

WORLDCASTERS

In this Issue:

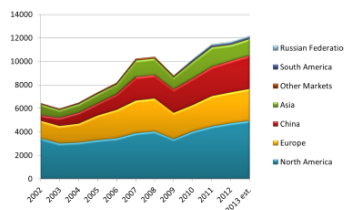
- Japan Conference
- EICF Workshop, Bordeaux
- Green Belt Training
- Forthcoming Events

JFS Tokyo Conference

World Investment Casting Market Review 2013

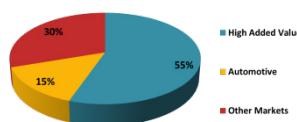
The Japan Foundry Society Investment Casting Seminar, held in Tokyo Japan during September 2013, opened with a review by Ron Williams, Managing Director of The Blayson Group Ltd, of the World Investment Casting Market. The final figures for 2012 indicate a total sales value for castings of US\$11.6 Billion. This is an increase of only 2% compared to 2011, but disguises the large performance variation between the different regions and across the market sectors. Predominately growth was in the aerospace sector, with Automotive very poor in Europe and disappointing in Asia. Regionally North America and China outperformed all other regions.

World Sales by Region 2002 – 2013 (US\$M)



Overall, North America strengthened its position as the leading market whilst China overtook Europe, achieving a 23% share of the world market – this now gives Asia a market share of 35% in total.

Investment Casting Sectors 2012

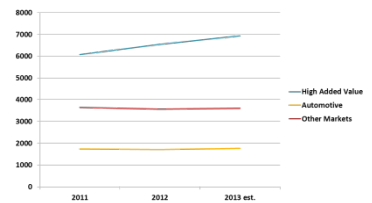


The result of the continuing growth in aerospace castings can clearly be seen in the chart above, where the strong

market conditions in commercial aircraft have lifted the lucrative High Added Value sector to 55% of the total market.

This movement is confirmed when the trends shown below are considered.

Investment Casting Sector Trend



Market Sectors

Aerospace

A highlight of the year, the Paris Air Show, was again very successful for the commercial aircraft manufacturers with Airbus achieving new sales for 466 aircraft worth US\$69 Billion, winning a 65% share of the world market and Boeing selling 442 aircraft valued at more than US\$66 Billion.

With a high level of investment into their commercial aircraft industries both China and Russia are developing new aircraft aimed at the lucrative single-aisle market - this is now worth an estimated US\$20 Trillion over the next 20 years.

Industrial Gas Turbines (IGT)

IGT continues to show a mixed picture with regional variation. North America is seeing increased demand for medium size turbines whilst orders for large 60 cycle frame units remain flat.

In contrast, the European market remains at a low level of activity though some improvement is being seen and importantly new tooling is being ordered – this suggests that better times can be expected. Longer term the demand for increased generation capacity in developing economies is expected to offer an improving future for IGT.

Defence

Continuing global economic pressures are resulting in the need for governments to reduce their spending and cuts in North American and European Union defence budgets are being implemented. Russia is moving against this trend, planning to invest in replacement aircraft for its MIG fleet.

Automotive

Regional variation in the automotive sector was very notable in 2012 with considerable contrast seen.

North America's vehicle sales were up by 14% in 2012 led by sales of smaller models with greater fuel efficiency.

However European demand for new vehicles is declining. Analysts suggest that there are several contributory causes but point out that the production of more durable vehicles combined with falling ownership levels are major factors. As a result, manufacturing capacity is being cut by many of the major automobile companies. The UK is an exception to this, becoming a net exporter of vehicles in 2012.

In Asia the automotive sector disappointed, for example India's total vehicle sales fell by approximately 10%. Investment casting sales are increasing in fuel efficient vehicles and the potential for increased volumes of turbocharger wheels has been identified.

Medical

Increasing prosthetic casting sales for joint replacement, surgical instruments, injury stabilising appliances and increasingly complex diagnostic equipment are lifting this sector.

Commercial

Overall sales are steady and whilst some regions are performing better than others, there is considerable variation from foundry to foundry. One area of growth noted is the oil industry, where we are seeing an increased demand for castings.

Summary

Overall a good performance by investment casting in 2012, but Aerospace is almost solely responsible for this performance. All other sectors are essentially flat with the only real sign of growth in the turbocharger wheel market.

The investment casting industry is suggesting that an increased sales value of 4% can be anticipated this year, but it would seem that the large variations between individual regions seen in 2012 may well be repeated in 2013.

More information is available from enquiries@blayson.com

EICF Workshop

The historical Palais des Congrès in Bordeaux, France, was the location for the European Investment Casters' Federation Technical Workshop for Foundry Engineers held between 22-24 September. The workshop was an opportunity for quality and technical engineers from across Europe to meet, discuss and inform each other of the issues affecting development and materials used in the investment casting process.



Phil Hancock, accompanied at the workshop by Ron Williams, Keith Batchelor and Matthew Williams, gave a presentation entitled 'The Benefits of a Systematic Approach to Wax Quality Assurance'. This presentation detailed the benefits of process based testing when applied to wax products. It also reviewed the role of new technologies within quality assurance and systems engineering. Current and future improvements to quality assurance systems involving the use of new techniques, such as the use of Differential Scanning Calorimetry (DSC) for example, were discussed giving the attendees of the workshop an insight into The Blayson Group's innovative process related testing developments. Copies of the paper presented by Phil are available at enquiries@blayson.com

Green Belt Training

What is green belt? Green belt is a level of achievement that an individual can obtain within the discipline of Lean sigma. Lean sigma can be described as a structured approach to problem solving, a methodological approach aimed at achieving a solution more quickly and at lower costs. It brings together a variety of proven techniques

into one definitive approach. For Blayson the lean sigma training is an important part of the company's ongoing continuous quality improvement programme.

There are four levels of achievement - Yellow, Green, Black and Master Black.



There are currently five members of Blayson staff taking the green belt course - Operations Director Keith Batchelor, Technical Director Dave Bond, Operations Manager Gavin Starr, Quality Engineer Kevin Burrows, and Wax Injection Supervisor Saul Gravelling. Along with Nial Al-Zhanki they undertook an intensive week long training course led by Master Black Belt Ihsan Al-Zhanki, that concentrated not just on the techniques involved, but also the use of Minitab software which is used to help with data analysis and is a critical part of the approach.

Each person has to undertake a detailed project which is aimed to give the individual experience and save the company money. These projects involve - improving production output, a deeper understanding of wax injection variability and understanding variables that affect testing. The projects run until Christmas and outcomes will be presented to the Blayson executive board in the New Year. By improving the problem solving skills of these key individuals, it is hoped that the technique can help improve productivity by understanding and eliminating the causes of variability both in the areas of quality and production.

Forthcoming Events

EICF 28th International Congress, Lugano, Switzerland 15 -18 June 2014
ICI Conference & Expo, Covington, USA, October 2014
Taiwan ISIC, Kaohsiung, November 2014