Innform The Newsletter of Innoval Technology Ltd



... value through innovation

Issue: 5 2008

Fifth Year Success!

When I wrote this piece for the newsletter last year, it was a very exciting time for Innoval Technology. Most of the restrictions which, for four years, had prevented us from operating within rolled product manufacturing markets had just been lifted. Now, one year later, I'm pleased to say the response from the aluminium rolling industry has been fantastic and 2008 will be our most successful year yet.

Towards the end of 2007 we announced our collaboration with rolling mill plant manufacturer Danieli Fröhling, and sister company Danieli Automation, to bring to market an entirely new range of aluminium rolling mills - the 'Diamond Mills'. You can read more about this project on page 2 of this newsletter.



Some members of the Innoval Technology team

Our Aluminium Rolling Technology Course continues to go from strength to strength. In May this year we held the sixth course at our premises in Banbury, UK. Since the courses began, we've trained people from 28 companies in 14 countries and we've seen demand increase with each course. In fact, it has become so successful that we're now offering in-house versions to clients with a group of delegates.

We've worked on some particularly interesting projects over the last year too, including technical due diligence and plant feasibility studies. These types of project are ideal for a company such as Innoval Technology, because of the wealth and breadth of our aluminium industry experience.

Another highlight has been the introduction of a small scale facility to simulate the thermo-mechanical processing of industrial scale ingots for extruded and rolled products. We can now offer customers a proven and cost effective alloy development route. Using this methodology, two new alloys have been validated by automotive OEM's within the last 6 months and commercial production started. Both alloys will allow the OEM's to continue their drive for weight reduction, cost reduction and improved material properties and performance.

Finally, May 2008 found us celebrating the company's fifth birthday. We regard this as a milestone, and I'd like to extend my thanks and gratitude to all our clients and friends for their support over the last five years. We plan to celebrate our birthday in Essen at Aluminium 2008, so please come along to stand 7A 30 in Hall 7 where I, and my fellow director Dr Gary Mahon, will be very pleased to meet you.



Dr Tom Farley Managing Director, Innoval Technology Ltd

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Danieli unveils Diamond Rolling Mills

Danieli Fröhling



Towards the end of last year we signed an exclusive arrangement with Danieli Fröhling, and sister company Danieli Automation, to introduce a new generation of aluminium rolling mills – the Diamond Mills.







free start up.



The unique arrangement brings together three industry power-houses: mechanical know-how from Danieli Fröhling, process automation expertise from Danieli Automation and aluminium industry expertise from Innoval Technology. This group of experts have worked in aluminium plants throughout the world implementing valueadding improvements at all stages from casting through to finishing. Together the group represents more than 500 years of industry experience.

Diamond Mills are designed from the customer's perspective, bringing together not only the best mechanical and automation features, but also the experience to deal with the specific challenges of high-productivity aluminium rolling. The newly designed, optimised rolling concepts that make up 'Diamond Mills' result in a state-of-the-art, high speed, high productivity rolling mill with a rapid, trouble-



A rolling mill from Danieli

Jörg Schröder, Managing Director of Danieli Fröhling, comments:

"We are delighted to be able to offer Innoval Technology's expertise as part of our 'Diamond Mills' product. Their wealth of experience in the field of aluminium production really adds value to what we have to offer. Our work with Innoval will ensure our customers can produce world-class product in world-beating time."

Danieli Fröhling have produced a booklet entitled "Aluminium Strip Production Technology" which includes a description of Diamond Mills. It also covers automation & process control and their slitting and cutting technologies. The booklet can be obtained from d.neumann@danielifroehling.de





The Diamond Mill concept

New Patent Alert Service for the Aluminium Industry



Through a recent collaboration with David Goodchild Ltd, we're pleased to announce our monthly Patent Alert Service.

With this service, essential patent applications from thousands published each month in Europe, USA, UK and through the PCT system, are distilled into a readily accessible format allowing companies to monitor technical advances in their field and identify competitors' technical developments. This collaboration also includes publication of a new survey covering patents from China, Japan and South Korea that are not published in other countries.

For more information about this service please have a look at our web site or contact us at enquiries@innovaltec.com

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Always at the forefront of automotive engineering. Jaguar Land Rover wanted to investigate the use of high-strength aerospace aluminium alloys in their vehicles. Use of these materials could reduce vehicle weight if used to replace steel, particularly for impact absorbing structures.

The team at Jaguar Land Rover brought Innoval's Materials Development team on board to provide expertise in the use of high-strength aluminium allous from within the aerospace industry. We advised them on the merits of the various high-strength alloys and tempers available, as well as suggesting how these materials could be incorporated into automotive structures.

