

## Delivering casting solutions

**Sim-Cast encourage up-front development to help their customers create better products, faster – Part 2 of 2**

### Tool less development

Here wax patterns are produced using fast tooling, which allows for production of larger batches of patterns and cores. These are created and assembled by Sim-Cast before being processed by the customer.

These samples not only validate the results of the virtual trials that are already on-going, but also allow for checking and validating tooling, methods and machines for the casting and subsequent machining and assembly processes.

This approach minimises the risk when ordering production tooling allowing for representative tooling to be right first time, rather than accommodating modifications into busy development programmes.

### Process development

Once the tool-less development has validated the virtual trials, and the

design has been iterated to meet the project requirements, the design definition can be frozen, which allows the tooling to be ordered. The aim of the iterations is not only to improve product functionality, but, also improve features that have greatest influence on minimising product cost. As, once the design is frozen, ~80% of the life cycle costs have been committed (*see below*).

### Process Optimisation

With the virtual model geometry fixed and validated, the product can be optimised for the process and plant being used. The aim is to identify settings that give the most optimal and robust performance, taking the numerous process capabilities and variations into consideration.

All this up front work allows the production parts to be created right first time as tooling and methods have been tested and are in place.



### This issue – September 07

- New Products
- Improvement objectives

### Contact Sim-Cast

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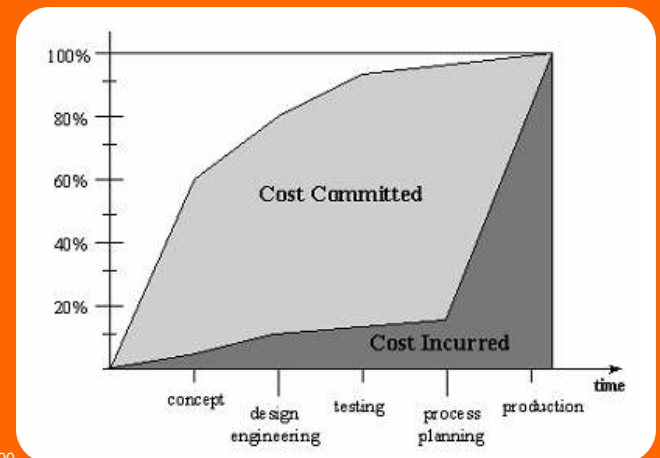
### Previous Issues

- [March 2007](#)
- [April 2007](#)
- [May 2007](#)
- [June 2007](#)
- [July 2007](#)
- [August 2007](#)
- [September 2007](#)

### Increased upfront development

By focussing on the initial requirements and considering the life cycle issues, greater gains can be made for the product.

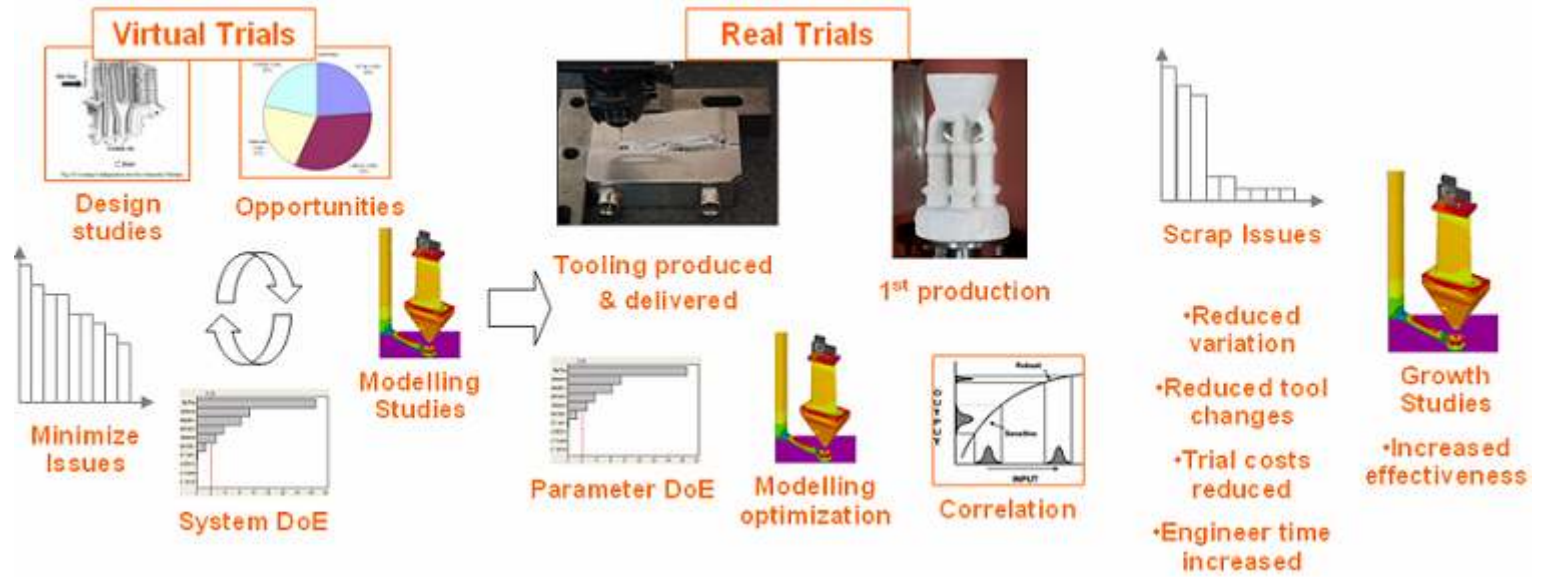
Inevitably this requires greater upfront effort and spend, however as seen by the graph, by the time the design has been frozen, 80% of the cost is committed, therefore after this point, only 20% of the product costs can be influenced.



Ref: Business Week 4-30-90

## Why use Sim-Cast

Sim-Cast's holistic solutions are also applied to the development of new products, delivering a robust and high quality solution from the first injection and throughout the products lifecycle.



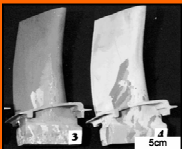
## Business benefits

Sim-Cast's experience and capabilities offer unique opportunities to achieve exceptional performance, and are helping their customers meet increasingly demanding improvement goals and targets.

Sim-Cast focus on solutions for today's problems and deliver;

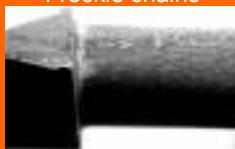
- Reduced metal usage and labour costs
- Improved new product development process and time to market
- Increased business / plant capability and capacity
- Increased knowledge and understanding of the process
- Centralised, optimised and standardised processes
- Improved ability to handle capacity fluctuations

HABs



[Ref: Spowart & Mulles, 2003]

Freckle chains



[Ref: Beckermann C, 2000]

Porosity



[Ref: Machine design iss 10144]

Re-crystallisation



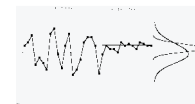
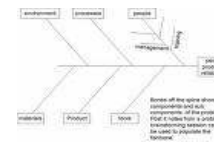
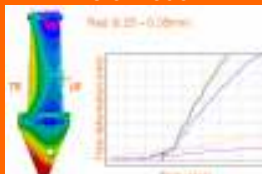
[Ref: Burgel et al, 2000]

Metal Costs



[Ref: LME Nickel Prices 2002-2006]

Deformation



## Identifying today's problems

## Providing today's solutions