

Successful S.sensing CS application

Petrochemical plant decreases the coagulant consumption at water preparation by using S.sensing CS



1. Keywords

Waste water real time monitoring, dosing control, total cost of ownership, inorganic coagulant dosage, petrochemical plant.

2. Background

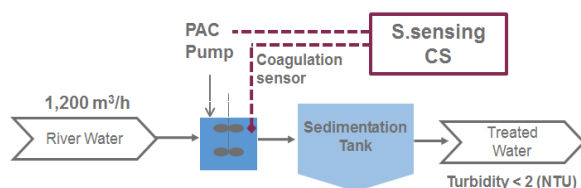
S.sensing CS is a chemical injection monitoring system which controls the coagulant consumption so that treated water turbidity achieves the targeted value.

This case study shows the impact of S.sensing CS monitoring on product consumption and sludge amount resulting in a reduction of the total cost of ownership at a petrochemical plant.

At this customer water is supplied from a river and prepared as make up water. Amount of water inlet is 1,200 m³/h. Since the water inlet flow rate is high, to reduce the existing inorganic coagulant consumption with stabilized treated water parameters S.sensing CS is offered to the customer.

3. System description

Water preparation plant flow scheme showing the installation places of S.sensing CS system:



Inlet stream turbidity: 14 NTU approx.
Target outlet turbidity: < 2 NTU

4. Objectives

- Reduction of consumption of inorganic coagulant
- Decrease sludge of inorganic origin
- Less complex operation management
- Stabilization of the quality of treated water
- Saving in total cost of ownership

5. Action/Approach

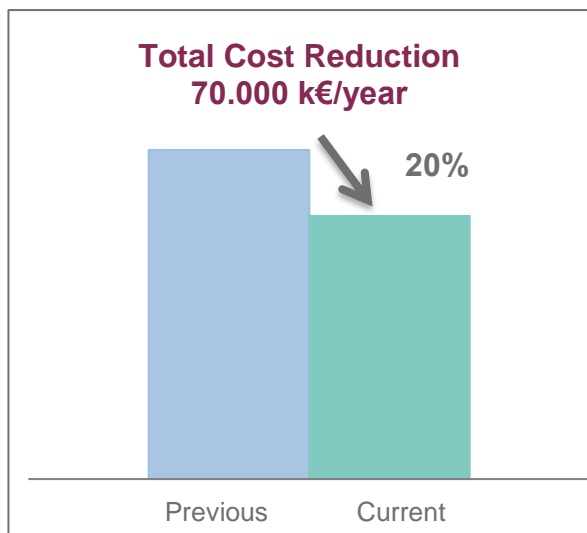
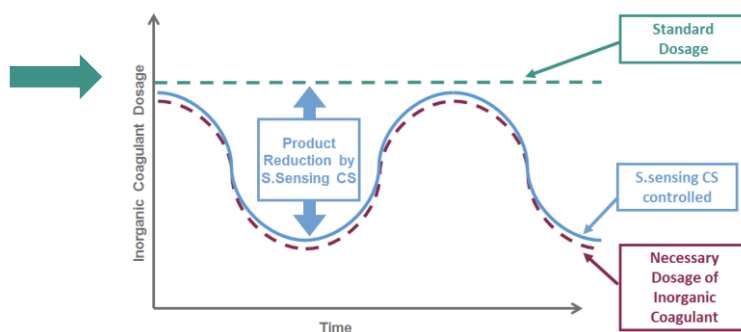
S.sensing CS system includes a coagulation sensor which has a laser based technology. It has to be installed close to where the flocculant is dosed and where the flocks are formed to predict turbidity between the flocks in treated water.

6. Achievements

	Previous treatment	With S.sensing CS
PAC (mg/L)	28	0
Gilufloc 6961 (mg/L)	0	21
Anionic Polymer (mg/L)	1	1
Turbidity (NTU)	<2	<2
Product consumption decrease: 25 % Sludge amount reduction: 20%		

7. Conclusions

- Reduced coagulant usage (-25%) due to fast reaction time to adjust the dosage.
- Reduced sludge of inorganic origin (-30 Tn/year).
- Stabilized quality of treated water.
- Smooth plant operation.
- Total cost of ownership reduction (70 k€/year - 20%).



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