Dr Gary Mahon, Senior Materials Consultant at Innoval Technology, had this to say about the project:

"Innoval's involvement with Jaguar Land Rover on advanced high strength aluminium allow research helped to reduce their normal development time. Our experience enabled the Engineers to gain an understanding of the issues they would have to deal with when using established aerospace

allous, allowing them to guickly narrow down the options and produce a more targeted experimental programme."

For more information about our comprehensive Materials Development Service please contact Dr Gary Mahon at gary.mahon@innovaltec.com





Dr Gary Mahon



Impressive Results at W. H. Tildesley

W.H Tildesley, based in Willenhall in the UK, has been producing high quality forgings for over ISO years. They specialise in small and medium batch production in a wide range of modern materials. Major investments in 3-D modelling, simulation software and state-of-the-art in-house die-making capability mean that cost-effective forgings can be produced in small quantities.

As part of their continuous improvement programme, W H Tildesley enlisted the help of Richard Keyte to further improve their production of aluminium forgings. Richard, who is part of the Materials Development team at Innoval Technology, analysed the whole thermo-mechanical processing route at the plant in Willenhall and then set about optimising it. Richard's work focused on, amongst other things, furnace temperature control, die heating procedures, and racking and stacking practices in the pre-heat furnaces.

John Tildesley, Managing Director of W H Tildesley, was suitably impressed with the work, particularly given the productivity improvement:



w.h.tildesley ltd

Two of the aluminium forgings manufactured at W. H. Tildesleu

"Richard has given us a greater understanding of the factors we need to consider when processing aluminium. As a result of his involvement, we've seen the scrap rate of one of our most challenging aluminium components drop by 85%."

> Richard Keyte can be contacted at richard.keyte@innovaltec.com



Richard Keyte



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Rolling Course Update

"The mork

perfect"

presented in the

Dr. Adel Dagher Fahed Budagher,

Head of Technical

Training, Garmco

five days is really

Following the success of our Aluminium Rolling Technology Course at our site here in Banbury, we've begun to offer in-house versions. These enable our clients to train large numbers of delegates without the associated travel costs. It also means we can produce a training course specific to the client.

Recently we travelled to Garmoo, an aluminium rolling company in Bahrain, to deliver our rolling technology COURSE.



A workshop session at Garmco

You can find an example of the content of these courses at www.innovaltec.com/rolling_tech2.htm

Of course, we can deliver any of our training COURSES client's at OUL Alro, premises. aluminium an smelting and rolling company in Romania, recently took part in some SPC training:



Tutors and delegates from a recent rolling course in Banburu

"The course was very interesting, interactive with many exercises and I think it helps us to understand better the data from our process."

Ing. Sorcoata Bogdan, Hot Mill Shift Manager, Alro S.A.

Our next Aluminium Rolling Technology Course is being held on 10th-14th November 2008 in Banbury. For a registration form, and for information about any of our training courses, please contact Helen Forrest at helen.forrest@innovaltec.com

More News ... More News ... More News ...



Come to our stand at Aluminium 2008 and try a famous Banbury Cake

To celebrate our fifth birthday, we invite you to sample a traditional Banbury Cake on our stand at Aluminium 2008 in Essen. Banbury Cakes are a delicious, flat pastry with a spicy, currant filling.

The story behind the origin of the Banbury Cake says that in the I3th century, whilst abroad, some knights encountered a cake which was a mixture of fruit and spice encased within a pastry envelope. Liking this product so much, on their return to Banbury they shared the idea and the development of the Banbury Cake evolved. Today Banbury Cakes are made to secret recipies by several bakeries in the region.

New! Help with TSB Proposals

Having submitted many successful proposals to the UK Government's Technology Strategy Board (TSB), Innoval Technology's Geoff Scamans and Eoghan McAlpine are now offering their knowledge and experience in proposal writing to outside companies.



If you are interested in this service, please contact Dr Geoff Scamans at geoff.scamans@innovaltec.com

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Forthcoming Publications & Events: September 2008 onwards						
Title	Author/Presenter	Publication/Event	Location	Date		
Corrosion of Friction Stir Welded AlMg Alloy AA5083	Geoff Scamans	ICAA II	Aachen, Germany	22nd September 08		
Exhibition stand: 7A 30	Innoval staff	Aluminium 2008	Essen, Germany	23-25 September 08		
MCAST: Melt Conditioning by Advanced Shear Technology	Geoff Scamans	ALCASTHOUSE 2008	Aachen, Germany	2-3 December 08		
Yarn modelling	Rade Ognjanovic	"Modelling and predicting textile behaviour", Editor: Xiaogang Chen				
Cold Rolling Mill Vibration and its Impact on Productivity and Product Quality	Tom Farley	"Flat-Rolled Steel Processes: Advanced Technologies", Editor: Vladimir Ginzburg		Ist June 2009		

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