



Expert in the treatment of industrial chemical pollution: **harmful & corrosive gases in Surface Treatment**

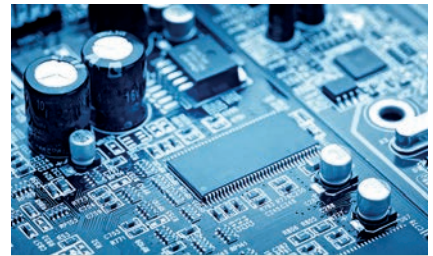
John Cockerill Europe Environnement makes available to you the highest performing technologies for **controlling gaseous pollutants** from your processes in **numerous applications**, such as:



Electroplating
(automotive, medical)



Metallurgy



Electronics



Hot dip galvanisation



Hard chromium coating



Aeronautics

In both heavy and light chemicals, the production and transformation processes call on extensive wide range of chemical elements; resulting in a wide variety of polluting gaseous emissions: our job is to define and set up the optimal treatment solution in line with your requirements and those of the regulations in force.

Thanks to its know-how and technological skills John Cockerill Europe Environnement helps to:

- Protect on site operators
- Control your gaseous releases
- Preserve your working environment: buildings and equipment
- Enhance your image among local residents and clients

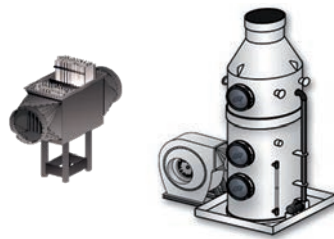
Audit Treatment solution design Manufacture Installation Commissioning Maintenance & After-sales servicing



Example of a recurrent challenge in electroplating for the aeronautics / automotive sector

- Treatment of vapours and aerosols from soaking baths (degreasing, sweating, polishing, flowing, passivation, deposits, conversion, etc.)
- Ambient temperatures up to 80°C
- Pollutants: HF, HNO₃, NOx, HCl, NaOH, Cr(III), Cr(VI), CN...

Example of a typical solution



Client's process

Surface treatment for the manufacture of helicopter parts (France)

- Pollutants: Chromium and alkaline acids emitted by the bichromate plugging, degreasing, sulpho-chromic aluminium pickling, sulpho-nitro-ferric (SNF₃) bath, and anodic chromic and sulphuric oxidation baths
- Airflow: 27 000 m³/h at 50°C

Our solution

- Droplets separator with blades and ducting elements
- Spraying gas scrubber with automatic regulation of the washing solution, made up of sodium water

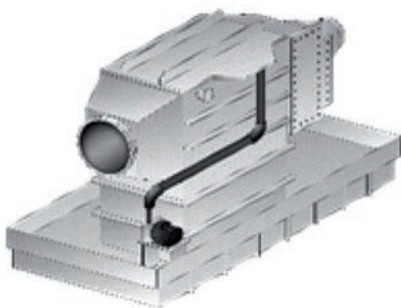
Performance

- > 99% on the chromium
- > 90% on the alkaline

Example of recurrent challenge in Electronics

- Treatment of gas arising from attack processes and deposits on electronic parts (vacuum extraction on machines and clean rooms...)
- Pollutants: HF, HNO₃, NOx, HCl, NH₃, SiF₄

Example of a typical solution



Client's process

Chemical attacks for the manufacture of photovoltaic cells (Sicily)

- Pollutants :
 - HF : 250 mg/m³
 - NOx : 150 mg/m³
 - CO₂ : 670 mg/m³
 - SiF₄ : 354 mg/m³
- Airflow: 69 000 m³/h per line (x2)
- Temperature: 130°C

Our solution

- Quench Venturi to manage dust and temperature
- Spraying and packing scrubbers with automatic pH regulation
- Network pipes and radial droplet separators

Performance > 98%



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