

Transcendence: Giken Sakata And 5.0 Robotics Usher In The Era Of Industry 5.0

In an exclusive interview with Industrial Automation Asia, Sydney Yeung, CEO of Giken Sakata, and Carlo Lustrissimi, CEO of 5.0 Robotics, discuss their strategic partnership, the groundbreaking Minifactory concept, and the shift from Industry 4.0 to 5.0. This collaboration between Singapore and Estonia is setting new standards for human-robot collaboration and regionalised manufacturing in Southeast Asia.



Carlo Lustrissimi



Sydney Yeung

THE TRANSITION TO INDUSTRY 5.0

Q Giken Sakata is transitioning into Industry 5.0 through its strategic partnership with 5.0 Robotics. Could you share more about what drove this shift from Industry 4.0 to 5.0 for Giken Sakata and the key factors behind this decision?

The transition from Industry 4.0 to 5.0 represents a shift from focusing solely on automation and efficiency to integrating human intelligence and AI-driven systems. At Giken Sakata, we see this as a major opportunity to create tailored, human-centric manufacturing solutions. By partnering with 5.0 Robotics, we can blend cutting-edge robotics technology with the expertise we've built as an OEM leader. Our co-developed Minifactory is a perfect example, allowing us to meet the growing demand for personalised, scalable production while keeping human operators central to the process.

THE ROLE OF THE MINIFACTORY

Q The Minifactory is described as a revolutionary production unit designed to bring manufacturing

closer to the end user. What are the core capabilities of the Minifactory, and how does it integrate human-robot collaboration to meet the evolving demands of modern manufacturing?

The Minifactory is a compact, mobile, and highly versatile production unit co-developed by Giken Sakata and 5.0 Robotics. Its core capabilities include the integration of AI, IoT, and CNC systems, enabling rapid reconfiguration for various production requirements. By blending human oversight with advanced robotics, the Minifactory allows for seamless hybrid collaboration, where humans focus on higher-level tasks while robots handle repetitive processes. This unit is also a game-changer in regionalising production, bringing manufacturing closer to the end-user, which increases efficiency and reduces supply chain dependencies.

SINGAPORE-ESTONIA COLLABORATION

Q This partnership between Giken Sakata and 5.0 Robotics highlights the growing bilateral cooperation between Singapore

and Estonia. How do you see this collaboration impacting not just the manufacturing sector, but broader industry relationships between both nations?

The Giken Sakata-5.0 Robotics partnership is a reflection of the growing bilateral cooperation between Singapore and Estonia. Both countries share a commitment to advancing innovation, education, and global collaboration, as reinforced by President Tharman Shanmugaratnam's recent visit to Estonia and the opening of Estonia's Embassy in Singapore. This partnership is more than just about manufacturing—it demonstrates how businesses in both countries can work together to expand into new markets. Singapore and Estonia are setting a new benchmark for cross-border innovation in Southeast Asia and Europe, creating opportunities that go beyond the manufacturing sector.

TECHNOLOGICAL INNOVATIONS DRIVING THE PARTNERSHIP

Q 5.0 Robotics is known for its cutting-edge automation technologies. Could you elaborate on some of the specific innovations that 5.0 Robotics is bringing to the table, and how they are complementing Giken Sakata's expertise as an OEM leader?

5.0 Robotics brings a flexible and innovative approach to automation, utilising both 3-axis and 6-axis robotic systems, which are standard in the industry, but are being applied in new, affordable, and easy-to-use ways. By leveraging AI and robotics, they enable adaptable and scalable production that democratises manufacturing, making advanced technology accessible to a wider range of businesses. This complements Giken Sakata's long-

standing expertise as an OEM leader in maintaining high-quality manufacturing standards. Together, we are creating multi-purpose, reliable, and highly efficient manufacturing solutions to meet the evolving needs of our clients. The Minifactory is a prime example of this synergy—blending cutting-edge automation with proven industry expertise to deliver innovative yet accessible solutions.

