Accelerating Kitchen Innovation.

How smart technology unlocks the full value of kitchen appliances for brands and consumers.
The right time to invest in smart kitchen appliance technology

The benefits of smart appliance technology
- Consumer-centric experiences
- Personalized connections
- Data-driven insights
- Return on investment

Join the future of cooking with smart, connected, kitchen technology

Get smart with KitchenOS: The operating system for connected kitchens
The right time to invest in smart appliance technology.

IoT products have also become more common. From lights to thermostats to kitchen appliances, homes are getting smarter every day. In the kitchen alone, the global demand for smart appliances is expected to increase by 18.4% every year from 2022 to 2030, from USD 15.6 billion in 2022 to USD 60.2 billion by 2030.

As smart features improve and expand, home cooks are expecting more out of their kitchen appliances. But what does "smart" mean to the average kitchen appliance consumer?

At a very basic level, consumers want to connect their appliances to wifi and use their smartphones to operate them. However, these features are only the foundation of the smart kitchen concept and do not solve any real problems for consumers.

The true value of smart technology is its ability to solve the everyday challenges of home cooks in the kitchen and make cooking effortless and rewarding. Through a fun and easy-to-follow guided cooking experience, smart solutions can guarantee consistent and delicious results, while helping families save time and money in the process.

Life has changed drastically over the last two decades. Thanks to the invention of the smartphone, consumers are constantly connected to their devices. With savvy consumers demanding intelligent cooking solutions, non-connected and non-smart appliances are no longer sophisticated enough to meet user demand.

What’s more, by collecting appliance usage data, manufacturers can build dashboards that provide valuable insights and trends. This information can be used to better understand the needs and preferences of home cooks, and how they actually use their appliances, and then guide the development of new experiences and products. The data can also help manufacturers establish personalized connections and relationships with consumers and increase efficiency of their marketing activities.

For appliance brands that want to stay ahead of the industry and generate opportunities for increased revenue, now is the time to invest in smart kitchen innovations.
The benefits of smart appliance technology.

Smart kitchen products remove barriers to serving easy, home-cooked meals by helping home cooks use their appliances more efficiently to get delicious results, every time.

These solutions can build the confidence of novice cooks by helping them produce consistently excellent outcomes, while seasoned cooks can discover new techniques or explore unfamiliar cuisines. Furthermore, real-time appliance monitoring and notifications can provide peace of mind and free up time to focus on other priorities. Smart kitchen technology provides value to the home cook on an everyday basis.

What’s more, leveraging smart capabilities also has the potential to increase the brand’s bottom line. Because smart, connected appliances add genuine value to the home cook, pioneers in the smart kitchen market will be able to sell more appliances at higher price points and stay connected and engaged with customers throughout the lifecycle of their appliances.

As brands consider investing in smart kitchen appliance technology, it’s important to understand the advantages it offers. Here are four key benefits that set smart products apart from the rest.
The demand for smart home devices is increasing worldwide. In fact, smart appliances are expected to reach 453.3 million households by 2027. More brands are producing wifi-connected products, but consumers want to do more than simply turning appliances on and off with their phones.

According to Fresco’s Chief Product Officer, Anthony Sullivan, “A remote control and internet connection aren’t very compelling on their own. If you can inspire people to try new things, help them find satisfaction in their cooking, and give them some time back in their daily lives, that’s the value of smart cooking.”

Home cooks are busy with work and family demands. They are distracted, intimidated by cooking, and overwhelmed by the multitude of appliances on the market. With various appliances from multiple brands, they’re also experiencing technology fatigue from trying to manage the apps required by each device.

Home cooks want to provide nutritious and delicious meals for their loved ones, but cooking feels tedious, and they lack confidence in the kitchen. More often than not, the solution is to eat out or order in. In fact, Americans spent 27% more in restaurants than on groceries in 2022.

Buyers are looking to smart appliances to solve their cooking problems, including lack of inspiration, limited cooking skills, and not having enough time to cook.

Smart kitchen technology simplifies and enhances cooking, helping home cooks save time and energy so they can focus on other priorities.

With smart appliances and apps that provide high-quality, validated smart recipes, brands can reduce the learning curve for new kitchen appliances. Instead of needing to read what are often long and detailed instruction manuals, home cooks can learn intuitively how to use the settings and features by cooking a smart recipe.

Smart recipes provide clear, step-by-step cooking instructions while the appliance control settings are automatically managed. This makes cooking easier and inspires users to try new cooking techniques and more complex dishes. Smart guided cooking shortcuts years of experience and helps home cooks gain confidence that the results will be consistent and perfect every time.

