

Category Environmental Technology and Services

Project-title: **ZERMEG –Zero Emission Retrofitting For Existing Galvanising Plants**
Applicant: STENUM GmbH

Initial situation

Galvanizing plants in Europe cause up to 250.000t of hazardous wastes each year. Due to complex and multi-stage processes, the great variety of used chemicals, varying products and operating-grades, it usually is not easily possible to know the optimal process-conditions or to stay within their limits. Many companies rely mostly on their suppliers' recommendations in defining the process parameters and in picking their chemicals. That leads to many companies implementing selective measures, with the constant uncertainty what the very single action really changed.

Challenge/ Innovation

An approach was developed, allowing to quick-determine the minimal consumption of water and chemicals needed to run the processes in galvanic plants. The main challenge in the developing process of this approach was, to embrace the variety of procedures and complexity of chemical processes within the sector.

Results

In participating companies, considerable savings could be achieved through the ZERMEG-method. Due to reduction in amounts of chemicals used, the recovery of recyclable fraction and improved wastewater treatment, hazardous and non-hazardous wastes could be reduced. Up to 95% of the amount of water per unit produced could be saved. The energy efficiency of production sites could be raised by up to 50%. Further more, the improved exhaust-venting systems led to seriously improved working conditions.



Potential/ Reward

In Styria and Carinthia (direct trading area of STENUM), co-operations with about 25% of factories in question where conducted. At the time, the market is systematically enlarged. Thereto, co-operations in South Africa, Korea and the Philippines were contracted. A subsidiary company of ours is currently trying to set foot into the market in India. The interest in the ZERMEG-approach of these countries is great, educing a significant growth potential.

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