



Part of Danieli Group



# Innoval Technology Aluminium Consultants

What we do

# Innoval Technology, Aluminium Consultants

All the technical support and training you need from a team with decades of aluminium industry experience.

Innoval Technology provides world-class expertise to supplement your in-house knowledge.

Bringing us on-board could shorten your product development time and increase your speed to market.

It could mean getting your new equipment up and running to world-class standards in as short a time as possible.

Or we could add our industry knowledge to your investment project to make sure you're making the right decisions.

## Our knowledge at your disposal

Innoval Technology's experience and technical ability are known worldwide. Our aluminium consultants have experience of working throughout the world, so we know better than most people what constitutes 'world-class'. If you have a particular problem with your product or process, we'll be able to deliver the solution quickly because we've probably seen the problem before.

## What makes us different?

We have a huge amount of expertise under one roof. Our aluminium consultants come from a wide range of technical disciplines and their practical experience is varied, with most people having worked on automotive, aerospace, building and packaging products. The breadth of knowledge within Innoval Technology means we can tackle any issue from several angles to ensure you always get the best result.

## Our History

Innoval Technology was formed in 2003 by people from Alcan's Banbury Technical Centre. For seven decades 'Banbury Laboratories', as it was known, was responsible for some of the most significant technological developments in aluminium, including the leading automotive sheet technology used by today's car manufacturers.

# Process Improvement

If you want to get more out of your processes, you may need a fresh set of expert eyes to tell you where to start.

## Help to identify your biggest opportunities

Our experts have worked in all kind of plants around the world, so the chances are we'll be very familiar with your particular process. First of all we'll carry out an audit and benchmark your process against operations with similar equipment and against world-class standards. Then we'll identify opportunities to improve productivity, yield and product quality and we'll work with your team to prioritise and implement them.

## Rolling and finishing expertise

If you have a problem with the surface, metallurgical or dimensional quality of the strip, or with the performance of the process, we can help you solve it and bring about measurable improvements. We can design your spray cooling systems for optimum mill control performance, and also reduce the time and energy consumption of large thermal operations such as preheating and annealing.

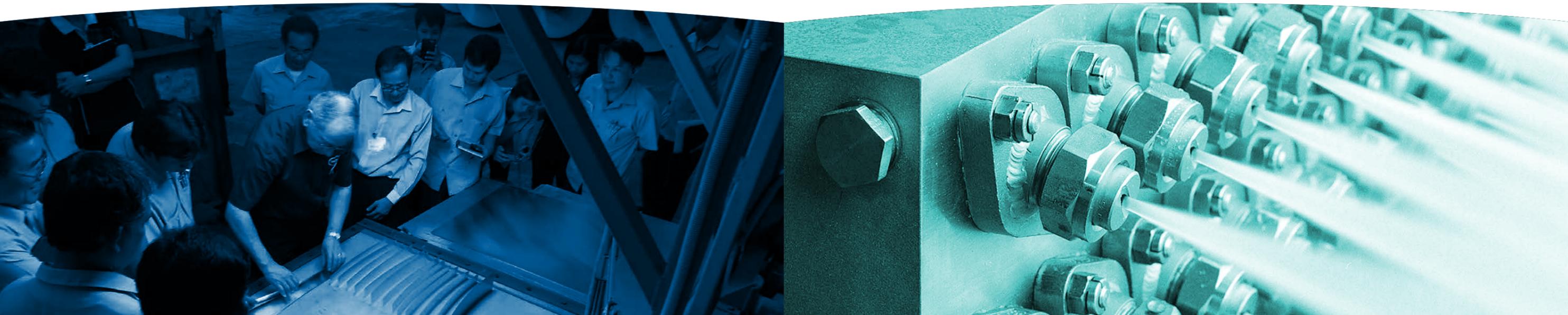
There's also advice on what products to make with your existing equipment, as well as the modifications or investments you'd need to make in order to manufacture the ones currently beyond your equipment's capabilities.

## Physically-based process models help you 'see-inside' your process

Our Process Improvement team has developed a suite of models which can optimise almost every aspect of your aluminium rolling process. The models provide you with information on variables that cannot easily be measured, such as internal process temperatures. You simply enter various parameters from machine specifications or operating procedures. Effectively, our models allow you to 'see inside' your process whilst it's running.

