

Tantech Subsidiary Launches Newest Driverless and Autonomous Street Sweeper

LISHUI, China, Dec. 1, 2020 /PRNewswire/ -- Tantech Holdings Ltd (NASDAQ: TANH) ("Tantech" or the "Company"), a clean energy company in China, today announced the launch by its subsidiary, Shangchi Automobile Co., Ltd. ("Shangchi Automobile"), of its newest highly innovative driverless and autonomous street sweeper. The Shangchi SC-100A follows the launch last month of the SC-120A model featuring unmanned, automatic sweeping.

Shangchi Automobile's innovative driverless and autonomous street sweepers are designed for quieter operation and improved cleaning performance, with the ability to reduce or eliminate the 7 to 8 humans required for typical sweeper vehicle operation. Lidar-based, machine vision technology provides long-distance detection and obstacle identification, with sensors for short-distance obstacle detection and avoidance. This enables the driverless model to safely and accurately operate in common environments. The sweepers have two primary operating modes, cleaning and litter-collecting, and can be used for 10 hours at a time or until full. The multi-patented vehicles will come with 1 year warranties.

Mr. Wangfeng Yan, Chief Executive Officer of Tantech, said, "We believe there is considerable market opportunity and unmet demand for driverless and autonomous street sweepers. We are seeing an acceleration of the market evolution as government organizations, cleaning services and businesses adjust to the new COVID-19 environment, which emphasizes cleanliness and automation, as means of reducing potential human exposure. Our commitment to R&D and innovation has directly aligned Tantech and our product roadmap with our target customers."

"Our latest driverless and autonomous street sweeper, the Shangchi SC-100A, was successfully developed by our newly established R&D team on electronic vehicles in Lishui, with real-world testing to validate effectiveness, machine operations and safety. We are particularly excited about this model given the integration of AI/deep learning for route learning and satellite positioning, with advanced sensor processing technologies for human and object anticipation and avoidance. Customer response has been very good and we expect this to become a strong addition to our growing product line."

About Tantech Holdings Ltd.

Established in 2001 and headquartered in Lishui City, Zhejiang Province, China, Tantech, together with its subsidiaries, is now, in addition to be a developer and manufacturer of bamboo-based charcoal, an innovative leader in the design, manufacture and distribution of electric vehicles. The Company has also invested in mining business in 2018 and 2019.

For more information please visit: <http://ir.tantech.cn>.

Forward-Looking Statements

This news release contains forward-looking statements as defined by the Private Securities Litigation Reform Act of 1995. Forward-looking statements include statements concerning plans, objectives, goals, strategies, future events or performance, and underlying assumptions and other statements that are other than statements of historical facts. These statements are subject to uncertainties and risks including, but not limited to, product and service demand and acceptance, changes in technology, economic conditions, the impact of competition and pricing, government regulations, and other risks contained in reports filed by the company with the Securities and Exchange Commission. All such forward-looking statements, whether written or oral, and whether made by or on behalf of the Company, are expressly qualified by this cautionary statement and

any other cautionary statements which may accompany the forward-looking statements. In addition, the Company disclaims any obligation to update any forward-looking statements to reflect events or circumstances after the date hereof.

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