Smart appliances, combined with intelligent cooking apps and high-quality smart recipes, empower users to create affordable, nutritious, and appealing meals from scratch—relieving stress while increasing their enjoyment. By cooking and eating at home, families can improve their health, save money, and gain back valuable time.

Happy home cooks also become engaged and loyal appliance owners. They tend to use their appliances more frequently and take advantage of their full range of capabilities to achieve consistent results with minimal effort. For example, users with smart appliances on the Fresco KitchensOS platform are 3x more likely to return to the app compared to users with non-connected devices.

Additionally, customers who regularly use and enjoy their appliances are more likely to share their positive experiences with others, spreading the word about their delicious outcomes.
Overview

Smart technology adds capabilities that are impossible to provide with non-connected or non-smart appliances. These features offer appliance brands opportunities to connect with home cooks and play a role in solving their everyday kitchen challenges, starting on the day of purchase and continuing throughout the lifecycle of the appliance.

Problem

Non-connected and non-smart products offer few, if any, opportunities to connect with consumers after the sale. Social media and other marketing strategies can help brands reach customers, but they are costly, and it’s challenging to keep people engaged.

After purchasing a product, buyers might follow a brand on social media or subscribe to its email list, but posts, emails, and ads can get lost in a sea of other content. This is usually the case when messages do not reflect the personal circumstances of each individual recipient. Customers then become less loyal as they gravitate toward more relevant voices in the market. With access to unlimited global purchasing options, most consumers end up with a variety of brands in their kitchens.

Solution

Smart, connected appliances go beyond mere connectivity to deliver personalized content and an enhanced user experience. A guided cooking app creates more opportunities for users to engage with a product, by serving them content that reflects their search and cooking behavior.

With the use of AI, this type of app can analyze the recipes and ingredients that a home cook explores, saves, and cooks, and then provide personalized recommendations. For example, if insights show a user is cooking recipes with Indian spices, a smart cooking app with AI capabilities can curate and send recipes with similar flavors. Similarly, if they search for and cook quick and easy one-pot meals, the app can suggest time-efficient recipes that suit their preferences.

This tailored engagement increases user enjoyment and brand loyalty, and unlocks other monetization opportunities through upselling and cross-selling.

Smart products and apps also enable manufacturers to interact with their customers while they cook, providing relevant, meaningful content and building ongoing relationships long after purchase. When users connect their appliances to a cooking app after purchasing, **59% of those users still use the app weekly a year later**. In contrast, **25% of general app users delete or abandon apps** after trying them only once. What’s more, the 30-day retention rate for applications from the food and drink category was **3.7% in 2022**, meaning that **96.3% were not used 30 days after installation**.

Consumers are more likely to trust the information provided through smart technology, because it’s tailored to the devices they own and to their cooking preferences.
Results

Using smart technology, kitchen appliance manufacturers empower home cooks to achieve consistent results, instilling renewed confidence and motivation.

Integrating branded recipe and cooking apps further enhances this experience by offering personalized interactions that cater to individual needs, with tailored content based on preferences, locations, and historical activity. This approach strengthens the bond of trust between consumers and the brand, ultimately paving the way for further business opportunities through upselling and cross-selling.

Smart technology allows kitchen appliance manufacturers to engage and communicate with home cooks in ways they’ve not been able to before. That might mean showing relevant content and recipes in their feeds and could even lead to recommending relevant products or add-ons in the future.

Philip Pantelides
VP of Product (Consumer) at Fresco

<table>
<thead>
<tr>
<th>Feature</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personalized User Experience</td>
<td>Tailor content, recommendations and messaging to users based on their preferences, behavior, and demographics.</td>
</tr>
<tr>
<td>Analytics</td>
<td>Gain insights into user behavior, preferences, and cooking patterns to make data-driven decisions.</td>
</tr>
<tr>
<td>Content Management</td>
<td>Create, organize, and share various types of content across multiple channels such as push, in-app, and email.</td>
</tr>
<tr>
<td>Targeted Interactions</td>
<td>Segment user groups based on criteria and target them with customized offers, promotions, and other relevant content.</td>
</tr>
<tr>
<td>Automation</td>
<td>Design, execute, and automate campaigns, set up triggers and workflows, and track performance.</td>
</tr>
<tr>
<td>Reporting</td>
<td>Report and measure campaign effectiveness and engagement with each user.</td>
</tr>
</tbody>
</table>

Table 1 – Potential capabilities available to manufacturers of smart appliances.
Overview
In advertising, perfect communication consists of the right message, at the right time, and in the right channel. With classic marketing strategies, brands might send the right message some of the time; but with smart products and apps, relevant information can be sent precisely where and when the owner needs—or even wants—it. The more brands learn about how customers use their products, the more value they can provide.