## Train your team to solve problems and become more self-sufficient

If you want to solve more problems in-house, one of our aluminium process improvement training courses could help you do this. You'll learn about the latest process improvement techniques from tutors who have had years of experience successfully applying them in the aluminium industry.



# Materials Development

Working with us gives you access to world-class aluminium knowledge, combined with expertise in polymers, surface treatment and joining technologies.

## Improve your quality for a consistently good product

We have extensive knowledge of microstructural development during processing and its effect on product performance. We also understand surface modification during finishing operations. By working with us you will gain an in-depth understanding of where in your process these are controlled so you can ensure a consistent, quality product.

## Develop new products faster

Supplementing your technology team with our aluminium expertise could shorten your development time and increase your speed to market. We've had years of experience leading development programmes, and we're currently responsible for managing several high-profile, government-funded projects.

Our materials knowledge is the key to our business, so we make sure we know and understand the latest industry developments. Furthermore, we have many long-term collaborations with universities and research centres. This means we'll always give you the most up-to-date solutions.

## Give your customers unrivalled support and become their preferred supplier

You could add value to the service you give your customers by offering our unparalleled knowledge and experience as part of your after-sales service. Our experienced team is used to solving process and product performance problems in a wide range of industries, and we've been doing it for many years.

## Invest in new technologies to stay ahead

In order to stay ahead of the competition you need to know which technologies are 'state-of-the-art'. Because of our experience and industry-wide perspective, we can help you identify which new developments to invest in and how this investment will affect your bottom line. Detailed cost modelling, using our own innovative software, allows us to do this. In effect, it reduces the risk.

# Materials Testing

We can analyse your material to solve a problem or answer a question. We will turn your samples around quickly and give you advice as well as test results.

## Get more for your money

Our extensive in-house characterisation and analysis capabilities will help you get to the root cause of your material problem. To give you the very best value for money, we will use our product expertise and knowledge of end-use applications to interpret your test results and provide you with sound, impartial recommendations, rather than just data.

Because we're a group of aluminium specialists, we have expertise and practical experience in almost all aluminium products and processes. We'd be happy to come to your plant and investigate the problem in situ as well as carry out testing in our labs.

