

France-based NOF Metal Coatings Europe, part of Japan's NOF Corporation, captured the judges' interest with an innovative technology that offers clear health and environmental benefits, is more resource efficient, and cost effective.

Under a project launched in 2004, NOF (previously called Dacral) developed a new coating compound mainly used for small parts such as bolts and fasteners in the automotive sector. It involved several years of dedicated research, including working with scientific institutions to better understand sol-gel technology, and led to pilot testing in 2007. The company achieved full commercial application of the technology in March 2010 on two industrial lines in Germany.

Taking this anticorrosive coating compound from the research bench to market embodies the company's objective to focus on sustainable coatings development. The judges' remarks highlighted the innovative nature of the entry, "combining a very impressive decrease of VOC emissions in the process with the phaseout of a harmful compound – hexavalent chromium – while its profitability underlines the sustainability of the approach." The elimination of hexavalent chromium alone was commended as "not easy and very innovative".

Other environmental advantages of the new version to existing materials include a vastly reduced use of organic solvents (down to around 4-5% of conventional levels), plus it does not contain methanol or ethoxylated nonylphenol.

According to NOF, potential users of the technology are the coating applicators subcontracted by automotive companies. As well as the clear health and environmental advantages of reduced VOC and CO₂ emissions, users can benefit from considerable savings on the investment and running costs related to equipment needed to collect and eliminate VOCs on applicator lines during the drying and curing process.

Although part of a large multinational, NOF Metal Coatings' activities in Europe are carried out relatively independently, and the project involved all areas of the business: R&D, marketing, technical, sales and production personnel, as well as substantial investment. The company notes that it is now looking to apply its learnings to other formulations for different uses, working on development of additional products that offer improved performance while using less energy during curing. It says its efforts are guided by the drive to sustainable development rather than by regulation.

This product development "is clearly moving towards sustainable development and doing less damage," noted the panel.

A winning formula from NOF in France



Big benefits for small automotive parts

