



Nanotechnology Innovations for High Performance Motorsport 2010



21st September 2010
Cranfield University, Cranfield, Bedfordshire, UK



CEMMNT, The Centre of Excellence in Metrology for Micro and Nano Technologies, is set to host a brand new motorsport event on the 21st September 2010 focusing on the application of nano technologies in high performance motorsport and automotive engineering.

With 30% of sales revenue being spent on innovation within the motorsport industry and a list of potential applications for nanoscale techniques and products within the motorsport sector continuing to grow, this exclusive event will explore the challenges and benefits of applying the innovations in nanotechnology to this highly competitive and highly innovative sector.

Typically, about a second separates the back row of a Formula 1 grid from the lead cars. Each fraction of a second saved in qualifying advances driver and car toward pole position and the prospect of a place on a podium or race win. Whilst the significant investments in this premium sport are considerable, it is the incremental technology advancements, 100% perfect quality, and of course, the individual driver's finely honed skills that will remain the differentiators on the track.

An entire industry driven by competition, it's not just in Formula 1 where innovations in nanotechnology are becoming increasingly relevant; designers, engineers and developers in all areas of high performance motorsport continually work towards squeezing as much performance out of their cars as possible, constantly utilising innovations in engineering and designing to adapt and tweak at every opportunity.

With motorsport and other high performance environments starting to find an increasing number of applications for nanotechnology in areas such as materials technology, lubricants, fuels and microprocessor devices; we are starting to see that the ongoing advancements made in nanotechnology are paving the way for companies operating in high performance sectors to push the boundaries even further. For example, the tremendous strength-to-weight ratio of nano scale structures such as Carbon Nano Tubes used in ultra-high performance carbon matrix products has resulted in significant improvements in toughness, flexural and fatigue characteristics, enabling cars to be lighter, quicker and stronger.

One of the key challenges currently facing the motorsport sector is to provide new and novel measurement techniques and standards to meet the needs of this next generation of advanced manufacturing, a challenge that goes hand in hand with the current advances in micro and nano technologies.



Speakers & Topics Include:

- *Keynote Address: New Technologies Accelerating Innovation within the Motorsport Industry, Chris Aylett (Motorsport Industry Association)*
- *Nano-reinforced Composites: Current Status, Opportunities & Challenges, James Njuguna (Cranfield University)*
- *The Bright Future of Metrology for Motorsport, Ralph Weir (Phase Vision)*
- *Essential Freeform Measurements: Bridging the Gap Between High Performance Design & Manufacture, Andy Robinson (NPL)*
- *Metal Matrix Composites, Andrew Tarrant (Aerospace Metal Composites)*
- *Low Carbon Vehicle Initiative & Funding Opportunities, Andrew Everett (Technology Strategy Board)*
- *Structured Surfaces to Affect Function, Richard Leach (NPL)*
- *Powertrain Measurement Techniques & Applications, Jon Gardiner (Taylor Hobson)*



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