Problem
With non-smart kitchen appliances, it's difficult for manufacturers to follow their buyers' journeys and truly understand their needs and preferences. Conducting surveys and market research is costly and time-consuming—and it doesn't provide any real-time insights.

Non-smart appliances don't tell brands how people are using their product—or if they're using it at all. So it's hard to understand their likes and dislikes, what to improve upon, or what to eliminate in future models.

Solution
Smart kitchen appliances can inform brands how home cooks are using and enjoying their products for years after the initial sale. Combining kitchen products with smart recipes and guided cooking apps offers many insights, including:

- Appliances and functionalities used
- Frequency of appliance use
- Recipes searched
- Recipes cooked
- Ingredients used

"Understanding how consumers cook with your product and what capabilities they are actually using will help you build a better product. Non-smart appliances simply don't provide that insight," says Anthony Sullivan, Chief Product Officer at Fresco.

The more brands can learn about how customers use their products, the easier it is to personalize content and target communications. In the same way Netflix bases recommendations on shows you've watched, a connected cooking app can curate recipes according to previously cooked meals or the device you use most often. Similarly, if data demonstrates that home cooks are not using an important appliance function, a brand can send content that outlines the benefits of this feature along with relevant recipes.

In addition, data informs research and development. For example, a company may prioritize the production or improvement of an air fryer functionality in their appliances if they see customers searching for air fryer recipes.

Data-driven insights
Gain vital information about how consumers use and enjoy appliances to guide marketing strategy and product development.
### Feature / Benefit

<table>
<thead>
<tr>
<th></th>
<th>Non-Connected Appliance</th>
<th>Connected-Only Appliance</th>
<th>Smart-Connected Appliance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Activation</strong></td>
<td>x</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Understand when a product was first used, distribution of products by country and other demographics, as well as the performance of sales and marketing channels.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Time and Duration of Product Use</strong></td>
<td>x</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Collect data about the frequency and duration of appliance use.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Context of Appliance Use</strong></td>
<td>x</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>Gather data on how an appliance is used including:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cooking modes and functionalities used</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Recipes and ingredients searched</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Recipes cooked</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Remote Appliance Diagnostics and Updates</strong></td>
<td>x</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Identify product issues online and send updates and upgrades.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Personalized Marketing Messaging</strong></td>
<td>x</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>Send personalized content based on contextual information such as a customer's recently cooked or saved recipes.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table 2 – Comparison of the potential insights obtainable for non-connected, connected-only, and smart-connected kitchen appliances.*
Fresco’s VP of Product, Philip Pantelides, recognizes that data insights can improve the cooking experience. “With smart technology, brands can gain insights about what and how owners are cooking, communicate directly with them, and personalize customer experiences.”

Smart kitchen appliances can help brands learn their customers’ cooking preferences and, in turn, build trust by providing more relevant content that keeps customers interested and engaged.

Real-time insights bring even more potential to smart appliances. For example, if a home cook regularly bakes cakes in their smart oven, the appliance brand can send them tailored recipes and promotional offers for new attachments or pans based on their baking behavior.

This personalization further enhances customer satisfaction and brand loyalty, while generating additional revenue streams.

Such real-time access to usage data also enables brands to provide ad hoc support in the case of technical issues. Support staff can determine remotely—and while the home cook is standing by—what might be wrong with the settings or the device.

With real-time insights and analytics informing production and communication, brands can create products and experiences consumers will be sure to use and love.

Understanding how consumers cook with your product and what capabilities they are actually using will help you build a better product. Non-smart appliances simply don’t provide that insight.

Anthony Sullivan
Chief Product Officer at Fresco
Fig. 1 – Appliance brands can better understand customers and improve their experience by continuously analyzing actual product usage and generating contextual insights that reflect users' preferences and needs.
Overview

Although we watch more cooking videos, buy more cookbooks, and save more recipes than ever before, each new generation cooks less than previous generations. Growing up in an era of fast food, prepared meals, and more time away from home contributes to less experience and fewer skills in the kitchen. And it’s impacting our health, our sense of community, and our pocketbooks.

“A shortage of ideas or recipes isn’t the problem. It’s people’s perception of their time, along with reduced skills in the kitchen,” says Sullivan.

Fortunately, the tide seems to be turning. Since 2020, people are spending more time in their home kitchens and have increased their use of online cooking resources significantly. Since 71% of Americans now say they will keep cooking at home, they’ll likely be motivated to purchase more appliances, including smart appliances.

As kitchen appliance brands strive to develop products that solve challenges for home cooks, they will also need to meet the growing demand for smart appliances that function well in connected homes.