FUTURE OF SMART MANUFACTURING

Q With Industry 5.0 placing emphasis on human-centric solutions, how do you envision the role of human workers evolving within Giken Sakata's future manufacturing processes? Will this transition mean more customised or personalised production for clients?

In the future, we see human workers at Giken Sakata taking on more strategic roles as automation takes over repetitive tasks. This shift allows workers to focus on areas like quality control, monitoring systems, and process optimisation. By integrating human intelligence with advanced robotics, we can offer more tailored and personalised manufacturing solutions for our clients. This move towards Industry 5.0 ensures that human oversight remains central, even as automation drives efficiency and precision in our manufacturing processes.

REGIONALISATION OF MANUFACTURING

Q The Minifactory addresses the urgent need to regionalise production. What role do you see this mobile, compact solution playing in the regional manufacturing landscape, particularly in Southeast Asia, and how do you plan to scale it?

The Minifactory is specifically designed for high-mix, low-volume production, addressing the growing demand for regionalised manufacturing in Southeast Asia. By bringing production closer to the end-user, it helps reduce supply-chain dependencies, shorten lead times, and lower operational costs. Its

mobile and scalable nature empowers smaller manufacturers, allowing them to compete effectively with larger players, which was previously challenging due to high capital requirements. To scale this solution, we plan to collaborate with local businesses across various industries, ensuring the Minifactory can be adapted to specific production needs and demands throughout the region.

LOOKING AHEAD: THE VISION FOR GIKEN SAKATA

Q As Giken Sakata leads the way in smart manufacturing with Industry 5.0, what are your long-term goals for the company? How do you plan to maintain your competitive edge in this rapidly evolving industry?

Giken Sakata's long-term vision is to remain at the forefront of Industry 5.0 by continuously innovating and expanding our technological capabilities. We're committed to pushing the boundaries of customisation, precision, and efficiency in smart manufacturing. A key part of our strategy will be to expand the Minifactory into new markets across Southeast Asia and beyond. By staying agile and ahead of industry trends, we believe we can maintain our competitive edge and continue delivering next-generation manufacturing solutions to our clients.

PROFILE:

Sydney Yeung Kin Bond

Sydney Yeung Kin Bond is an Executive Director and Group Chief Executive Director of GSS Energy Limited, a company listed on the Singapore Exchange. He was appointed to the Board on October 31, 2014, and is a member of the Nominating Committee. Yeung's responsibilities extend to several subsidiaries of GSS Energy, including Giken Sakata (S) Limited and Giken Precision Engineering (S) Pte Ltd.

With a background in the financial industry, Yeung began his career in

the Institutional Equity Division at Morgan Stanley New York and later served as the Managing Director of International Trading at Van der Moolen, a US securities specialist firm. He is also the founder, director, and shareholder of Roots Capital Asia Limited, a substantial shareholder of GSS Energy.

In addition to his role at GSS Energy, Yeung is an Independent Director of Ares Asia Limited, listed on the Hong Kong Stock Exchange. He is known to be an active member of the Rotary Club in Singapore, demonstrating his involvement in community service alongside his corporate responsibilities.

PROFILE:

Carlo Lustrissimi

Carlo Lustrissimi is the Chief Executive Officer of 5.0 Robotics. The company specialises in developing affordable and user-friendly robotic solutions for industrial applications. 5.0 Robotics focuses on creating movable, high-performance, small-format CNC machines that can transform workspaces into digital manufacturing powerhouses.

The company's robots are designed to work with various materials, including wood, plastic, and aluminium. They operate on standard 220V power supplies and are known for their silent and clean operation, combining industrial-grade performance with ease of use.

5.0 Robotics has a global presence, with competence centres in the UK, Ireland, and Australia, as well as online assistance worldwide. They also have partnerships with organisations such as the Estonian Defence and Aerospace Industry Association and AI and Robotics Estonia (AIRE).



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