



LayerOne and SINTEF Join Forces to Create Graphene-based Conductive Ink

2023-04-06

LayerOne and SINTEF secure funding from The Norwegian Research Council for the development of innovative, scalable and sustainable conductive inks based on reduced graphene oxide (rGO). The rGO-based inks promise improved electrical conductivity and stability surpassing traditional carbon-based inks and offering a less toxic and more cost-effective alternative to metal-based inks.

The research project is a result of LayerOne's recent breakthrough in developing a new grade of rGO with an electrical conductivity two orders of magnitude greater than standard rGO grades. In the project LayerOne will supply the advanced rGO materials while [SINTEF](#) will leverage and build on its experience from recently concluded projects on printed electronics to develop the new conductive inks.

The project, valued at 18 million NOK, has been awarded 9 million NOK in funding from the [Norwegian Research Council](#). The conductive ink market was estimated at 3.0 billion \$ US in 2020 and is expected to reach 3.7 billion \$ US by 2025*.

According to Christian Dethloff, CEO of [LayerOne](#), this innovative rGO-based technology is expected to have positive impact on various electronic equipment such as RFID tags, sensors, circuits, and even high-tech clothing with integrated electronics.

According to the company's research, traditional carbon-based inks often offer low electrical conductivity and are low-cost, while metal-based inks provide better performance but at a higher cost. However, there is still a significant gap in terms of both performance and cost between these two technologies. LayerOne's graphene-based conductive inks address this gap by providing improved conductivity compared to traditional carbon-based inks at a reasonable additional cost, making them a cost-effective alternative to metal inks and a premium product compared to carbon-based inks.

Read the [original article](#) on Layer One.