

ABSTRACT:

Full electric vehicles (EVs) have been around since the mid-19th century, but it is only in recent years that EVs have started to become a commercial reality that is truly available to the general public. Global interest in sustainable transport technologies is high and significant government investment is currently being poured into infrastructure to accommodate the specific needs of low carbon vehicles. Several funding schemes have also seen daylight to back industry-led prototype building and testing of concept EVs. But while the big players in today's automotive industry are struggling to make financial sense of ground-up designed full EVs and are focusing attention to hybrid electric vehicles (HEVs) for now, many smaller scale grassroots initiatives are pushing the boundaries of technology for electrified transportation.

One such initiative is 'e-racing', a racing format dedicated specifically to electric vehicles, which has seen its greatest success to date in two-wheeled motorsport, ever since the organisation of the world's first zero emission grand prix at the infamous Isle of Man TT (IoMTT) event in 2008.

Racing in general has already proven many times in history to provide an invaluable testing ground for the development of new technologies that can also benefit a wider audience, and e-racing is certainly no different. In this talk, Dr Matthys will talk about his personal experience at the forefront of electric vehicle racing and design. He will talk about his current racing activities and on-going design work, focusing on problems and success, technological spin-outs and the potential impact on current and future transport technology.

NOTE: Dr Koen Matthys has been involved with e-racing from the start. A lecturer at Brunel University London since 2007, he initiated the Brunel X Team student project in 2008, with the purpose to design and build a full electric high-performance superbike for competing in the annual IoMTT electric racing events. In 2010, Dr Matthys entered into a strategic partnership with Agni Motors, a UK-India based manufacturer of high-efficiency DC motors, to direct their racing activities in the European and World TTXGP Championship Series and give on-track support to Agni customer racing teams. Dr Matthys has now received further support from Brunel University to focus also his academic research on electric vehicle design and the existing Brunel motorsport research facility is currently being upgraded for this purpose. Based in London, Dr Matthys is also a design consultant to the UK motorcycle industry.