

Salgenx Expands Innovative Use of Graphene and Hard Carbon-Coated Sand in Advanced Construction and Energy Applications

Salgenx is Pioneering New Uses for Carbon-Coated Sand in Smart Infrastructure, Energy-Efficient Buildings, and Environmental Sustainability

DAVOS, GRAUBÜNDEN, SWITZERLAND, August 15, 2024 /EINPresswire.com/ -- [Salgenx](#), an industry leader in saltwater flow battery technology, is proud to announce the expansion of its groundbreaking development of graphene and hard carbon-coated sand. Originally designed for use in advanced battery systems, Salgenx is now exploring a wide array of new applications for this innovative material, ranging from smart infrastructure to environmental sustainability.

A Revolution in Construction Materials

The unique combination of graphene and hard carbon in a sand aggregate has the potential to transform the construction industry. By enhancing the electrical conductivity, mechanical strength, and durability of concrete, Salgenx's carbon-coated sand opens up new possibilities in building and infrastructure development.

Smart Infrastructure for the Future

One of the most exciting applications of this material is in the creation of self-sensing concrete. This smart concrete can monitor structural health in real-time, detecting strain, cracks, and other stressors that could compromise safety. This innovation could revolutionize the way we maintain bridges, buildings, and other critical infrastructure, allowing for predictive maintenance and reducing the need for manual inspections.

Additionally, the conductive properties of graphene-coated sand could be used to develop



sand used for graphene and hard carbon process

electrically conductive pavements. These pavements could support applications such as heated roads to prevent ice formation or even charge electric vehicles as they drive, enhancing road safety and supporting the growing demand for electric vehicle infrastructure.

Energy-Efficient and Sustainable Buildings

Salgenx's graphene-coated sand can also be a game-changer in the field of energy-efficient building design. By incorporating this material into concrete walls and floors, buildings could achieve better thermal management, reducing energy consumption for heating and cooling. Furthermore, the material's potential for electromagnetic interference (EMI) shielding offers significant benefits for buildings housing sensitive electronic equipment, such as data centers and hospitals.



graphene and hard carbon-coated sand

Innovating Advanced Manufacturing and Lightweight Structures

In advanced manufacturing, Salgenx's graphene and hard carbon-coated sand can be utilized in 3D printing of complex, conductive concrete structures. This innovation allows for the creation of multifunctional components that combine strength with electrical conductivity, ideal for bespoke architectural elements and functional manufacturing.

Moreover, the material's lightweight yet strong properties make it suitable for aerospace and automotive industries, where weight reduction is critical. This could lead to more efficient, high-performance materials for use in a wide range of industrial applications.

Environmental and Sustainability Applications

Salgenx is also exploring the potential of carbon-coated sand to contribute to environmental sustainability. The material could be engineered to sequester carbon dioxide, either during production or as a reactive surface in structures, helping to reduce atmospheric CO₂ levels and combat climate change.

In water filtration systems, the porous and reactive surface of graphene-coated sand could be used to remove contaminants from water more effectively, providing improved access to clean water through more efficient and durable filtration systems.

Broadening the Horizons of Electrical Applications

The conductive properties of graphene-coated sand also open up new opportunities in electrical applications. Embedded sensors and circuits could be integrated directly into concrete structures, enabling the development of smart walls and floors with built-in sensing and control capabilities. Additionally, the material could be used in grounding systems for electrical installations, enhancing safety and reliability.

Powering the Future with Renewable Energy Solutions

In the realm of energy storage and generation, Salgenx's carbon-coated sand could be integrated into solar concrete, acting as a solar absorber and potentially generating electricity directly from building surfaces. Additionally, the material could be used in piezoelectric energy harvesting, where mechanical stress on concrete is converted into electrical energy, contributing to a more sustainable energy future.

About Salgenx (a division of [Infinity Turbine](#) LLC)

Salgenx is at the forefront of developing innovative, sustainable energy storage solutions. Saltwater batteries provide a safe, non-toxic, and cost-effective alternative to traditional lithium-based energy storage systems. Committed to advancing green technology, Salgenx continues to explore and develop cutting-edge renewable materials and methods to meet the growing global demand for renewable energy storage.

Contact: Greg Giese | CEO | Infinity Turbine LLC | greg@infinityturbine.com | greg@salgenx.com

Saltwater Battery Website: <https://salgenx.com>

Infinity Turbine Website: <https://www.infinityturbine.com>

Gregory Giese
Infinity Turbine LLC
+1 6082386001
[email us here](#)

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