With smart technology, brands will be able to increase interest in their products, enhance user experience, directly connect with their customers, and gather usage insights to develop even better appliances and experiences in the future.

Problem

It is difficult to establish direct connections and ongoing relationships with customers, especially with non-connected devices. When a customer purchases a non-connected appliance, there is no opportunity for the manufacturer to learn anything about that customer or interact with them further, effectively ending the relationship after the appliance has shipped.

This greatly limits the potential value of this customer, and manufacturers miss out on helpful insights, branding, and engagement opportunities that can help generate value throughout the lifecycle of an appliance.

Furthermore, brands that take a wait-and-see approach with smart technology may be left behind as millions of home cooks move toward a connected kitchen—but innovation is challenging, time-consuming, and expensive. Typically, appliance manufacturers build exceptional products, but their expertise lies in the hardware, not smart technology.

Without the software, IoT knowledge, and industry expertise, digital transformation is difficult to achieve and maintain. Brands can attempt to create a smart platform with their own recipe or cooking apps, but between development, testing, and go-to-market, this could take several years, putting the brand at a competitive disadvantage.

From a budget perspective, costs could reach $3-5+ million per year, and the functionality of the platform would still be limited to a single brand’s appliances.

As the market continues to advance and manufacturers develop new features and functions, there will always be a functionality gap between industry leaders and followers. Brands that want to be a part of the smart kitchen ecosystem need to interoperate with other brands. Otherwise, their appliances may stay on the store shelf as buyers choose ones that will function well in their home environment.

Other roadblocks for brands include regulatory compliance issues, cybersecurity concerns, networking knowledge, and more. For many companies, the cost of upgrading seems prohibitively expensive.
Investing in smart technology can make a kitchen appliance more attractive to buyers. European appliance manufacturer Kenwood saw this when it launched a smart version of their popular food processor and raised its price by 200 euros.

But Sullivan says there's more to it. “Adding connectivity to a legacy product isn't enough. Successful manufacturers design smart products from the ground up, with the ultimate goal of creating the best possible experience for the home cook.”

Research conducted by Fresco reveals that home cooks have three main goals in their kitchens:

1. **Confidence** in the results they'll get when following a recipe
2. **Clarity** about what they and the appliance need to do at each step
3. **Control** throughout the cooking process

A smart kitchen ecosystem, like Fresco's KitchenOS, helps home cooks achieve these goals. It can also help brands understand their users and their preferences in order to build long-term relationships through optimized content and experiences, as well as new products that customers will use to their full potential.

Ideally, all the required capabilities—the ecosystem, smart connectivity, branded app development, AI-powered recipes, and powerful marketing tools—are supported by a single platform so kitchen appliance manufacturers can focus on what they do best.

---

**Kenwood Case Study**

When Kenwood, a leading European appliance manufacturer, started exploring smart technology, it faced several barriers, including international regulatory compliance issues, cybersecurity concerns, and challenges related to the technology.

By partnering with Fresco, Kenwood tapped into a full-stack solution that addressed these barriers, shortened the product's time to market, and eliminated the need to create a proprietary platform from scratch.

With Fresco’s help, Kenwood introduced the award-winning, connected kCook Multi Smart to the market with great success. The innovative appliance outsold its non-connected version and Kenwood was able to increase its price point by 200 euros.

Insights from the appliance and connected app showed 59% of users continued using the connected app after six months and 44% of users still used them together 3x per week.
Adding connectivity to a legacy product isn’t enough. Successful manufacturers design smart products from the ground up, with the ultimate goal of creating the best possible experience for the home cook.

Anthony Sullivan
Chief Product Officer at Fresco

Results

Brands that help home cooks solve their kitchen issues gain a genuine advantage in the market. They capture a significant share of mind of their customers, who know how the products work and trust their new appliances to be just as good. Consequently, these customers will consider this brand when it’s time to purchase a new appliance.

An intuitive platform with a user-friendly interface empowers customers to use more features and cook with their appliances more often—which increases the likelihood that they will stay loyal to a specific brand.

Data-driven insights inform production, content creation, and marketing strategies to provide consumers with an enjoyable cooking experience and ongoing value. The same insights help manufacturers strengthen customer relationships, build brand loyalty, and ultimately increase revenue through repeat purchases, upgrades, and referrals.

Smart technology can also open the door to additional revenue streams, including premium subscription-based services, as well as cross-selling and upselling through push notifications, in-app messages, and other activations.
Join the future of cooking with smart, connected, kitchen technology.

Smart technology is more than a trend. Buyers want more intelligent, more automated cooking solutions—making smart an essential part of the modern home. In fact, 78% of Americans plan to have smart appliances in their kitchen by 2025.

