**Fenton Activated Carbon Catalytic Oxidation (FACCO) process for the treatment of high strength wastewater**

**Unmet need/problem with conventional homofenton oxidation:** Formation of ferric hydroxide sludge serves as a catalyst to decompose hydrogen peroxide. The post Fenton oxidation processes demand the adjustment of pH of the wastewater to the neutral condition resulting in high total dissolved solids and high sludge formation.

**Technology/Solution:** Treatment of wastewater discharged from Industrial with high COD and high TDS with minimum sludge production. It requires low foot print requirement, no odour emission. The treated water will be in the reusable quality.

**S&T details:** FACCO is a packed bed reactor and consists of the ferrous ion loaded nanoporous activated carbon catalyst. The organics present in the wastewater were oxidized by the hydroxyl radicals generated by a reaction between ferrous ion and hydrogen peroxide (which is added in the process). The reactor has three zones viz the first zone consists of distribution of wastewater; second zone for mineralizing the dissolved organics by the counter current mode of application of wastewater and air; third zone is used for the separation of treated water from air.

**Commercialized/Launched in market:** Implemented in chemical, Pesticide manufacturing industry, Dye intermediate manufacturing industry.

**Beneficiaries:** M/s .C.Shanmugam & Co. Tanners & Exporters; M/s Thirumalai Chemicals Limited Malaysia; M/s. Enhanced Wapp Systems ( India) Private Limited; M/s James Robinson India Pvt. Ltd.; M/s Tamil Nadu Newsprint and Papers Limited; Vapi Waste & Effluent Management Co. Ltd; M/s Aarthi industries Limited

FACCO technology based ETP for volume 100 m$^3$/day in M/s CS Specialty Chemicals Pvt. Ltd
(Formerly James Robinson India Pvt. Ltd.) VAPI

FACCO technology in CETP, VAPI (300 m$^3$/day)