## Information to solve a problem or a dispute

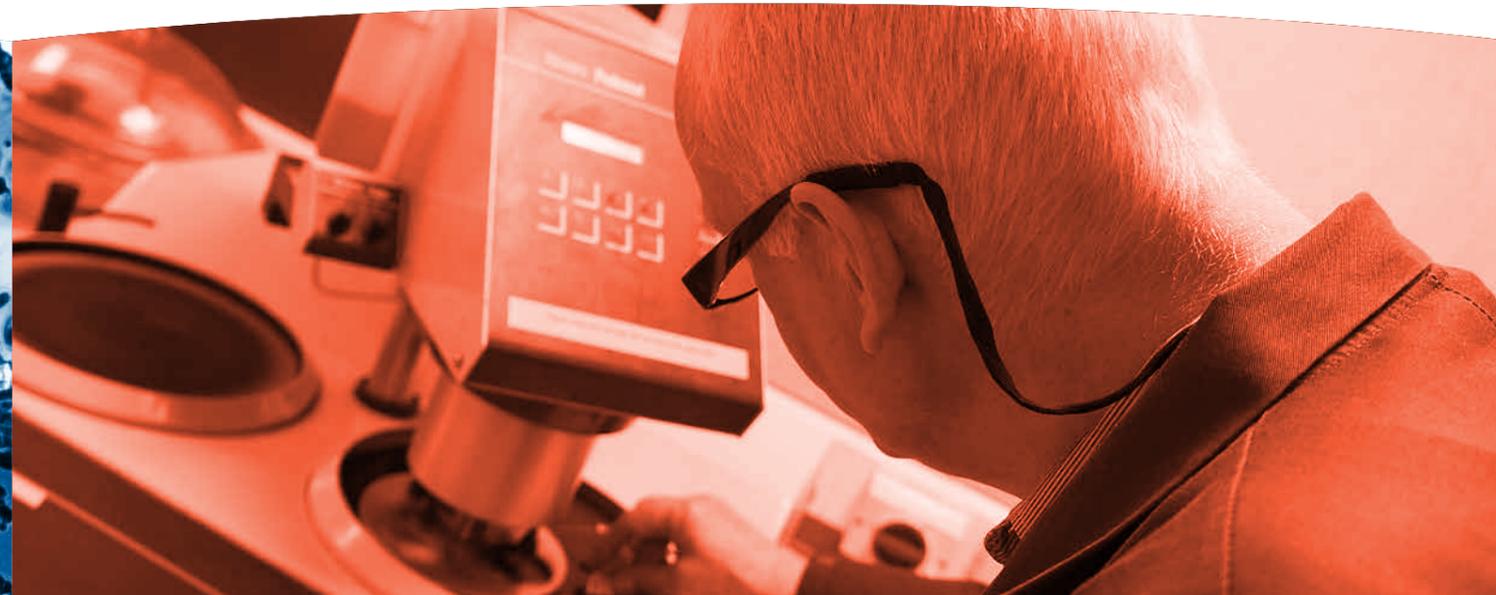
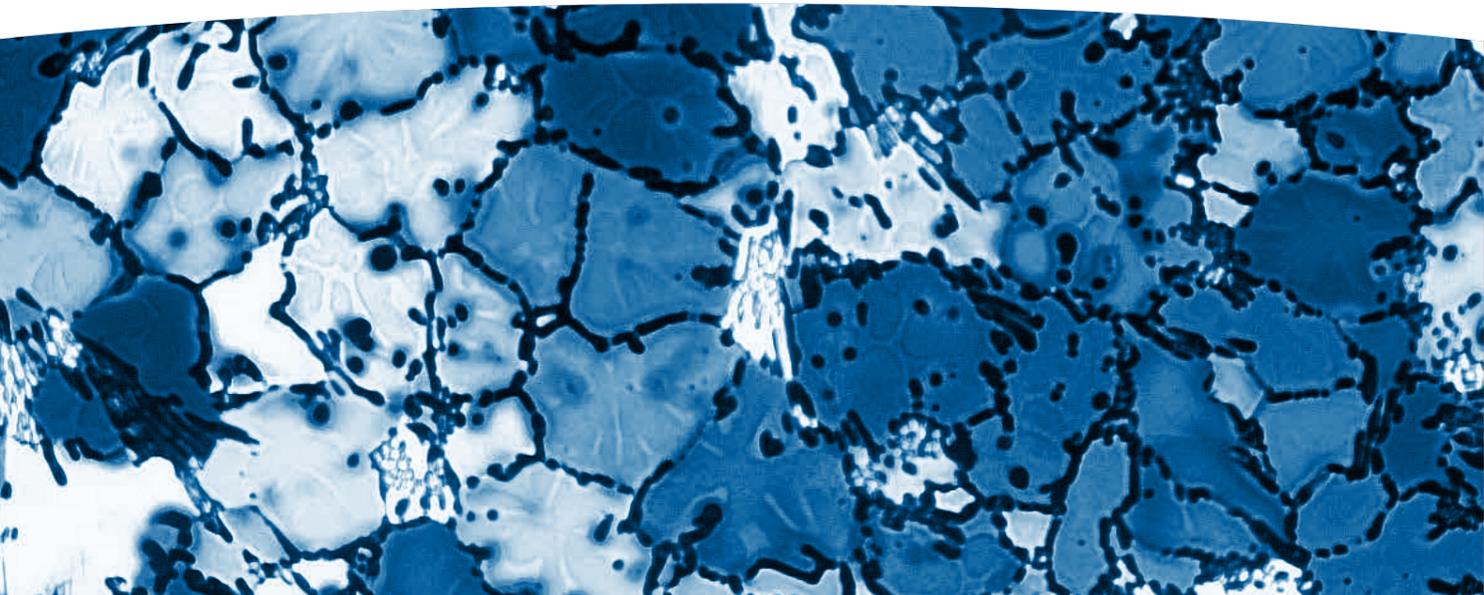
Whether it's an in-service or production failure, our confidential forensic metallurgy service will provide the answers. Sometimes we find that it's the processing conditions, rather than the material, that causes a failure. Our analytical facilities, together with our knowledge of end-user processing, can independently assess this for you and your customer.

## Confidence that you've chosen the best material

Do you fully understand how the manufacturing process and the end use of your product affects material selection? We can make sure you choose the right material for your product. We'll also tell you if your product can be made from lower cost materials without affecting its performance.