This technology has opened up a world of new opportunities for manufacturers to support home cooks in the kitchen. By using smart, connected appliances and guided cooking apps, home cooks can create delicious and nutritious meals for their families, leaving more time and effort for other priorities.

Brands will also benefit from these solutions in the kitchen as they can directly connect with and continue to engage with buyers long after the sale. In fact, for all connected appliances containing Fresco’s firmware, at least 70% of customers activated their appliance and paired it with the app. Customers who receive ongoing value such as more personalized user experiences and relevant content will become satisfied and loyal ambassadors, more likely to purchase and recommend a brand’s products in the future.

Additionally, smart appliance dashboards provide valuable information to help brands understand how customers are using their appliances. These insights can help brands tailor their marketing strategies and inform future product development and upgrades.

As consumer demand for smart, connected devices grows, so will opportunities for kitchen appliance manufacturers. With smart technology and branded apps, manufacturers can help novice and seasoned cooks to seamlessly prepare healthy and delicious meals at home.
Get smart with KitchenOS: The operating system for connected kitchens.

Thanks to our proprietary research and expertise, we understand the problems home cooks experience in the kitchen and the challenges brands face as they innovate for the future. That’s why we developed an end-to-end solution that simplifies every aspect of the connected kitchen experience.

With guided cooking apps and smart recipes, we’re helping home cooks discover their love for cooking and share delicious meals with family and friends. We provide a cross-brand platform where they can access all of their smart appliances in a single dashboard, using one account. Our neutral KitchenOS platform aligns with the Matter protocol, and as members of the Connectivity Standards Alliance, we are actively shaping the future of the Matter standard for the smart kitchen. But it goes beyond compatibility and interoperability.

KitchenOS enables home cooks to orchestrate all their connected appliances from their phone, wearable device, or a single screen in the center of their kitchen. While other companies may provide recipes that work for individual appliances, Fresco’s solution adjusts recipes to work with whichever appliance the cook is using.

Our AI-powered cooking assistant guides home cooks through each recipe step, eliminating the need for users to learn and manually operate all of the functions of their appliance. The technology converts recipes into a machine-readable format, enabling appliances to be controlled and monitored directly from a recipe.

These capabilities support both novice and seasoned home cooks to try new dishes with confidence. They can monitor cooking progress in real time, bringing peace of mind and the ability to focus on other priorities—knowing that AI combined with hardware-based sensors will deliver perfect results, every time.

“The real value comes from the whole platform,” says Philip Pantelides, VP of Product (Consumer) at Fresco. “The appliance, recipes, and guided cooking all work together to provide an incredible end-to-end consumer experience and opportunities for engagement between brands and consumers.”

Fresco has the development, design, IoT, security, and marketing expertise to help manufacturers overcome obstacles and get their products to market sooner and with greater success. Our product leaders and development teams are constantly innovating so brands don’t need to invest in an independent platform or technical teams to manage the software. In addition, we build branded apps for manufacturers and our out-of-the-box solutions help them get up and running quickly with data, content management, and customer engagement tools.

By partnering with Fresco, brands can accelerate their smart kitchen journeys and realize the benefits of this technology—without having to build in-house teams, invest in software development, or engage with multi-vendor integrations.
The ingredients of the Fresco platform

Fig. 2 – KitchenOS combines all of the building blocks to unlock the full value of connected appliances for consumers and manufacturers.

The Fresco ecosystem

Fig. 3 – Fresco’s growing cross-brand ecosystem includes appliance brands, recipe publishers, consumer packaged goods (CPG) partners, and consumers around the world.
Fresco, the all-in-one smart kitchen platform, combines the key ingredients to unlock the value of connected appliances for home cooks and manufacturers. From IoT appliance control and app development to smart recipes and engagement tools, Fresco's KitchenOS makes cooking effortless and rewarding for home cooks while empowering manufacturers to connect with and serve personalized solutions to their consumers.

Partnering with the largest appliance brands, Fresco's cross-brand platform provides a smart cooking assistant to over three million home cooks worldwide.

Success in the smart-appliance industry comes from focusing on your strengths and working together. We think all day about the home cook. We're a full-stack solution, from firmware to product promotion to high-quality recipes and almost everything in between. We are successful when appliance manufacturers are successful.

Ben Harris
CEO and Co-Founder at Fresco

Trusted by the world's leading appliance brands

BOSCH  Electrolux  GE APPLIANCES  Instant Brands

KENWOOD  LG  Panasonic  thermomix

Learn how Fresco can accelerate your smart kitchen journey

GET IN TOUCH