

## The wonderful world of Graphene - From lab to market

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### Abstract

Graphene is a truly a “wonder” material with many promising attributes. Its outstanding thermal conductivity promises a revolution in thermal transfer and cooling industries. Its superb electrical conductivity and electron mobility makes it a natural as a filler in plastics to improve EMI and anti-electrostatic performance. Its solid performance during wear and friction tests paves the way for future heavy-duty greases and lubricants. The addition of mechanical strength, flexibility and light weight – all of these attributes together make graphene the wonder material of the century.

While all these attributes show great potential, bringing graphene from lab to market has been challenging. Such a high aspect ratio material requires special handling and processing to ensure reliability and consistent quality. Difficulties in scaling exfoliation techniques and poor dispersibility have hindered the rapid commercialization of graphene and resulted in high costs not supportable by industry business cases. Today graphene is on the verge of widespread adoption in multiple industries, but as of yet no killer applications have been identified. This talk will introduce a systematic approach on new application development using graphene, where industrial concerns are truly addressed, while identifying high potential areas where further research is essential.



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### **Soroush Nazarpour**

President and CEO

Dr. Nazarpour (PhD, Nanotechnology) has been President & CEO of NanoXplore Inc. since 2011. Over the last five years he has built a unique advanced material company based upon graphene, moving the company from lab bench fabrication of powder, to pellet masterbatches of graphene-enhanced polymers, to blow and injection molded products in real world. His current focus is the development of scalable production processes to make available abundant and affordable graphene materials, and the integration of graphene into industrial supply chains.

Soroush has extensive experience in advanced carbon nanomaterials, device physics, materials processing and integration, and is an acknowledged expert in the field of graphene. He is co-author of a new graphene book, “Graphene, From Lab to Technology.”, published by Wiley & Co publishing 2016. He was also the editor of “Thin Films and Coatings in Biological Application,” which was published in 2014, by Springer publishing.