FACT SHEET

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About Nano Advanced Technologies (NAT)
Nano Advanced Technologies (NAT) developed a business plan aimed at developing functional and innovative technologies to produce quality nanopowder for applications in many different fields.

About Nanopowder
In materials engineering, the surface structure (toughness) and binding energy (strength) of a particular material are dependent on the amount of surface interaction of its structural molecules. If the size of these molecules is reduced, their surface interaction will increase. As a result, the material itself becomes tougher and stronger.

Nanopowder is a type of raw material that can be used in industrial, military and consumer products as reinforcement fillers in composite materials, or as surface coatings. They are usually used to improve the mechanical properties of the material.

Nanopowders are about 1000X smaller than the conventional ‘micron-powders’ that are currently used by many manufacturers. Thus, by using nanopowders instead of micron-powders in developing products, we can have better overall product performances.
NAT aims to develop Boron Carbide nanopowder, using a technique that will produce higher yield, higher purity and cheaper powder.

Potentially, NAT’s nanopowder can be applied to various areas such as:
- Military bullet-proof vest: estimated to improve product strength by up to 5X;
- Luxury watches and jewellery: provides products with scratch-resistant properties for lifespan of product;
- Surgical knives: estimated to improve knives’ life span by up to 5X;
- Car brakes, airplane brakes: improve braking performance

NAT Team members

(from left to right: Nathaniel Ng, Alfred Chia Ngeow Khing, Asst. Prof Alfred Tok, Hengky, Shim Wei Kang, Erwin Wouterson, Assoc. Prof Ma Jan)

Team Leader
- Mr. Alfred Chia Ngeow Khing, 32, Singaporean, M.Eng in Mechanical Engineering (NTU, Singapore). Currently pursuing a part-time doctorate degree in Materials Engineering in Nanyang Technological University.

Acting CEO
- Mr. Shim Wei Kang, 28, Singaporean, MSc in Bioengineering (Imperial College, London, UK). Currently, he is pursuing his part-time PhD in the field of ferroelectric materials.

Acting CTO
- Mr. Hengky, 26, Indonesian, MSc in Advanced Materials for Micro&Nano Systems (SMA - Singapore MIT Alliance, NUS - Singapore). Currently pursuing his part-time Doctorate degree in the School of Materials Science & Engineering (MSE)
Liaison & Product Engineering
- Mr Erwin Merijn Wouterson, 29, Dutch, MSc in Aerospace Engineering (Delft University of Technology, Netherlands). Currently a part-time PhD student in the field of lightweight foam-based polymer composites.

Financial Accounting & HRM
- Mr Nathaniel Ng Kuang Chern, 30, Singaporean, BEng in Mechanical Engineering (NUS, Singapore). Currently pursuing a PhD in Materials Science & Engineering in Nanyang Technological University.