

Flying start pilot cases in AquaFit4Use

By assessing the current state of water (re-)use – including surveying water circuits – nine company investigations in all four (food, textile, chemical and paper) sectors have been successfully performed. Corresponding knowledge has been gained, e.g. developing procedures for circuit mapping, identifying fresh water saving potential, recommending economical/ecological optimised circuit/technology arrangements, and evaluating alternative CIP technologies.

Based on comprehensive data editing tailor-made simulation studies have been started at the involved companies elaborating several scenarios for waste water reduction whilst assessing of impact of system closure on system loading. In this context first concepts of water circuit narrowing have been discussed covering measures, partly including several alternatives, for reducing specific fresh water consumption.

On-site pre-trials covering separation steps (flocculation, DAF, precipitation, crystallization), AOP (ozone, UV, peroxide), biological treatment (MBR, UASB, denitrator) and pre-filtration/membrane steps (3FM, MF, UV, NF, RO) have been started. By accompanied on-site meetings at water users together with water treatment suppliers and supporting research institutes alternative pilots are under preparation.

Concluding, based on good progress in the first 15 months of AquaFit4Use we can take stock of the following:

- In-depth system analysis of the production efficiency in paper industry revealed high saving potentials for water and energy;
- The harsh wastewaters in chemical companies are a challenge both for treatment technologies and re-use opportunities;
- Procedures of Cleaning in Place CIP-processes in food industry reveal opportunities for alternative methods in order to enhance these processes;
- Comprehensive factory analysis – representing textile finishing industry in Europe – of production processes revealed high water and energy saving potential.

Consequently we are optimistic that on-site screening, testing, evaluating and implementing within AquaFit4Use will contribute/lead to:

- Enhanced sustainable use of resources in the future of paper making;
- Pinpointing bottle-necks and a roadmap to sustainable use of water in chemical industry;
- New opportunities for saving water and raw materials in cleaning processes in the food industry;
- Enhanced sustainable use of water and energy in the future textile finishing industry.

