What's new in SUMO24$^{©}$

This document summarizes the new features and improvements found in SUMO24 compared to SUMO22.1.

New process model features

- Two slowly biodegradable substrate hydrolysis model – will allow more accurate modelling in digesters receiving a mix of primary and waste sludge
- PdNA extension
- Impact of metal salts on flocculation
- PFAS (PFOA & PFOS, particulate & dissolved) model extension
- Fixed low pH nitrification issue
- SUMO4N: abiotic consumption of N_2O reactions added
- pH can be set (instead of calculated) locally in each PU which results in much faster runs in some situations and precipitation calculations are always active in digesters

New addons

- Densified sludge AddOn: allows modelling of granular/densified sludge technologies

New and improved process units

- Prezone SBR (hydraulically linked variable volume reactors)
- Manual SBR: can be driven by actual measured data
- Denitrification filter
- High efficiency settlers (primary and secondary)
- Drawdown pond with evaporation and infiltration
- Much faster sewer-plant-river (IUWS) runs with extended options

Tools

- HRT calculation tool
- MinMax tool: find the lowest/highest value during simulated period
- Response time: apply sensor delay into controller logic

New interface features

- New, improved simulation control panel
- Live slider for changing parameters (e.g. creating storm during run)
- Scenario runs: all scenarios run automatically for comparison
- Parameter sensitivity analysis (e.g. stepping waste flow between two values, showing all results on same chart in steady-state or dynamically)
- Optimization: fit to target value (e.g. effluent ammonia setpoint) or measured data, and minimize or maximize
- State Point Analysis diagram for layered settler models