PPK Expands on Its 'Holy Grail' Material with Cheaper Alternative

2020-12-09

PPK Group has added a seventh technology project to its business after announcing another joint venture with Deakin University, this time dealing with white graphene which it said had virtually endless applications.

The Brisbane company has previously struck deals with Deakin over the commercialization of Boron Nitride nanotubes (BNNT), a material is described as “the holy grail of material science” that can be used in multiple applications that require strength, flexibility, and heat resistance.

PPK said it would be seeding the new deal with $2.8 million for research and development and to build a prototype manufacturing plant.

White graphene is similar to the boron nanotubes but is a two-dimension flake that is as thick as a single molecule. It doesn’t boast the same strength as the BNNT but does have the same high thermal conductivity, electrical insulation, and radiation shielding.

PPK said white graphene also had lower production costs and would enable for the expansion of the potential market by offering a cheaper alternative for certain sectors where all the benefits of BNNT were not needed. White graphene can withstand more than 850 degrees celsius and had better corrosion protection for paints and coatings as well and would prevent galvanic corrosion in metals.

“Applications for white graphene are virtually endless including thin-film photovoltaics, microelectronics, advanced battery and supercapacitor technology, optics, bioengineering, water filtration, nanocomposites, and advanced polymer and ceramics,” PPK said.

The company said white graphene had a forecast composite annual growth rate of 38 per cent between 2020 and 2027.

Deakin Research Innovations executive director Ben Spicer said his organization was excited by the opportunity to scale up the manufacturing of white graphene.

Read the original article on InQueensland.