# WHAT ARE THE BENEFITS OF FUNCTIONAL SURFACE ENGINEERING PARTNERSHIPS AND CROSS SECTORIAL ALLIANCES FOR ACADEMIA AND INDUSTRY?

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New generations of functional and high-temperature coatings which allow for a wide variety of solutions are today in a high demand. This presentation will highlight how the development of protecting turbine blade materials and coatings at Cranfield University for improved engine efficiency have found suitable applications in other sectors where extreme heat was involved such as concentrating solar power and the machining of difficult to cut materials. The beneficial impact in the search of these new opportunities within the industrial surface engineering community will be underlined. This talk will also highlight the importance of international research partnerships in the development of new thin film nanomaterials in the search for new opportunities in the energy, medical and automotive sectors and how coating manufacturing and characterisation partnerships are also needed to reach new heights.

## SHORT BIO

Professor Endrino (Jose L) received BSc and MSc titles in Mechanical Engineering from San Diego State University and the title of PhD in Mechanical Engineering from the University of New Hampshire in 2003.

During his PhD studies, he worked for a large R&D project on tribological coatings for aerospace together with the Air Force Research laboratories. Since the beginning of 2003 until the end of 2005, Jose L worked as R&D project manager at the Tool Coatings Division of Oerlikon Balzers, the leading company in the sector of metallurgical PVD coatings. In 2006 and 2007, Jose L. worked as a visiting scientist at the Lawrence Berkeley National Laboratory within the plasma applications group after receiving an Outgoing Marie Curie fellowship grant. In 2008, he received a prestigious Ramon y Cajal fellowship by the Spanish Research Council and led many projects at the Consejo Superior de Investigaciones Científicas (CSIC).

In 2011, Jose L returned to the industrial sector to work as a senior scientist for Abengoa Research. Abengoa is an international company that applies innovative technology solutions to sustainable development in the energy and environment sectors, generating electricity from the sun, producing biofuels, desalinating sea water and recycling industrial waste. Abengoa employs over 22,000 people worldwide. Jose L. has published more than 90 research articles and participated as an inventor in more than twenty national patents. He has organised several international scientific symposiums in his field and has been invited and associate editor of various scientific journals.

He currently leads the Surface Engineering and Nanotechnology Institute (SENTi) at Cranfield University. SENTi is a world-leading centre of excellence for innovative research into atomistic and particulate based manufacturing techniques for the production of protective and active surface coating systems with a mission to transform innovative manufacturing research into engineered products. The institute has an annual revenue of £2.5M per year and the team includes 3 full Professors (J. Nicholls, S. Tothill, J.L. Endrino), 3 Senior Lecturers, 3 Lecturers, 3 Senior Research Fellows, and 4 Research Fellows.