Project Information Sheet

ECUVal

Programme area:	First and Market Replication Projects
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Partners:	Fundació Privada per la Innovació Tèxtil d'Igualada (FITEX), Spain ICOMATEX, Spain GRAUSA, Spain
Website:	www.ecuval.eu
Benefits (max. 150 characters incl. space):	Reduction of water consumption in dyeing processes from 70 to100%. Saving of 15-60% electrolyte. No chemicals are needed, no residues are generated.
Keywords:	Photo-electrochemical treatment, colour removal, effluent reuse
Sector:	Green Business
Type of solution	Technology
Duration:	15/01/2015 – 14/07/2017
Budget:	€ 1.476.511 (EU contribution: 50%)
Contract number:	ECO/13/630452

Summary

The aim of ECUVal project is to study the feasibility of a photo-electrochemical treatment for the degradation of dyes contained in textile effluents and its scale-up at commercial level. Finally, the creation a sustainable business model is planned.

The first stage of project ECUVal, which consists on the establishment of technical requirements for the operation of the ECUVal system, is nearly completed. Different effluents (containing reactive dyes and NaCl added during the dyeing process) were collected at the textile mill, characterized and treated by means of an electrochemical laboratory pilot plant.

Most of effluents were decolourized after 10-30 minutes treatment. Subsequently, the uncoloured effluents were reused in a new dyeing process. At the end of this step, the more suitable effluents to be treated by ECUVal process were selected.

On the basis of these results, the functional requirements and the design guidelines to build the ECUVal cell are being studied. Also a market study and a preliminary business plan have been developed to establish the further industrial implementation of ECUVal system, which will be completed in 2016.

Expected and/or achieved results

- Establishment of optimal working conditions.
- Electrochemical decolouration of textile effluents after 10-30 min. of treatment.
- Reuse of 70% dyeing water and 15-60% electrolyte (NaCl).
- Lower effluent salinity, which also reduces the cost of the effluents discharge.