## Understand why a material is unusual or different

We can characterise your materials and tell you if a change in the manufacturing process has affected the quality of your final product. This 'fingerprinting' of your products (or your suppliers' products) allows you to detect subtle changes and react accordingly.



# Product and Process Training

We've developed a suite of aluminium training courses specifically for the aluminium industry. Each course is written and delivered by an Innoval consultant who has lots of industry experience and who is familiar with day-to-day production issues.

## Client focused training

All training, other than our Aluminium Rolling Technology Course, is created especially for you and delivered at your site. We take into account your products and processes, as well as the delegates' level of expertise. Because everyone's needs are different, we don't offer a one-course-fits-all solution.

## Increase your understanding with in-depth product knowledge

Product-specific courses, such as for beverage cans or automotive sheet, help you to really understand material behaviour during fabrication. Furthermore, you'll learn more about how your product behaves in service. Metallurgy, surface treatment, corrosion and lubrication are some of the topics covered in our product courses.

## Learn about the latest developments in your sector

Aluminium expertise is the backbone of our business, so it's vital that we keep abreast of the latest product and process developments. Make sure you stay one step ahead of the competition by understanding the impact these developments could have on your business.

## Improve your efficiency and quality with tried and tested process improvement techniques

If you want to solve more problems in-house and be less reliant on your suppliers, one of our process improvement courses could help you do this. You'll learn about the latest process improvement techniques from tutors who have had years of experience successfully applying them in the aluminium industry.

## Aluminium Rolling Technology Course

Our Aluminium Rolling Technology Course is the only rolling course specifically for aluminium. It covers all the key aspects of hot and cold rolling of aluminium flat products. We've been running this course for over ten years now.

# Strategic Support & Best Practice

If you're involved in an aluminium investment, you need a technical team with world-class expertise

## A variety of services to support your aluminium investment

If your project requires you to do some or all of the following: **conduct technical due diligence, write a pre-feasibility study, design a new plant or decide which equipment to buy or upgrade**, we can help you. We launched our Strategic Support Services in 2009 and we've been helping investors make the right decisions ever since.

## Models to tell you how much it will cost to build a plant and then run it

We have financial models to do just this, and they've been developed to incorporate our experience of the global aluminium industry. We're able to calculate all the key financial indicators, together with sensitivity analyses, for any scenario you want to consider.

If restructuring or retirement puts your company's knowledge at risk, we can help you protect your know-how and transfer best practice

## User-friendly tool to capture and manage your company's knowledge

Most companies realise they need to manage their knowledge, but it's difficult to know where to start. We have developed the K-Map process to provide a structured approach to knowledge management. The K-Map process enables manufacturing companies to easily capture valuable knowledge and make it accessible to the people who need it.

## Structured approach to identifying and transferring best practice

Does your organisation manufacture the same products at several locations around the world, and does every location do it differently? We have developed the P-Map process to help companies such as yours share best practice quickly and efficiently. We provide a framework so the time you spend gathering information is minimised, and you can spend more time actually improving your processes and saving money.



Innoval's experience and technical expertise has helped us to rapidly increase the knowledge of our workforce, so that we can produce automotive sheet to world-class standards and will qualify with our OEM customers sooner."

**Sun Xueming**, Deputy General Manager of Aero Material Business Division, Nanshan Aluminum Co., Ltd.

Innoval brought a unique understanding of automotive aluminium sheet to this project. Their analytical capabilities, as well as their expertise in aluminium joining and surfaces, were key to the success of the UICab project.

**Dr Alistair Foster**, Chief Technology Officer, Impression Technologies

This is one of the best training sessions we have done; both from the usefulness of the material and the manner with which Dan presented and engaged the participants. Overall I have no doubt that we will reap the benefits of this new basic tension leveller understanding as soon as we begin commissioning, and definitely during start up.

**Adriano Ferreira**, Director of Business Improvement & Innovation, Novelis Oswego plant

Because of their independence and well-known technical expertise in the field of aluminium rolling, it was the logical choice to bring Innoval on-board when we compiled this study. We hope to collaborate again on future aluminium projects.

**Colin Pratt**, Managing Consultant, CRU Strategies

The breadth of Innoval Technology's aluminium expertise and their understanding of the beverage can industry have helped us in numerous projects. We also value their independence and specialised analysis skills.

**Bill Neilson**, Technical Director for Rexam Beverage Can Europe and Asia

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