

AI and Alternative Proteins Shape Future of Food at Taipei Innovation Forum

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Artificial intelligence, digital transformation, sustainability, and next-generation alternative proteins took centre stage at the opening session of the "Beyond Progress to Evolution" Food Innovation Forum, held alongside the 2026 Taipei International Food Show (Food Taipei Mega Shows).

Jointly organised by the Taiwan External Trade Development Council (TAITRA) and the Food Industry Research and Development Institute (FIRDI), the forum brought together industry leaders, researchers, policymakers, and international experts to explore how emerging technologies are reshaping the global food landscape.

Opening the forum, Jason Dong, Executive Director of TAITRA's Exhibition Department, emphasised that artificial intelligence and data-driven decision-making have become essential tools for building a more resilient and sustainable food industry.

"AI is no longer a future concept; it is already helping industries solve real-world challenges," Dong said. "From improving agricultural resilience against climate change to helping foodservice operators reduce waste through data-driven management, AI is creating tangible value across the food ecosystem."

Dong identified three key drivers that will define the industry's next phase of growth: AI-powered sustainability, precision nutrition, and disruptive business models. He highlighted the growing role of technology in helping companies reduce carbon footprints, personalise nutrition, and unlock new market opportunities through innovation.

Moving Beyond Traditional Food Processing

Following Deng's opening remarks, Dr Binghuei Barry Yang, Deputy Director General of FIRDI, delivered a keynote address outlining how the food industry must evolve from conventional manufacturing toward high-value, technology-enabled innovation.

Dr Yang noted that while taste, health, and safety remain the industry's fundamental pillars, food companies must increasingly focus on creating value through innovation, sustainability, and advanced technologies.

"In traditional food processing, we have not seen dramatic changes in machinery or equipment in recent years," Yang said. "Instead, progress comes from introducing innovative concepts and understanding how to create and communicate the true value of our products and services."

He explained that value creation in the food industry can take many forms, from premium dining experiences to affordable street food, and that companies must identify ways to differentiate themselves in an increasingly competitive global marketplace.

AI and Data Driving Decarbonization

A central theme of Yang's presentation was the importance of digital transformation as a foundation for artificial intelligence adoption.

According to Yang, FIRDI has been actively supporting food manufacturers in their digitalisation efforts and is now helping companies leverage the vast amounts of operational data generated through these systems.

"Digital transformation is only the first step," Yang said. "Once data is collected, the next challenge is applying AI technologies to generate insights and create value. This will be a key driver of decarbonization and future industry development."

He emphasised that AI-powered analytics can help optimise production processes, improve resource efficiency, reduce waste, and support net-zero carbon objectives across the food value chain.

Alternative Proteins Take Centre Stage

One of the major themes discussed during the forum was the future of alternative proteins and their role in creating sustainable food systems.

Yang revealed that FIRDI and AINIA are collaborating on advanced research to better understand how novel protein ingredients function within the human body after consumption.

The partnership is focusing on in vivo functional verification—scientifically evaluating the health benefits and physiological effects of alternative proteins to provide stronger evidence supporting their nutritional value and commercial adoption.

"Our collaboration with AINIA is opening new opportunities for alternative protein innovation," Yang said. "Scientific validation will be essential in building consumer confidence and supporting the development of the next generation of sustainable foods."

Beyond Progress to Evolution

The forum's theme, "Beyond Progress to Evolution," reflects the industry's shift from incremental improvements toward transformative change driven by technology, sustainability, and scientific innovation.

Bringing together experts from Taiwan, Europe, and other global markets, the forum explored topics ranging from AI-enabled food manufacturing and precision nutrition to decarbonization strategies and emerging protein technologies.

As Food Taipei 2026 continues, the event is expected to catalyse new partnerships and innovations aimed at creating a more sustainable, intelligent, and resilient global food system.