

12-17-2024 [TECH](#)

## [Oreo maker is using AI to develop new snack flavors](#)

Mondelēz International has used AI to help develop more than 70 items, ranging from developing gluten-free Oreos to tweaking the Chips Ahoy recipe.



BY [CHRIS MORRIS](#)

There's been no shortage of [unique Oreo flavors](#) in the past few years. The offerings seen on store shelves in recent months include toffee crunch, birthday cake, java chip, dirt cake, mint, Coca-Cola, and a pink-and-blue concoction called [Space Dunk](#). But that's not stopping the owner of the beloved cookie brand and its many other snacks from incorporating artificial intelligence into the brainstorming process.

Mondelēz International, which also owns Chips Ahoy, Ritz Crackers, Triscuits, Clif Bars, [Cadbury](#) chocolate, among other household-name snacks, is [looking to AI](#) to help it update its brands and offer new takes on flavors.

Food scientists at the company are using AI tools to help them come up with new flavors, based on desired taste, aroma, or appearance profiles. Beyond suggesting recipe ideas, the AI also looks at the cost to manufacture the new product as well as the nutritional profile, environmental impact, and other aspects involved in creating the snack.

That's a big step-up from the trial-and-error [innovation method](#) the company used to use, not only for figuring out flavor mixes, but also for getting them to production trials. The process is now two to five times faster, which can translate to between two and 10 weeks, depending on the complexity of the project.

Fortunately, taste tests are still performed by humans—and there are no plans to change that. (Which is a relief since AI's track record at writing usable recipes is [far from perfect](#).)

Mondelēz initially began exploring the possibility of using AI in 2019, working with Fourkind, a software consulting firm that was later acquired by Thoughtworks.

“What’s really cool about this approach is that far from replacing human creativity, these algorithms serve as catalysts,” said Farooq Ali, product director, AI, strategy & delivery at Thoughtworks, [in a company blog post](#). “They’re able to spark new ideas that human minds haven’t considered yet. They’re not perfect, but no one expects human creative experts to come up with great ideas 100% of the time.”

To date, the AI has been used in more than 70 projects, ranging from developing gluten-free Oreos to tweaking the Chips Ahoy recipe. (Snack manufacturers regularly assess products to decide whether it makes sense to adjust suppliers of select ingredients.) Mondelēz, however, doesn’t talk much about which products use the AI tool, as they prefer people focus on the taste of the snack rather than how it was created, says Mondelēz’s Kevin Wallenstein, section manager, biscuit modeling and simulation R&D.

The GenAI elements in the tool, however, help streamline the ideation process. “The tool really codifies some of the things developers are thinking about when they are developing a product and [it] gives them some structure,” says Wallenstein. “In the tool, you’re first selecting what key attributes the consumer cares about. You can create those attributes. You can also codify things like how much do we want the product to cost? . . . What nutrition profiles do we want the product to hit? All of these are things you enter into the tool up front and then it automates the calculation and busy work.”

In fact, the tool works in a way that’s not too far from improv comedy. Food scientists suggest attributes, such as flavor (sour? spicy? rich?) and appearance. Next, ingredient/flavor suggestions are solicited, such as additional butter or orange flavoring. It also will ask if there are any desired constraints, such as gluten-free.

Once the project has been set up, the AI model will generate recipes, which the product developer uses to create samples. Humans will then vet the results, noting what sort of aftertaste they experience (examples, chocolate, vanilla, and how sweet). The AI will learn from the feedback and then suggest updated recipes. The cycle repeats until either a flavor is approved or the project is scrubbed. Either way, AI stores the experiments’ data for future use.

Recipe generation isn’t the only way Mondelēz is using AI these days. In September, the company launched a new platform using AI to augment its marketing capabilities. Through personalized text, images, and videos,

Mondelēz envisions connecting people with brands, which it hopes will help it stay ahead of changing consumer tastes.

So while the company's stock is down more than 16% for the year, it reported higher-than-expected financial results in Q3 2024. Revenues were up 5.4% to \$9.2 billion, and adjusted operating profits jumped 21% to \$1.7 billion.