



## Australian Company Building First Commercial Graphene Manufacturing Plant In Australia

Sydney – March 2016

Sydney based company, Imagine Intelligent Materials Pty Limited (Imagine IM), has entered into a contract with Geelong based engineering company, Austeng, to build Australia's first commercial graphene manufacturing plant.

The pilot plant will have an output capacity of up to 10 tonnes per year of graphene. Imagine IM plans to use two tonnes of the graphene output in the first year of operation for products aimed at customers in Australian manufacturing. Imagine IM believes that once this commercial graphene capacity is in place further opportunities for graphene supply will be identified with other Australian manufacturing companies.

The global market for graphene has, until recently, been largely driven by academic research with the challenge being to manufacture at industrial scale. Interest in commercial applications for graphene is now growing rapidly. *BCC Research* estimates the global market for graphene products will reach \$1.3 billion by 2023, and *Reports and Reports* forecasts that in 2018 \$100 million of graphene will be sold for use in RFIDs, smart packaging, super capacitors, composites, ITO replacement, sensors, and memory.

Chris Gilbey, CEO of Imagine IM said, "Graphene is now being viewed as a strategic resource in most of the industrial economies of the world. We believe that Imagine IM is positioned at the forefront of developing commercially viable graphene solutions. Our focus is on developing solutions for large scale manufacturers that will integrate into their supply chains with relative ease and without requiring our customers to need to invest in new capex. This first plant is going to be a major step in us building supply for our own customers and achieving global competitiveness".

Phil Aitchison, COO and head of R&D at Imagine IM, said, "We have contracted with Austeng in Geelong to build this pilot plant because of their experience in migrating research processes out of the lab and into production. We believe that they have the engineering skills and support services to work with us to build Australia's first commercial graphene production facility. The pilot plant will be used to bed-down our proprietary production processes and to supply Imagine IM's domestic customers in 2016 and 2017. It will lay the foundation for our expansion, both domestically and internationally, where we anticipate a need for well over 100 tonnes of graphene per year within the next four years."

Ross George, MD of Austeng, said, "We are delighted to take on the job of developing Australia's first commercial graphene manufacturing plant. We have developed plants for a number of Australia's leading research universities. Austeng has a depth of experience of how to deliver highly innovative equipment utilising new technology. We hope this will be the beginning of Austeng working closely with Imagine IM to develop industrial equipment that will be able to be exported to the world".

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**About Graphene**

Graphene's discoverers were awarded the Nobel Prize in 2010. Graphene is the first two dimensional material and is classed as a "super-material" offering extremely high electrical and thermal conductivity, hydrophobicity, strength, and impermeability to all gases.

**About Imagine Intelligent Materials:**

Imagine IM is the leading Australian developer of graphene-based coatings for industrial textiles and fibres. It was founded in 2014 by a group of scientists led by Chris Gilbey and Phil Aitchison, with a vision to create disruptive products and solutions that use graphene. Imagine IM has developed a licensing and certification model to ensure that participants in the supply chain are required to meet a set of standards of materials quality. Imagine IM is the first company in the world to develop conductive geomaterials using functionalised graphene.

**About Imagine IM's Executive Team:**

Chris Gilbey is the CEO of Imagine Intelligent Materials. He has led businesses driven by monetizing intellectual property for over 35 years. As CEO of Lake Technology (ASX) he led the company from being research focused to becoming a product manufacturing and licensing business. This resulted in the company being acquired by Dolby Laboratories Inc. He joined Dolby and developed and executed a strategy to grow Dolby's key licensing markets in consumer electronics in Korea, Japan and China. This created a substantial increase in margin contribution in the next 24 months synchronous with Dolby's IPO. After leaving Dolby he became Entrepreneur in Residence at the ARC Centre of Excellence for Electromaterials Science at the University of Wollongong. While there he developed a strategy to spin out a novel water splitting technology which led to the formation of Aquahydrex, which was funded by a US venture capital firm. Prior to being involved in technology businesses, Chris Gilbey was an entrepreneur in the music industry, and was involved in launching the careers of a number of globally successful artistes including AC/DC, Keith Urban and InXs. He was awarded the Order of Australia for his services to the Australian music industry and charity. He is an Honorary Principal Fellow at the Sydney Business School.

Phil Aitchison is Head of R&D and Chief Operating Officer of Imagine Intelligent Materials. He is a research executive with over 20 years experience in applied materials science, intellectual property, manufacturing, licensing and technology commercialisation. His main fields of success have been in energy storage, notably lithium-ion batteries and supercapacitors where nano-materials and carbon composites play a key role. In 2014 Phil joined with Chris Gilbey to co-found Imagine. Prior to this Phil was Vice President of Research and Development at CAP-XX, an Australian supercapacitor developer and manufacturer, which gave the World the highest power supercapacitors, the value of which was recognised by the license to Murata of Japan, one of the World's leading semiconductor manufacturers. Previously, Phillip developed revolutionary lithium-ion battery technology and manufacturing processes at Pacific Lithium in New Zealand, technology that was acquired by 3M (USA). He has a Doctorate in Chemistry awarded jointly in 1998 by the University of Montpellier, France and Victoria University of Wellington, New Zealand. He is routinely invited to give international conference presentations in energy storage, nanotechnology and technology commercialisation. He is the author of a dozen patents, international scientific publications and has been a supervisor and mentor to dozens of students.

**About Austeng**

*By way of background Austeng has worked with a number of companies in the past to commercialize their technology by assisting them in researching and testing to produce prototype and/or production scale equipment. for instance, last year we (in collaboration with local bio-tech company Cytromatix Pty. Ltd. and Deakin University) were awarded the prestigious Victorian Engineering Excellence Award for Research and Development/Innovation for developing a world first full scale production equipment/process for the development of a new class of high value materials being novel or short nanofibres. Austeng's outstanding reputation and track record in the industry was recognized when it was inducted into the Victorian Manufacturing Hall of Fame in recognition of its world class innovative and sophisticated solutions to manufacturing challenges. (See attached brochure and/or [www.austeng.net.au](http://www.austeng.net.au) for further information including other awards).*

### **About Ross George**

*Bachelor of Mechanical Engineering with Honours, Melbourne University. Commenced career in 1982 as a Project Engineer in the petroleum industry. In the last 30 years he has founded and built up Austeng – a boutique engineering company located in North Geelong that specializes in the design, engineering development and building of customized electromechanical system. Ross not only brings engineering flair and innovative thought to projects, he is adept with working with clients to assist them in providing a bridge between a concept idea or research and commercial reality.*

*Ross has been inducted as a Fellow of the Institute of Engineers Australia in recognition of his background and engineering expertise.*