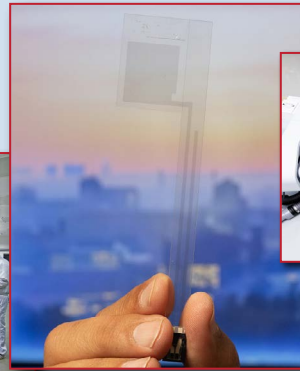
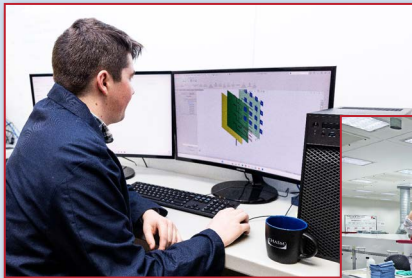


FAB\$ and LAB\$S

CHASM Advanced Materials: Redefining What is Possible



Single-wall carbon nanotubes were “officially” discovered in 1991, but anecdotal evidence indicates these structures may predate the official discovery by nearly 40 years. A nanotube is a tube-like structure at nanometer dimensions. Carbon nanotubes (CNT) are attractive because they combine mechanical strength, high thermal conductivity and tunable electrical properties. These features make this technology attractive for diverse applications ranging from concrete and composite materials to battery storage, automotive, electronics, medical and defense markets. Nanotechnology performance benefits are widely known, but cost and usability issues have impeded widespread adoption. CHASM Advanced Materials looks to shift that paradigm.

The story of CHASM Advanced Materials starts with Chasm Technologies, a consulting firm founded in 2005 by Dave Arthur and Bob Praino. Shortly after co-founding Chasm Technologies, Dave Arthur left to be CEO of SouthWest NanoTechnologies (SWeNT), one of Chasm’s first clients. SWeNT became a leading producer of carbon nanotube materials for electronics and composites applications and formalized a strategic alliance with Chasm Technologies in 2009. In 2015, Chasm Technologies agreed to acquire SWeNT and Dave Arthur became the CEO of the newly formed CHASM Advanced Materials. CHASM’s headquarters and application development center are in a 10,000 sq. ft. facility in Canton, Mass.

One of the challenges for carbon nanotubes is scale. The SWeNT acquisition brought an 18,000 sq. ft. state-of-the-art manufacturing plant in Norman, Okla., specially engineered and configured to produce high-purity carbon nanotubes. This facility is implementing the world’s largest CNT production platform, with an annual production capacity of 1500 metric tons, as part of CHASM’s growth and innovation strategy. CHASM touts this platform as the most scalable, cost-efficient and sustainable method for mass-producing high-quality CNT additives. This effort

is powered by proprietary catalysts and rotary kiln reactors for CNT synthesis, offering a production efficiency 5x greater than the traditional fluidized bed reactors prevalent among other CNT producers.

CHASM focuses on creating transparent, cost-effective materials. Their product lines include AgeNT™ performance films that are transparent, conductive, flexible and formable. These films have low patterning costs and low sheet resistance at high transparency. Companies in multiple industries use these films for transparent heaters, antennas and EMI shielding films. NTeC performance additives utilizing CNT and CNT-hybrid products are developed with industry partners for applications like batteries and construction materials such as cement and concrete. Signis™ CNT products have been engineered to satisfy requirements in advanced materials applications and be adaptable to various manufacturing technologies. Produced using the patented CoMoCAT™ synthesis process exclusively licensed from the University of Oklahoma, these CNTs are semiconducting or conductive due to the ability to vary and control chirality and tube diameter.

These capabilities result in transparent, flexible antennas for 5G, Wi-Fi or IoT antennas that can adhere to windows and heaters that deliver faster and more uniform heat to any surface to enhance ADAS and industrial HMI displays. RF shielding films provide transparency and RFI/EMI protection for windows and displays used in aircraft, vehicles and buildings. The CNT materials are also used in printable CNT inks and for improving battery technology.

CHASM is committed to fostering a culture of creativity and innovation. Its business model revolves around providing tailored material solutions that meet clients’ specific needs. Selling these advanced materials and offering design and manufacturing services helps bring innovative concepts to life and redefine what is possible for the next generation of mobile devices, vehicles, appliances and more.

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