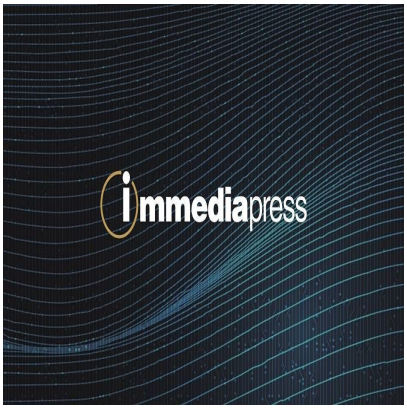

Reinventy Advances XHTâ?¢ Materials and Phantom Coreâ?¢ Architectures

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Extreme-Temperature Materials and Low-Signature Electric Systems for Next-Generation Platforms

VANCOUVER, British Columbia, Jan. 20, 2026 (GLOBE NEWSWIRE) â?? Reinventy Solutions Corp. announced an advance in its materials-driven technology roadmap, highlighting XHTâ?¢ (eXtended High-Temperature) material architectures and Phantom Coreâ?¢ electric system designs to enable next-generation industrial and autonomous platforms operating under severe thermal constraints.

In many high-performance systems, deployment limits are set by materials physics and heat-flow management, not by software. Reinventyâ??s approach treats materials and thermal pathways as first-order design variables within platform architecture, targeting predictable behavior under sustained thermal load, thermal cycling, and coupled electromechanical stress.

Reinventyâ??s XHTâ?¢ material architectures are engineered for direct integration into system designs where conventional alloys, ceramics, or composites rapidly lose performance. XHTâ?¢ is designed to maintain structural integrity and functional stability above 2,800 Â°C, with development targets toward the 3,000 Â°C range under controlled conditions, depending on formulation and system integration. The program emphasizes thermal stability, low degradation, and controlled electromagnetic behavior to support integration with motors, power electronics, and thermal management in tightly coupled assemblies.

In parallel, Reinventy is advancing Phantom Coreâ?¢ motor and actuation architectures addressing a critical challenge in high-performance electric systems: thermal signature control. Conventional electric drives generate concentrated heat sources that can produce distinct thermal traces. Phantom Coreâ?¢ combines advanced materials, structural design, and integrated thermal pathways to enable thermal-signature suppression up to near-zero observable levels at the system level, depending on operating mode and environmental conditions.

Rather than relying on external shielding, Phantom Coreâ?¢ is designed to intrinsically redistribute and attenuate heat concentration, supporting electric propulsion and actuation requiring reduced thermal visibility, stable operation, and long-cycle reliability.

These technologies align with Reinventyâ??s next-generation platform strategy and complement the previously announced Shield Brain (Codename â??The Tin Manâ?•) platform, which provides local cognitive control for autonomous systems. While Shield Brain governs perception and decision orchestration, XHTâ?¢ and Phantom Coreâ?¢ support the physical execution layer under extreme operating conditions. Further details are available at

Next-Generation Platforms

and

XHTâ?¢

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, with an overview of related intellectual property at

Patents

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â??Extreme-temperature materials and controlled thermal behavior are decisive engineering constraints for real-world autonomy,â?• said Antonio Sedino, Ph.D., Technology & R&D Officer (CTRO) of Reinventy Solutions Corp. â??XHTâ?¢ and Phantom Coreâ?¢ reflect our strategy to move beyond component-level optimization toward system architectures engineered for predictability under severe thermal regimes.â?•

Biographical InformationReinventy Solutions Corp. is led by an engineering-driven technical leadership with over three decades of experience across advanced industrial technologies and system architecture, spanning advanced materials, electric systems, energy management, edge AI, and system-level integration.

BoilerplateReinventy Solutions Corp. is a Canadian industrial technology company developing industrial-grade edge AI platforms, advanced materials, energy solutions, and high-performance motor and electrification technologies. Learn more at

Home

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