

Samsung Achieves Graphene "Breakthrough"

Written by Marco Attard
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Despite being a wonder material for future electronics graphene is yet to achieve commercial reality-- at least until now Samsung claims as it announces a "breakthrough synthesis method" for the manufacture of the material.



The word "graphene" refers to a one-atom thick layer of graphite, the stuff pencils are made of. It has 100 times the electron mobility of silicon, the durability of steel, high heat conductivity and flexibility, making it perfect for smaller and flexible devices and displays. However large-scale production causes it to lose the properties making it so potentially useful.

A partnership between the Samsung Advanced Institute of Technology (SAIT) and Sungkyungkwan University hopes to change the situation. Researchers discovered a means of "growing" large-area single crystal wafer scale graphene (or big, thin sheets of the material, in layman's terms) on a semiconductor, allowing it to maintain its electrical and mechanical properties.

"This is one of the most significant breakthroughs in graphene research in history," SAIT Lab says. "We expect this discovery to accelerate the commercialization of graphene, which could unlock the next era of consumer electronic technology."

Samsung is not the only entity eyeing the material-- the EU put €1 billion in graphene research for the 2013-2023 period, for instance. Graphene is so versatile it might even find use in condoms, as last year in 2013 Bill and Melinda Gates Foundation [awarded a \\$100000 grant such development.](#)

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