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Avant Technologies Highlights the Critical Role of Cell Encapsulation Technology in Revolutionizing Diabetes Treatment

LAS VEGAS, Dec. 16, 2025 /PRNewswire/ -- Avant Technologies, Inc. (OTCQB: AVAI) ("Avant" or the "Company"), an emerging biotechnology company focused on developing cell-based therapies for diabetes and age-related disorders, today highlights the essential importance of cell encapsulation technology in enabling effective, long-term treatments for type 1 and insulin-dependent type 2 diabetes. By protecting genetically modified cells that produce and secrete insulin, this innovative approach addresses key barriers to cell-based therapies, offering hope for millions of patients worldwide who rely on daily insulin injections.

Last month Avant and SGAustria Pte. Ltd. (SGAustria), a leading biotechnology company specializing in clinically proven cell encapsulation, formed a groundbreaking joint venture and license agreement aimed at revolutionizing a diabetes treatment through innovative stem cells and/or other cells combined with encapsulation technologies. The partnership will lead to the creation ofÂ Insulinova, Inc., a U.S. company, to facilitate and conduct clinical trials.

According to the International Diabetes Federation (IDF), 1 in 9 adults (20-79 years) is living with diabetes, while another 4 in 10 are unaware that they have the condition. The IDFÂ estimates that 589 million people globally live with both type 1 and insulin-dependent type 2 requiring constant management to prevent life-threatening complications. And the IDF is projecting that by 2050, approximately 853 million people will be living with diabetesâ€”a 46% increase.

Traditional treatments, such as insulin pumps or injections, provide symptom relief but do not cure the underlying issue: the body's inability to produce sufficient insulin. Avant andÂ SGAustria's diabetes development program focuses on genetically modified cells engineered to produce, store, and secrete insulin in response to blood glucose levels, mimicking the function of healthy pancreatic beta cells.

However, historically, a major challenge in deploying these cells has been the immune system's rejection of implanted foreign material, often necessitating lifelongÂ immunosuppressive drugs that carry significant risks. Cell encapsulation technologyâ€”like SGAustria's Cell-in-a-BoxÂ® â€”overcomes this challenge by creating a protective barrier around the cells, shielding them from immune attacks while allowing nutrients, oxygen, and insulin to pass through freely. This encapsulation enables the safe, sustained delivery of insulin without the need for immunosuppression, potentially providing a functional cure for type 1 diabetes and reducing dependency on external insulin for affected type 2 patients.

Brian Salmons, Chief Executive Officer (CEO) at SGAustria, said, "Our Cell-in-a-BoxÂ® technology is a pivotal advancement for a diabetes treatment, and through our joint venture with Avant, we are poised to deliver a transformative therapy. By safeguarding insulin-producing cells from immune

rejection while ensuring long-term functionality, we're paving the way for a future where patients can manage diabetes without the burden of daily interventions."

Recent advancements in encapsulation devices, including Cell-in-a-BoxÂ® have demonstrated promising results in preclinical and clinical studies. For instance, encapsulated stem cell-derived beta cells have been shown to exert glucose control in patients, resolving hypoglycemic events and enhancing overall well-being. Avant andÂ SGAustria's ongoing research builds on these breakthroughs, with secured joint venture and licensing agreements to integrate state-of-the-art encapsulation with its planned cell-based diabetes treatment. This positions the company at the forefront of developing therapies that could eliminate the burden of daily insulin management.

"Cell encapsulation is a game-changer in the field of regenerative medicine," added Chris Winter, CEO at Avant. "By partnering with SGAustria, we're ensuring that any genetically modified insulin-producing cells that we develop together can thrive in the body long-term and offer the potential of restoring natural glucose control and dramatically improving patients' qualityÂ of life. ThisÂ technologyÂ notÂ onlyÂ minimizes risksÂ likeÂ immuneÂ rejectionÂ butÂ alsoÂ prevents potentialÂ complications such as cell escapeÂ or tumor formation, making it a cornerstoneÂ for safe and scalable diabetes therapies."

AboutÂ AvantÂ Technologies,Â Inc.

Avant Technologies, Inc. is an emerging biotechnology company focused on identifying genetically modified cells lines, and through joint venture and licensing agreements developing innovative cell-based therapies.

AboutÂ SGAustriaÂ Pte.Â Ltd.

SGAustria, based in Singapore, is a leading biotechnology company specializing in clinically provenÂ cellÂ encapsulation, GMP-gradeÂ cellÂ products,
andÂ cellÂ lineÂ development,Â backedÂ byÂ over 50 peer-reviewed publications and partnerships with global biotech companies.

MoreÂ informationÂ about AvantÂ canÂ beÂ foundÂ at https://avanttechnologies.com

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Forward-LookingÂ Statements

Certain statements contained in this press release may constitute "forward-looking statements." Forward-looking statements provide current expectations of future events based on certain assumptions and include any statement that does not directly relate to any historical or current fact. Actual results may differ materially from those indicated by such forward-looking statements because of various important factors as disclosed in our filings with the Securities and Exchange Commission located at their website (https://www.sec.gov). In addition to these factors, actual future performance, outcomes, and results may differ materially because of moreÂ general factors including (without limitation) general industry and market conditions and growthÂ rates, economic conditions, governmental and public policy changes, the Company's ability toÂ raiseÂ capital on acceptableÂ terms, if atÂ all, the Company's successfulÂ developmentÂ of its products and the integration into its existing products and the commercial acceptance of the Company's products.Â TheÂ forward-lookingÂ statementsÂ included inÂ thisÂ press releaseÂ representÂ theÂ Company's views as of the date of this press release and these views could change.Â However, while the Company may elect to update these forward-looking statements at some point in the future, the Company specifically disclaims any obligation to do so.Â These forward-looking statements should not be relied upon as representing the Company's views as of any date after the date ofÂ the press release.

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