

Inside the World's First AI Centre of Excellence for Chocolate and Cocoa

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From climate resilience to cost optimisation, the demands on chocolate and cacao coatings manufacturers are evolving rapidly across the Asia Pacific and the Middle East. To stay ahead, Barry Callebaut has established a future-ready innovation hub in Singapore that integrates AI, formulation science and customer co-creation under one roof.

Speaking to NUFFOODS Spectrum, Yeting Liu, VP, Barry Callebaut, Cacao Coatings CoE and Customer Innovation & Technical Services, AMEA, explains how the AI-powered Global Innovation Centre, the Senoko pilot lab, and the Chocolate Academy are enabling faster innovation cycles, scalable solutions and differentiated offerings tailored to regional market needs.

The Singapore GIC houses the world's first AI Centre of Excellence dedicated to chocolate and cocoa. What specific use cases is AI currently being deployed for and how do you see these evolving?

At the Global Innovation Centre, AI is already reshaping how we design, develop and personalise chocolate and cocoa solutions.

Today, the AI Centre of Excellence supports data-driven product development, using predictive analytics and consumer insight to accelerate formulation, optimise portfolios and shorten innovation cycles, from customer brief to validated concept. AI tools also help tailor taste profiles and improve quality consistency, enabling faster and more precise decision-making.

Over time, this will evolve into a fully integrated innovation loop, where AI connects consumer insight, formulation, application testing and pilot production. The result is faster time-to-market, more personalised solutions, and innovation that is

closely aligned with real customer and market needs.

How does integrating the AI CoE with the Cacao Coatings CoE create a differentiated innovation model?

What makes the Singapore GIC distinctive is how it brings digital intelligence, formulation expertise and application know-how together in one connected ecosystem.

By integrating the AI Centre of Excellence with the Cacao Coatings CoE, we move beyond traditional, siloed R&D. AI-driven insights on performance, cost optimisation and consumer trends directly inform formulation and application development, particularly for compound coatings designed for demanding climates.

This creates a differentiated innovation model where digital insight translates quickly into scalable, market-ready solutions, giving customers faster access to products that perform reliably and meet regional needs.

How does the Senoko pilot lab accelerate time-to-market for customers across AMEA?

The Senoko pilot lab is where ideas are translated into industrial reality.

Closely linked to the Global Innovation Centre, it enables rapid prototyping, small batch production, and process testing under real-world manufacturing conditions. This allows customer concepts to be validated, refined and de-risked much earlier, before scaling to full production.

For customers across AMEA, this significantly shortens development timelines and ensures solutions are not only innovative but also manufacturable and scalable.

Cacao coatings are a fast-growing segment. What trends are driving innovation in the Asia Pacific and the Middle East?

The strongest driver of cacao coatings innovation in the Asia Pacific and the Middle East is performance in real-world conditions.

Customers are looking for solutions that deliver consistent quality and appealing textures, while performing reliably in hot and humid climates and simplifying processing. At the same time, rising cocoa prices are accelerating demand for cost-effective, flexible alternatives that do not compromise on taste or functionality.

These trends are shaping coatings that combine affordability, ease of use and outstanding performance, making cacao coatings a strategic growth segment in emerging markets.

What strategic advantages does Singapore offer as the location for the Global Innovation Centre?

Singapore offers an exceptional platform to innovate at scale for Asia and beyond.

It combines strong digital and food innovation capabilities, a highly skilled talent pool, and proximity to fast-growing AMEA markets. Singapore is also home to our regional headquarters and largest chocolate factory in Asia Pacific, enabling close integration between innovation, production and customers.

With the GIC, Singapore is further strengthened as a global hub for food innovation and AI-enabled R&D, anchoring advanced capabilities that serve both regional and global needs.

How is Barry Callebaut redefining customer co-creation through the Chocolate Academy and digital tools?

Customer co-creation at the GIC is hands-on, data-informed and truly end-to-end.

Embedded within the Global Innovation Centre, the Chocolate Academy brings chefs, technologists and digital insights together under one roof, transforming ideas into practical, scalable solutions and accelerating innovation for our customers.

The Chocolate Academy translates consumer trends and customer briefs into viable concepts, while staying closely connected to R&D, AI-driven insights and pilot testing. This enables customers to move seamlessly from inspiration to validated, ready-to-scale solutions.

Shraddha Warde

