ISSN 2644-2493

MANUFACTURING TECHNOLOGY INSIGHTS

DECEMBER - 28 - 2020

MANUFACTURINGTECHINSIGHTS.COM

Tiama

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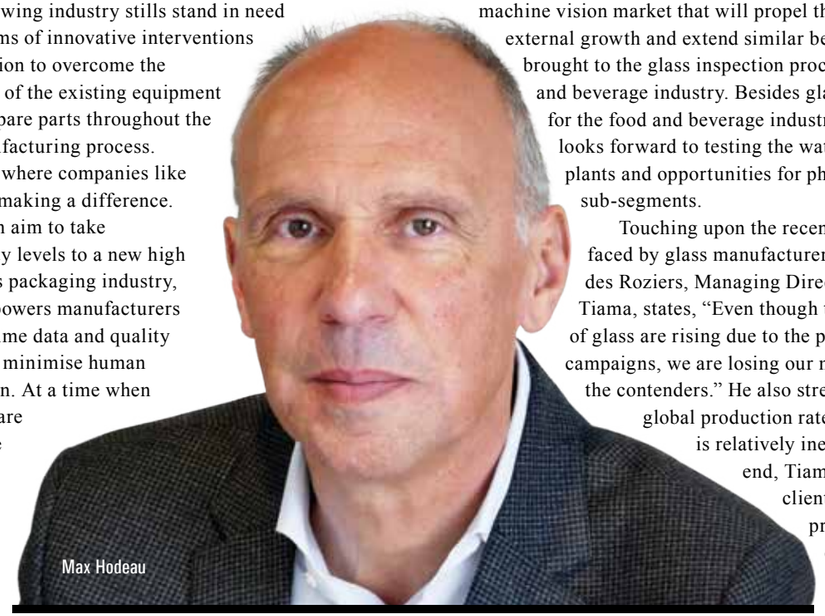
A Game-Changer in Glass Production Inspection

Trusted as one of the most efficient and reliable forms of packaging, the global glass packaging market was valued at $56.64 billion in 2019. The industry's health and environment-safety attributes ensure its continuous usage across the world in end-user industries. The growing concern for safe and eco-friendly packaging has made glass the frontrunner, with plastic packaging being a distant second. However, the industry is heavily reliant on inspection and quality control to improve the final product quality. The lack of innovation and inclination toward traditional methodologies render the physical and chemical processes involved in manufacturing glass containers. Glass packaging manufacturers in the world's largest glass market like Europe are mired in challenges like falling employment and lack of skilled professionals, in the wake of the harsh working environment that the industry offers. In this era of globalisation and technological progress along with global job crisis, this rapidly growing industry stills stand in need of new forms of innovative interventions for inspection to overcome the limitations of the existing equipment and their spare parts throughout the glass manufacturing process.

This is where companies like Tiama are making a difference.

With an aim to take productivity levels to a new high in the glass packaging industry, Tiama empowers manufacturers with real-time data and quality controls to minimise human intervention. At a time when industries are reaping the befits of Industry 4.0, the France-based company is challenging the conventional inspection process in glass production by combining smart manufacturing and manufacturing intelligence. "We believe in staying a step ahead of the market and technology transformations. Tiama is currently bringing the capabilities of deep learning, machine learning and artificial intelligence to the glass packaging industry. Apart from the hollow glass inspection in the food and beverage industry, we are continuously exploring new avenues like pharmaceuticals and more for innovative applications," begins Max Hodeau, CEO, Tiama.


Max Hodeau

With experience spanning over half a century, Tiama has 39 patents to its name. These are a result of new products, innovation, and state-of-the-art solutions engineered by Tiama. The company's philosophy resonates with the provision of real-time recommendations and technical data to help their customers—the glassmakers. This allows the latter to deliver products with enhanced quality and productivity. As mentioned by Hodeau, Tiama is currently scouring for certain sub-segments in the machine vision market that will propel the company's external growth and extend similar benefits it has brought to the glass inspection process in the food and beverage industry. Besides glass packaging for the food and beverage industry, the company looks forward to testing the waters in fitting plants and opportunities for pharmaceutical sub-segments.

Touching upon the recent challenges faced by glass manufacturers, Benoit Burin des Roziers, Managing Director and COO, Tiama, states, "Even though the volumes of glass are rising due to the plastic ban campaigns, we are losing our market share to the contenders." He also stresses that the global production rate of this market is relatively inefficient. To that end, Tiama is helping its clients to maximise product quality and productivity by introducing increased automation and limiting reliance on humans in the process. In doing so, the company is developing more sensors to gather real-time data, which, in turn, can be combined and analysed to glean insights and make informed decisions.

Tiama has developed more controls that have higher tolerance and performance and can accommodate diversity in packaging. Tiama's high-end yet easy-to-use machinery has been instrumental in keeping the productivity rates high while compensating for the loss of skills on the market. "The process is still very empirical today, we need better data to make it statistical," states Hodeau, before adding that Tiama leverages AI to collect data, thereby streamlining its services and improving the process.


Benoit Burin des Roziers

> "Tiama is currently bringing the capabilities of deep learning, machine learning and artificial intelligence to the glass packaging industry"

At the core of Tiama's rapid growth in the industry is a platform that provides a holistic view of plant productivity and allows stakeholders to make the right decision anywhere at any time. The company offers a full range of sensors at the hot-end for monitoring multiple factors—such as gob's weight, shape and temperature, the position of the article, dimensional measurements, infrared emissivity, and more—throughout the production process. When it comes to detecting defects in the articles, des Roziers explains that machine vision can be a game-changer in producing articles that meet the demands of today's customers. To be successful in this, he states that manufacturers need three important ingredients: a high-performing product, adept services and their data. That said, Tiama's modular machine vision platform performs a wide range of measurements and controls customised to the specific requirements of the clients. The platform specialises in the detection of visual defects like NCI and HCI.

Illustrating more on the features and functionalities that Tiama brings to the table, Hodeau cites the case of one of the company's early clients that was experiencing a decrease in the level of skills. Despite having machine vision capabilities, the client was facing challenges with regard to defect recognition. This is where Tiama entered the picture reinforcing machine vision with machine learning and deep learning capabilities that allowed defining certain measurement thresholds for detection of defects.

Although Wire-Edge Measurement had been in existence as a long-time defect, there had never been a request to alter it, until a big brewery and glass producer at the same time approached Tiama about it. The client was looking to devise a solution to detect the wire edge issues. No company had been able to come up with one. "Accommodating the specifications of the brewery and other clients, we managed to develop a tool that was deployed globally," recalls Hodeau. In the same vein, he adds that the company is currently developing more partnerships or co-developing projects to continue innovation in this realm.

In conclusion, the uniqueness of Tiama stems from its rich expertise and the innovative approach it brings to the world of glass production inspection. With a strong value proposition in place, the future is evidently bright for Tiama. Moving forward, Tiama has set its sights on robust expansion across the food and beverage industry.Despite the pandemic having caused slight disruptions to its operations, Tiamahas no plans of slowing down and aims to stay ahead of the competition. One of the ways Tiama doing this is through deepening customer service, which is one of its most important deliverables. Tiama's strategic expansion plans are headed towards yielding a wider customer base and promising results.