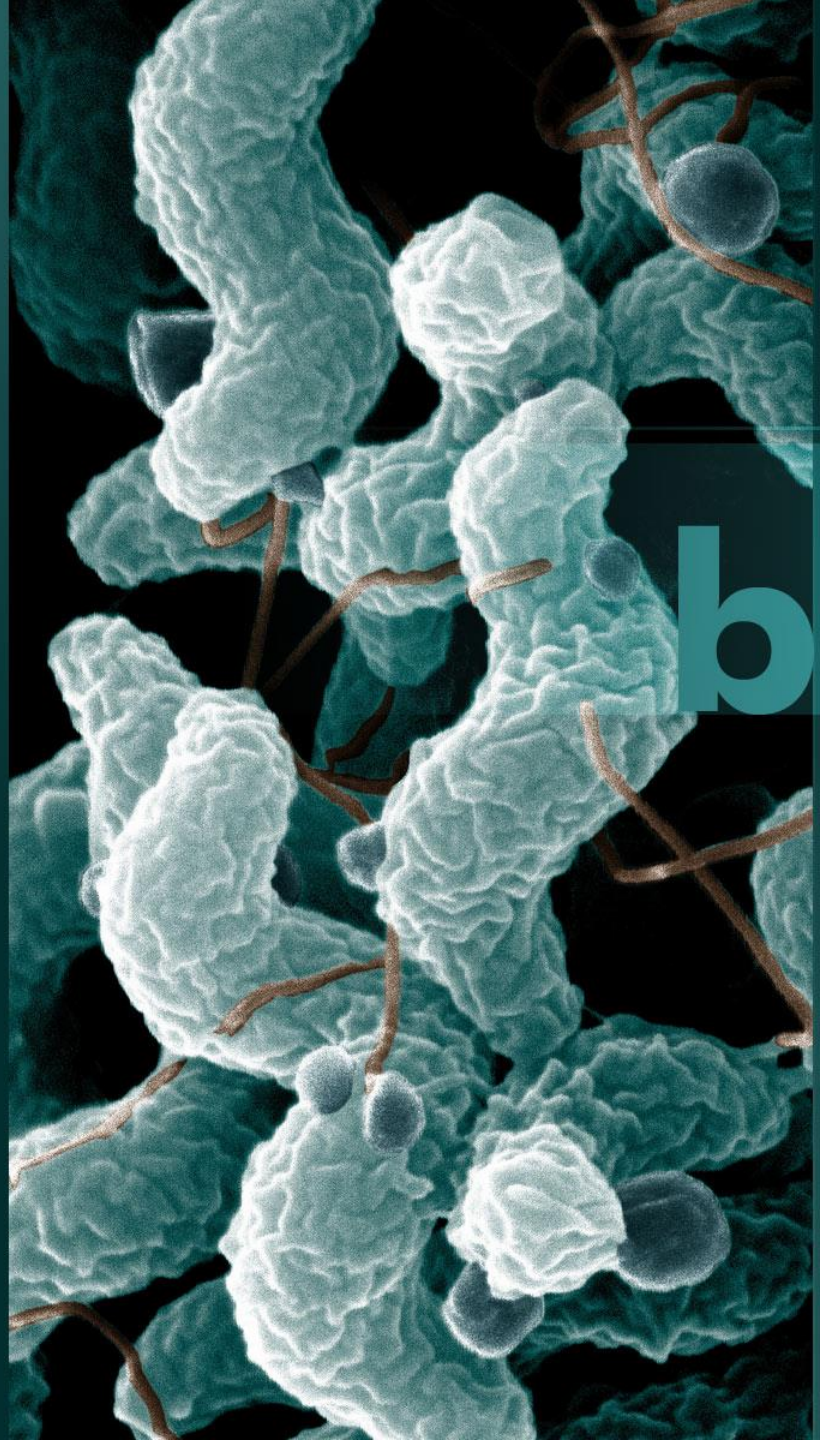
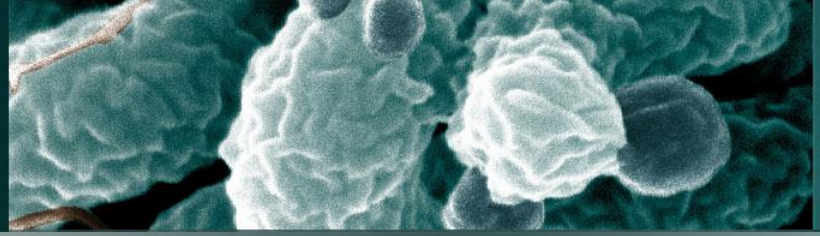


