

## A TECHNOLOGY BORN IN ITALY

The history of plating begins in 1791 when Luigi Galvani discovered the "electric fluid".

In 1800 Alessandro Volta invented the first "galvanic" pile and the technology of electrolytic deposition of metals came to light. In the same year 1800 in Pavia, Luigi Valentino Brugnatelli was doing the first electrodeposition of silver, zinc and copper.



Alessandro Volta



Luigi Galvani



Luigi V. Brugnatelli

## THE PROGRESS GOES ON

Even if continuously renewing, the plating activity today is considered as a mature technology for both the massive manufacturing of many substrates and for their surface functionalization. Galvanic coatings extend the life of components and determine a conservative use of our resources, with interesting effects on the environment. Galvanic depositions are used in many high level technological applications: copper interconnections in integrated circuits; optical active ruthenium layer in EUV lithography, electroforming of metallic microstructures.

## FOR A SUSTAINABLE DEVELOPMENT

The modern plating activity contributes to important saving of non renewable resources and to the reduction of greenhouse gases; it represents an industry completely aligned to the philosophy of the sustainable development.

Electrodeposition is able today to produce very thin coatings of valuable metals such as zinc, nickel, chromium, etc. with thickness of few micrometers, on substrate materials otherwise destined to a very rapid deterioration. This allows, for example, to protect one ton of screws against corrosion with 1 kg of zinc.

With modern surface treatments, electrodeposition allows to double the car life, improving also the efficiency in terms of fuel consumption and leading to halve the emission of greenhouse gas. Moreover, without hard chromium, modern airplanes would not be able to fly and land (flap movements and gears).