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# SINTX Technologies Provides End of Year 2021 Business Update

**SALT LAKE CITY, Dec. 08, 2021 (GLOBE NEWSWIRE)** -- SINTX Technologies, Inc. ([www.sintx.com](http://www.sintx.com)) (NASDAQ: SINT) ("SINTX" or the "Company"), an original equipment manufacturer of advanced ceramics, shared an end of the year 2021 business update including details from its biomedical, antipathogenic, and industrial business segments:

## **Biomedical:**

Beginning in November 2021, SINTX successfully launched joint research efforts for the recently awarded National Institute of Health (NIH) Small Business Technology Transfer (STTR) [grant for 3D-printed silicon nitride PEEK composite spinal implants](#). The goal of the nine-month collaboration with Drexel University, Thomas Jefferson University, and the University of Pennsylvania School of Veterinary Medicine is to combine the familiar fit and feel of PEEK with the antibacterial and osseointegrative properties of silicon nitride to create a new generation of differentiated spinal implants for prospective partners. Initial efforts have been focused on determining printer parameters and characterizing antibacterial properties for the composite material. The 3D printer to be used in this study was purchased by SINTX in 2021.

SINTX has also submitted several other grant applications such as an NIH grant for 3D printed craniomaxillofacial (CMF) devices as well as a Department of Defense (DoD) grant proposal for the development of SINTX coating technologies to reduce the infection burden associated with high-risk implantable device applications. The company plans to announce further details once the outcome of the grant submissions is known.

SINTX has successfully completed proof-of-concept experiments to create a composite coating that integrates silicon nitride powder into Oxford Performance Materials, Inc. (OPM) proprietary polymer. Ongoing collaborative development is now focused on optimizing the coating's adhesion and antimicrobial properties.

The Company is continuing to develop new applications and manufacturing technologies in medical devices, with a desire to deliver the osteogenic and antipathogenic benefits of silicon nitride to new areas of the human body. SINTX is leveraging the long-term successful outcomes with silicon nitride spinal implants to find interest in silicon nitride from medical device manufacturers – interest in monolithic silicon nitride, composites of silicon nitride and polymers, and in coatings of silicon nitride on metal implants. Silicon nitride-coated samples have recently been delivered to companies in the orthopedic and dental industries for testing. During 2021 conferences, SINTX garnered significant interest from the dental and foot and ankle communities, meeting with multiple exhibiting companies to explore partnerships in commercializing silicon nitride dental implant systems as well as osteotomy and fusion products. Foot and ankle companies have shown interest in monolithic silicon

nitride and in composites of silicon nitride and polymers. The Company's new peck drilling and laser texturing capabilities (the laser was purchased and installed in 2021) and the intricately patterned surfaces they produce have contributed to successful engagement with new partners.

### **Antipathogenic:**

SINTX continues to invest in its antipathogenic business and [recently received a patent](#) from the U.S. as part of its broad strategy to protect the IP the Company is developing. This newly-issued patent provides SINTX with significant IP on a method of reducing or eliminating human and animal viruses within 1 to 30 minutes using any device or apparatus incorporating silicon nitride powder.

SINTX has leveraged an investment into an internal pre-pilot manufacturing cell and successfully developed a batch process for fabric infiltration that repeatedly results in a uniform and dense distribution of silicon nitride particles onto the fibers. The team continues to optimize this process in an effort to improve treatment homogeneity and design for manufacturability. These prototype samples consistently demonstrate antipathogenic properties.

SINTX also has ongoing collaborations with both North Carolina State University and a private technology and engineering company based in Europe to explore large-scale fabric treatment technologies. The goal of both partnerships is the development of a process for manufacturing a silicon nitride-infiltrated fabric. Prototypes demonstrating the feasibility of these different technologies have successfully been prepared, and characterization and further development are ongoing.

SINTX R&D engineers have demonstrated a novel method for incorporating antipathogenic powder into a commercial silicone contact layer wound dressing. SINTX has several commercial partners interested in this technology. Further research in this area, including testing of the treated fabric using standardized bacterial assays, is ongoing. Silicon nitride continues to offer great potential as an alternative to conventional antibacterial agents in wound dressings due to its low toxicity profile.

SINTX continues to explore antipathogenic applications in new markets like floor scrubbers and flooring with various companies and looking for new OEM customers to develop antiviral and antimicrobial fabrics and coatings. Work with Iwatani has shifted to focus more heavily on coatings and filters and pivoted away from IT cases based on technical and strategic input from both companies.

New opportunities in protective face masks and mask filters are available given the recent announcement to reassess the relationship with O2TODAY. Additionally, SINTX has entered into a new joint development agreement with O2TODAY to further pursue the development of antimicrobial fabrics for consumer masks.

SINTX is also beginning a process to register silicon nitride with the EPA. This registration will be a crucial and potentially necessary step as the Company enters these new markets.

### **Industrial:**

[SINTX has begun construction of the updates](#) to the SINTX Armor building infrastructure to accommodate the new machines. SINTX has initiated equipment qualifications this month and plans to complete the qualification in the first half 2022. The Company is sending small samples to integration and ballistic companies for testing while continuing to get the facility up and running for full production.

Additionally, high-strength silicon nitride is a preferred material for rocket thrusters and missile components due to its high-temperature properties and resistance to thermal shock. As a result, SINTX has sold prototypes to aerospace companies for jet engine and RF antenna components for further testing and application development. An additional application as a rocket nozzle is in development. SINTX's achievement of AS9100D certification and ITAR registration – steps taken in 2020 – were necessary to gain the opportunity to sell these parts.

### **Financial:**

SINTX was notified in November that it has received full forgiveness of its Small Business Administration ('SBA') Paycheck Protection Program ('PPP') loan under the SBA's Second Draw Program in the amount of \$509,148.00, which it had received on March 15, 2021, pursuant to the Coronavirus Aid, Relief and Economic Security Act (the 'CARES Act'). The loan forgiveness covers all principal and accrued interest.

SINTX plans to share more details about its vision and plans looking ahead in Q1 2022.

### **About SINTX Technologies, Inc.**

SINTX Technologies is an OEM ceramics company that develops and commercializes advanced ceramics for medical and non-medical applications. The core strength of SINTX Technologies is the manufacturing, research, and development of ceramics for external partners. The Company presently manufactures silicon nitride powders and components in its FDA registered, ISO 13485:2016 certified, and ASD9100D certified manufacturing facility.

For more information on SINTX Technologies or its advanced ceramics material platforms, please visit [www.sintx.com](http://www.sintx.com).

### **Forward-Looking Statements**

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 (PSLRA) that are subject to a number of risks and uncertainties. Risks and uncertainties that may cause such differences to include, among other things: our products may not prove to be as effective as other products currently being commercialized or to be commercialized in the future by competitors; risks inherent in manufacturing and scaling up to commercial quantities while maintaining quality controls; volatility in the price of SINTX's common stock; the uncertainties inherent in new product development, including the cost and time required to commercialize such product(s); market acceptance of our products once commercialized; SINTX's ability to raise funding and other competitive developments. Readers are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date on which they are made and reflect management's current estimates, projections, expectations, and beliefs. There can be no assurance that any of the anticipated results will occur on a timely basis or at all due to

certain risks and uncertainties, a discussion of which can be found in SINTX's Risk Factors disclosure in its Annual Report on Form 10-K, filed with the Securities and Exchange Commission (SEC) on March 22, 2021, and in SINTX's other filings with the SEC. SINTX undertakes no obligation to publicly revise or update the forward-looking statements to reflect events or circumstances that arise after the date of this report.

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