

# Electropolishing

With Ionic Liquids



**ScioniX**  
Ionic Liquid Technology



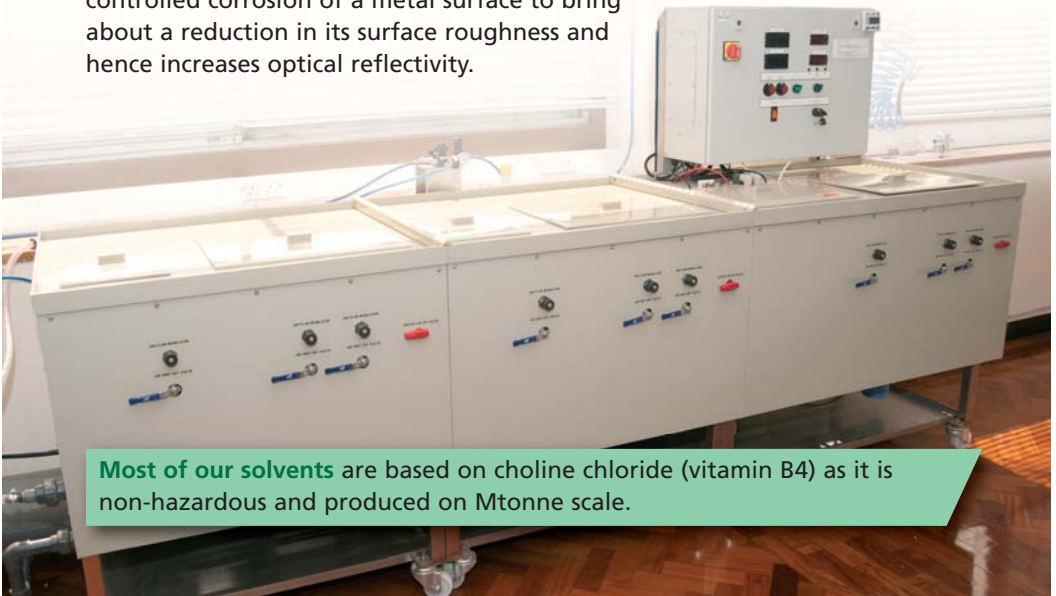
## A Revolution in Electropolishing

Scionix has developed a revolutionary new way of electropolishing stainless steels and nickel alloys. It uses a new type of electrolyte called an ionic liquid.

The liquid is benign and has the following characteristics:

- Improved current efficiency (>80%)
- Better surface finish on many types of steel and nickel alloy
- Non-corrosive, non-acid
- Less gas evolution
- Metal recoverable

It uses the same equipment as acid based electrolytes and essentially the same pre-treatment protocol. The process involves the controlled corrosion of a metal surface to bring about a reduction in its surface roughness and hence increases optical reflectivity.



**Most of our solvents** are based on choline chloride (vitamin B4) as it is non-hazardous and produced on Mtonne scale.

The new **electropolishing technology** is designed to be a drop-in replacement for current acid based solutions. It uses the same plant and conditions as the current processes and differs only in a lower current density for the polishing process and is less hazardous to use.

## What Can Scionix Offer?

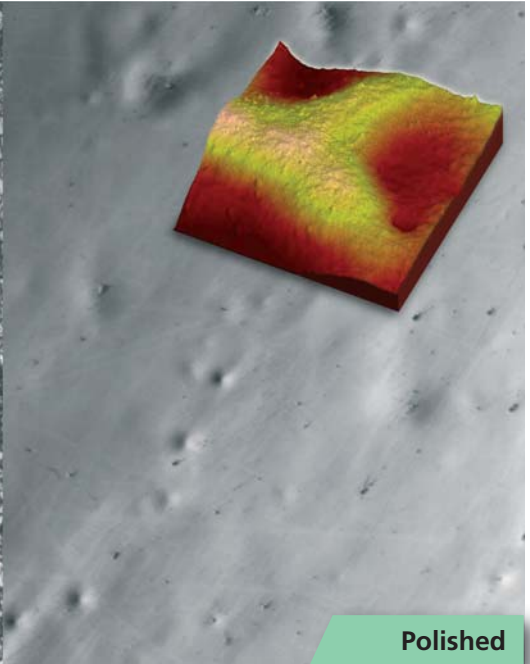
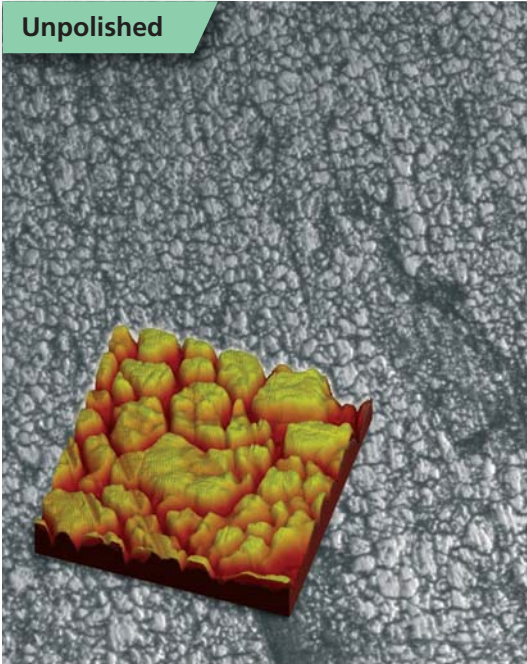
Whatever your electropolishing requirements Scionix can offer a package to fit.

- For companies experienced with electropolishing, Scionix can supply any volume of ionic liquid from 25 kg for testing to 20 tonnes for production.
- Scionix can also perform small-scale process testing using our 50 L pilot plant (*left*) or provide technical back-up for on-site trials using existing plant and process equipment.
- Or, if you are inexperienced with this technology we can supply not only the training and technical back-up, but also the equipment necessary to carry out the process.



Scionix also deals with your waste issues by recycling the liquid when it comes to the end of its use.

Unpolished



Polished

Scionix aims to embrace Sustainable Development to provide economic, environmental and social benefits from its new technology. All the opportunities we are currently involved in add benefits associated with eco-efficiency and social business ethics.

We produce ionic liquids for a large number of ongoing collaborations, partners include consumer product manufacturers, automotive and aerospace materials finishers, mining conglomerates and pharmaceutical companies. We are already one of the worlds largest, per volume, manufacturers and distributors of these types of liquids.



# Scionix

[www.scionix.co.uk](http://www.scionix.co.uk)

Dr. Khalid Shukri

**Scionix Ltd**

298 Regents Park Road, Finchley, London, N3 2UA, UK

**tel:** +44 (0) 20 8371 3905

**fax:** +44 (0) 20 8371 3958

**e-mail:** [khalid@genacys.co.uk](mailto:khalid@genacys.co.uk)

**web:** [www.scionix.co.uk](http://www.scionix.co.uk)