QM Environmental International BV

bacteria

Municipal Sewage Treatment Plant restores nitrification using Bioaugmentation

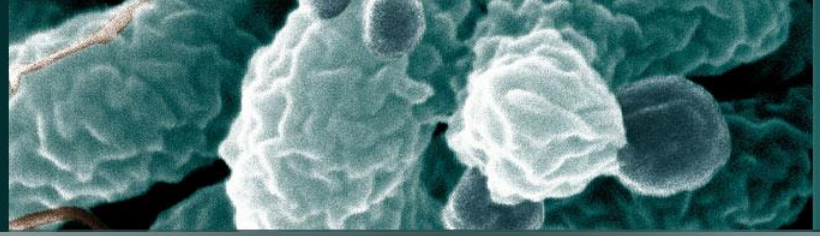
How Bioaugmentation can help nitrification!

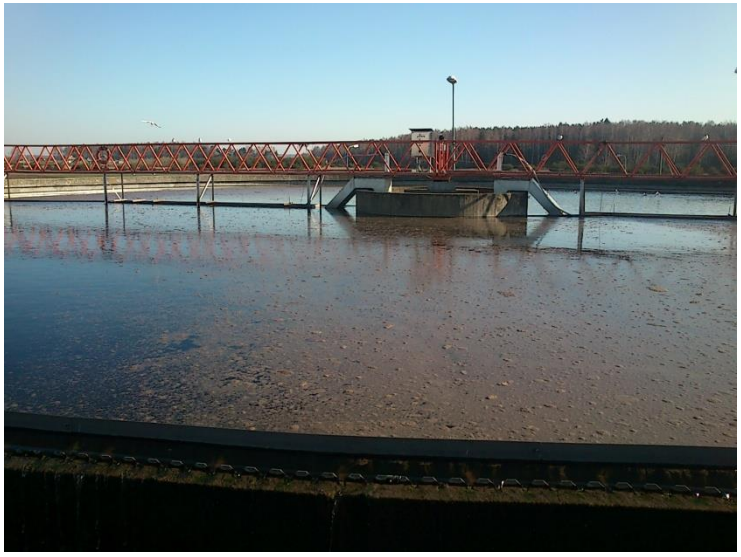


Municipal Sewage Treatment Plant, Lithuania

The Problem

- Extreme cold water influx during winter period
- Landfill leachate entering the treatment plant
- High Ammonium content in secondary influent from anaerobic sludge digesters
- Tight ammonium discharge limits
- 48.000 m^3/day Activated Sludge Treatment Plant
- Loss of nitrification
- Discharge in Tourist Sensitive "Curonian Lagoon"

