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PIPA unveils Digital Extruder platform

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PROCESS INTEGRATION & PREDICTIVE ANALYTICS

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PIPA LLC, a leader in Enterprise Intelligence for the Food & Nutrition industry, announces the launch of the Digital Extruder platform. The new SaaS offering helps consumer packaged goods (CPG) companies accelerate product innovation, improve production efficiency, and satisfy growing consumer demand for nutritious, affordable, and tasty products.

Digital Extruder creates clear connections between food formulation, manufacturing processes, and sensory and nutritional characteristicsâ??hence bridging seamlessly these traditionally siloed processes. As part of the PIPA Operating System (OS), it leverages artificial intelligence, food science, and computational fluid dynamics models to generate digital simulations of food processing techniques including extrusion, baking, and fermentation.

"PIPA OS is a step towards a paradigm shift in food product development," said Chris Stamelos, Chief Technology Officer of PIPA LLC. "By testing thousands of scenarios in seconds, we enable our partners to rapidly innovate and co-create products that drive consumer liking, focused on affordability, palatability, and health. In today's volatile market, agility is key, and the PIPA OS provides the tools to achieve that."

The development team leveraged a variety of mathematical tools, including computational fluid dynamics, heat transfer, food chemistry modelling, and machine learning models to create a solution that connects ingredients and processing methods, to consumer liking drivers. "Applied cutting-edge AI is not sufficient when it comes to a complex system such as food manufacturing," said Dimitris Sfondilis, the Technical Lead of the project. "By embedding core food science knowledge into agentic AI, we have created a platform that helps product development in a way that is faster, better, and cheaper than before."