

# **AWBell's Additive Routes for Investment Castings in the Last Two Decades**

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AW Bell was founded in 1952 as a patternmaking business servicing the Australian foundry industry. This beginning provided the initiation of the company's depth of understanding and expertise in the metal casting and manufacturing industry. A drive for innovation and customer service has seen AW Bell successfully pass through three generations and evolve from pattern makers, to automotive supplier and today to being an integral part of aerospace, defence and biomedical device supply chains.

AW Bell today is a supplier of complex metal parts incorporating investment casting, sand casting, rapid prototyping, production machining and tier-one assembly. The company also has a number of ancillary and sub-process capabilities such as tooling design and manufacture, heat treatment, destructive and non-destructive testing, painting and finishing. AWBell was an early adaptor of additive manufacturing technologies for functional prototyping and today, has 20 years' experience in manufacturing investment castings via the additive manufacturing route using expendable patterns. An overview of the progress of the company's strategy for utilizing additive manufacturing including key learnings will be presented. The additive process via SLA patterns will be compared and contrasted with conventional investment casting via the lost wax route.

## **Speaker Biography**

Dr Roger Lumley is Senior Technical Specialist at AWBell Pty Ltd. He has over 25 years' experience in materials science & engineering, manufacturing, research, and project management. He is a Fellow of the Australian Academy of Technological Sciences and Engineering (FTSE), the Institute of Engineers Australia (FIEAust), and the Institute of Materials, Minerals & Mining (FIMMM). He is a chartered engineer and scientist. Roger's areas of expertise include advanced (manufacturing) methods engineering, ferrous and non-ferrous production, foundry technology and metalcasting, advanced heat treatment, self-healing materials, non-destructive testing, welding, powder metallurgy, quality systems and additive manufacturing.