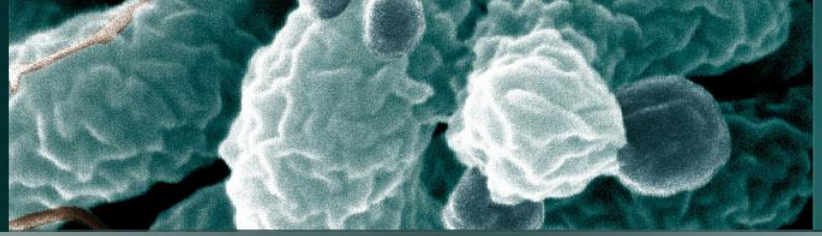




Municipal Sewage Treatment Plant, Lithuania

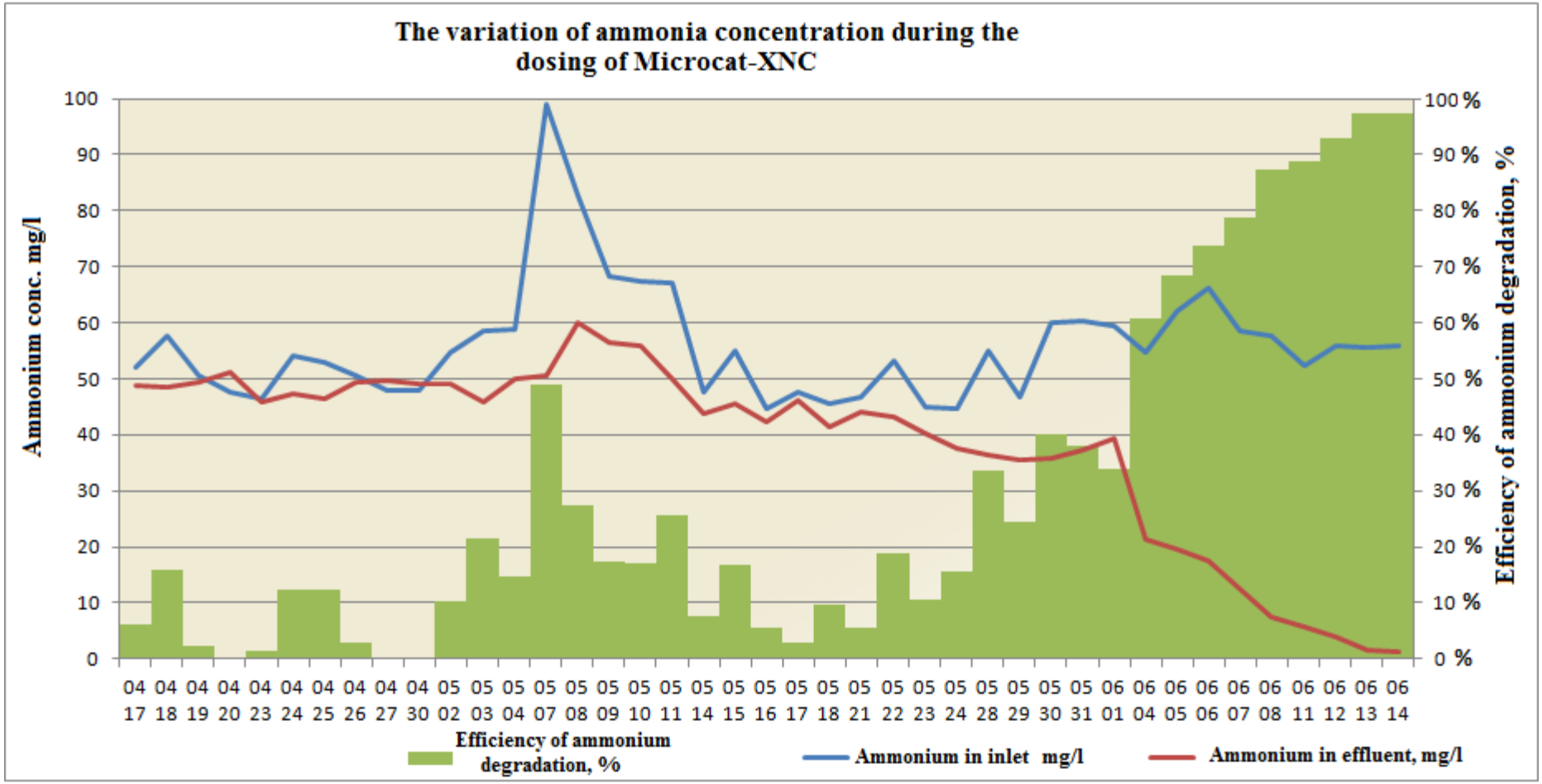
Problem Analysis & Treatment plan design

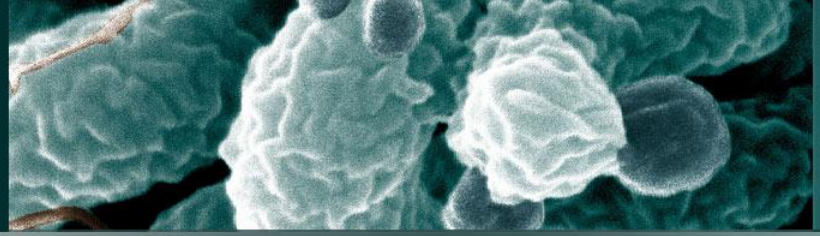
- Microscopic Diagnosis of the Biomass
- Evaluation of influent character and operational parameters
- Treatment program design & implementation
  - Operational recommendations
  - 30 day initial **MicroCat-XNC**
  - Dosing program with high dosage
  - 28 days maintenance dosing program
- Monitoring



Municipal Sewage Treatment Plant, Lithuania

Results





Municipal Sewage Treatment Plant, Lithuania

Conclusions

- Rapid return of nitrification capacity
- Maintaining nitrification even in periods of sludge wasting due to poor settling
- Achieving ammonium discharge limits