



The Importance of Technical Expertise in the Aluminium Industry

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The Aluminium industry needs technical expertise to continue to develop new markets or new products for existing markets, to fend off attacks from competitive materials such as plastics and composites and to face the future sustainability challenges. This applies throughout the supply chain, to companies rolling and extruding aluminium, to companies making end-user products and to suppliers of equipment to the industry. Whilst some technical expertise can be distilled into operational practices or captured within computer models, most expertise resides within certain individual employees and is so often lost when that employee leaves or retires from the company.

In my opinion, the most significant advances are made by those employees who have developed a deep understanding of an aluminium process, an aluminium product or a specific industry problem. These technical experts take many years to develop their knowledge, often within the R&D or technical divisions of the company, and represent a significant asset value to that company. Technical experts are certainly hard to come by, making recruitment very difficult. We are always on the lookout for such people and will recruit at any time if the right person becomes available.

The nurturing of technical expertise is a significant long term investment for any company. However, the value of this investment can be lost so quickly as a result of short-term decisions to close technical facilities, even when attempts are made to relocate staff to other sites within the same company. The trend for company mergers and changes of ownership that we have seen over the past 10 years has resulted in rationalisation and relocation of technical centres and a significant loss of expertise from the industry. This has been compounded during times of slow economic growth in the developed countries of the world, resulting in pressure for companies based in these regions to reduce costs. The technical centres are all too often seen as a pure cost to the company, with little understanding of their true long term strategic value.

I speak from personal experience. In my case it was the closure of one of the aluminium industry's leading technical centres, Alcan's Banbury Laboratory, back in 2003. In this instance, the closure resulted in the formation of an independent technical consulting company, Innoval Technology (Innoval). Innoval provided a home for many of Alcan's top aluminium experts and has gone on to become a profitable company and a valuable source of expertise for the downstream aluminium industry. Danieles Group certainly understands the value that this sort of expertise can bring to an organisation, as demonstrated by their recent purchase of Innoval to support the growth of their new Aluminium Strip Division.

Assessing the financial value of technical expertise and technical support has always been a difficult task. One approach is to estimate the loss of market share if that expertise is no longer being applied to (a) the solution of product or process issues or (b) improvements to the product. The value of protecting market share can be



enormous. Other more direct approaches involve valuing the increased sales that result from the solution of specific problem, for example a speed constraint on a bottleneck processing machine. It only takes a few successful technical solutions to provide a positive net present value in excess of the total cost for all technical projects. When a company decides to forgo investment in R&D and development of new technology then there is a strong likelihood that it will lose any lead it may have had in markets and become a follower of other companies, with consequential loss of market share and revenue.

It is certainly true that corporate technical centres can be expensive facilities to run. However, our approach in Innoval has been to outsource many of the more expensive experimental methods that are used less frequently, resulting in a much lower cost-base. For example we have our own scanning electron microscope that is used intensively whereas we buy time on more expensive equipment that is required less often, such as a transmission electron microscope. One important aspect is that our own staff use the equipment and generate the data required for our clients, and total client anonymity and confidentiality is maintained. There is no reason why this approach cannot be taken up by in-house technical centres to reduce their costs and to avoid future losses of expertise.

There is no doubt that the population of aluminium technical experts in North America and Europe has seen a steady decline over the recent decades. Yet the market for aluminium remains strong with exciting predictions for future growth in many sectors, especially automotive. The emerging regions of the world, where growth is strongest, must develop a new and significant population of technical expertise, in order to take on the many challenges facing the industry in the future.