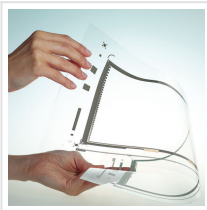
Canatu Achieves Record-high Carbon Nanotube Opto-electric Performance



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The Finnish carbon nanomaterial company Canatu has revealed that it has more than doubled the performance of its Carbon NanoBud (CNB) transparent conductive film.

As a result of a multi-year research and development program the company is claiming to have developed the best industrially applicable sheet resistance to optical transparency ratio ever seen in Carbon Nanotube (CNT) films.

With sheet resistance of 35Ω/sq at 90% transmittance the company's CNB is able to provide a high-performance material for automotive ADAS heater and flexible capacitive touch applications that require high electrical conductivity and high optical transparency. Featuring ultra-low haze and low reflection, the CNB film can be formed into any 3D shape, so enabling much greater design freedom.

"Advances in the synthesis and scalable manufacturing are critical to mass adoption of CNTs. In transparent conductor applications, both optical and electrical properties are the most important factors of competitiveness. Canatu has made a new world record in commercial-scale manufactured CNT thin film transmittance and electrical conductivity, " said Shigeo Maruyama, a Distinguished Professor of Mechanical Engineering at the University of Tokyo.

"This is a significant technical advancement and strengthens our competitiveness and expands potential applications for CNB, while marking a solid base for the future development of CNB," added Juha Kokkonen, CEO of Canatu.

Increasing electrical conductivity without harming transmittance or adding cost is a key challenge of transparent conductive films. Constraints can be alleviated by optimising core factors affecting CNT network properties and performance, such as dimensions of individual CNT tubes and tube bundles, tube chirality, distribution of CNT wall numbers, and eliminating contamination and defects in CNT structures.

"Our team possesses deep nanotechnology expertise, accumulated over years of systemic research and development. This allows us to control every aspect of the CNB synthesis process. We are able to create longer single or multi-wall tubes that are super clean, thereby enabling extremely thin, strong and transparent CNB networks," explained Heikki Heinaro, Vice President, Engineering, Canatu.

Read the original article on New Electronics.