



**Robin Furneaux** has over 30 years experience in industrial R&D, university and marketing on aluminium surface critical products. Most of his career has been spent at Alcan's Banbury Laboratory, latterly leading the anodizing and bright products programme. He now runs **tsc** Surface Critical Products.

At ESTAL Congress he will present an optional session on a powerful technique which should be of great interest and use to many industrial finishing businesses:

### **An Introduction to K-maps**

K-maps (knowledge maps) chart attributes against process stages. Attributes are generally product characteristics sought by the customer such as colour, chalking and pitting resistance but may include other expectations such as those relating to effluents, waste and energy consumption. Process stages are those of the finishing line but also include the aluminium and chemicals, and possibly ancillary processes such as de-ionization and effluent treatment.

K-maps reveal how important different stages are in influencing the different attributes. Thus, when solving process problems or carrying out continuous improvement activities, it is immediately apparent what range of effects could arise from a change at a single process stage. K-maps also show where effects are unknown or disputed. Further, they can be used to benchmark different plants.

TSC software links the K-map to a database into which could be entered the plant's technical information including its experiences, process understanding, SOPs, best practices etc. This is important to minimize the impact of losing a key operator or to facilitate technology transfer.

The workshop will describe how K-mapping is undertaken at a plant and the uses and benefits of the K-map produced. Participants will then be invited to take part in the development of a simple K-Map for an anodized product, which will help illustrate the K-mapping process and reveal its potential.