

What's New for 2005: Equipment & Technology

Quicker, easier, and automatic are the buzzwords for today's developing commercial kitchen and technology. By Paul Gereffi

Setting food to customers quickly is still paramount in the quick-service industry, and that means fast, faster, and faster still. To that end, appliance manufacturers continue to develop tools that are simple to operate, yet intelligent—artificially intelligent, that is. The industry's newest technology can automatically monitor equipment, convey operational deficiencies, update real time data through a phone, decrease cooking time...the list goes on and on.

However, it is satisfying that hard-to-please customer that is really the bottom line. "Consumer trends drive the equipment and technology solutions," says Max Abbot, president of Enersyst Innovation Center, a Dallas-based intellectual foodservice technology company. "Included in the multitude of trends are a desire for speed, convenience, and quality."

According to Abbott, convenience coupled with speed is the key driver in new foodservice technology. Consumers are looking for quick, easy to eat, and portable foods.

Finally, says Abbott, customers are not about to sacrifice quality. They do not just want simple "gut-stuffer" food. Increasingly, today's consumer wants casual-dining quality food in fast-food time and with bolder, spicy flavors and a range of different tastes. It is up to operators and their equipment partners to figure out how to provide it. Consider the trends highlighted below as starting points.

As chains continue to expand and consumers increase their demands on restaurants, foodservice equipment manufacturers and technology providers are scrambling to meet these needs on a large scale.

Making cooking equipment easy to operate is crucial to their practicality. Appliances that are simple to operate best serve both the operator and the employee. To meet the demand of high quality multiple products, operators are searching for kitchen tools that are both flexible and user-friendly.

"Most kitchen labor just prepares the food," says Alison Brushaber, vice president of The Culinary Innovation Center. "They aren't trained chefs so we need to provide equipment that is easy to operate."

Adding to the complexity of quick-service technology needs is that fact that not all kitchen help speaks English, or even Spanish. Increasingly, the labor pool for fast-food restaurants includes Brazilians (Portuguese), Haitians (Creole/French), Eastern Europeans, and Asians. To alleviate the language barrier, many of today's cooking appliances use icons and pictures rather than rely on printed instructions. Specifications for menus are pre-programmed into the computer brain of the appliance, eliminating potential mistakes and confusion.

In many models, the controls are a simple two-step operation. Touch an icon that displays the type of product and then push "start." An entire menu can be represented through buttons. Customizable menu options and cooking cycles can be downloaded into an oven's computer. Some models work with a bar code reader to make menu changes.

Air impingement technology was developed in the early 1980s to decrease cooking times. Since then impingement tools, like the C3 oven by TurboChef, have transformed the restaurant industry.

The impingement process cooks by firing jets of hot air fired onto the food. The steam used during the cooking process seals in moisture. Impingement ovens are used to cook everything from meat, poultry, and seafood to pizzas, vegetables, and other baked products.

And now the impingement process has evolved again, thanks to a microwave-based technology. The new microwave impingement ovens can cook up to 10 times faster than conventional ovens. They use microwave processes to brown and crisp while broiling or roasting. The ovens also offer a ventless system that does not require a hood or fire suppression equipment.

In addition, an air-scrubbing catalytic converter eliminates flavor-transfer between foods. Odors are converted into neutral compounds, making it possible to cook several items in the same oven without fear that the flavor of one might be overpowered by the aroma of another.

Air frying by using hot air impingement is on the increase as consumers become increasingly concerned about health issues of foods fried in hot oil or animal fats. Foods that were traditionally fried, such as French fries, are spun in a basket surrounded by hot air until cooked. A version of this technology is also being used to heat bread and buns. Already in use in Europe and other parts of the world, systems like Urbert's Rofry are making their way stateside.

Impingement processes are also being used in thawing and cooling. With them, frozen foods

can be thawed three times faster than with traditional methods, while hot food can be cooled in one-third of the time as refrigeration, discouraging growth of harmful bacteria.

Maintaining the quality of prepared food has sometimes been overlooked as operators seek to improve speed of service. Fried items are particularly vulnerable. Extending the quality life of these foods has become a major goal of new technology.

The Fry Warmer from BKI-Worldwide was designed to increase the holding time of French fries. "The Fry Warmer can extend the life of a product and reduce waste from disposing of food," says Jon Ankney, director of foodservice at BKI. "We understand that restaurants need to have items available for certain segments of the day."

According to Ankney, the Fry Warmer operates by applying a combination of convection and radiant heat technology. BKI-Worldwide claims its product can increase hold times for shoestring fries to 15–18 minutes and steak fries to as much as 45 minutes. Compare that to the typical seven-minute holding capabilities of traditional heat lamp systems.

BKI is also in the process of developing and marketing a sandwich-loading chute that keeps sandwiches fresher. The company has also created a heat sink that heats a plated meal from top and bottom and a dry well drop-in that can extend the life of rice, refried beans, or vegetables by 50 percent.

Not all of the exciting technology is brand-new. Some are merely new to quick-service applications. Take Autofry's MTI-40C. This month, the system will become the first ventless, fully enclosed, and automated dual basket deep fryer to be offered to the industry, according to Autofry. The technology behind it, until recently, was only available to corporate and commercial kitchens.

The MTI-40C is also being marketed to one of the fastest growing segments in the quick-service industry—the non-traditional location.

"The Autofry doesn't need a vent so it can be used in places where deep-frying wasn't possible before," says Gary Santos, vice president of sales and marketing for Autofry. "Now you can serve at remote locations the same products as in a full kitchen. It allows you to take the product to the people."

As more manufacturers and operators adopt The North American Association of Food Equipment Manufacturers (NAFEM) Data Protocol, it will soon be commonplace for an operator vacationing in the islands to keep an eye on his units back in States. New technology automatically monitors equipment and conveys operational deficiencies or malfunctions in real-time.

This is extremely important because something as simple as a cooler or freezer door left

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ajar can cost thousands in terms of food waste or contamination. Preventing such a costly mistake, and others like it, is the motivation behind the development of technology that focuses on communication between foodservice equipment and the operator.

Take the case of the ajar door, for example. There now exist freezers, "smart" freezers, that would have alerted a manager about the door via his/her pager or cell phone.

And the lines of communication do not end there. Sensors can also alert operators when equipment is not functioning properly. The automation of communication is reducing human error in quick-serve's stores.

And, playing a large role in the process is the use of broadband connectivity and applications. However, many operators are taking it even a step further by using an even faster method of communication—satellite technology.

About two-thirds of the country has access to DSL and other broadband communication tools. A satellite, however, can reach virtually everywhere, making the technology a viable option for anyone.

"The quick-service business is undergoing a technology revolution," says Ken Cohen, assistant vice president of strategic marketing at Hughes Network Systems (HSN). "Satellite communication is uniquely positioned to play a greater role."

As the need for communication between multiple units increases, satellite transmission can leapfrog broadband by offering simultaneous links to each store in a chain. A training video can be viewed by all employees and managers at the same time. Information for store managers on new products or promotions will arrive to each store simultaneously.

In addition, satellite transmission allows for rapid acceptance of electronic payments because you are "always connected," says Cohen. For example, information collected at the POS can be immediately transferred back to corporate headquarters.

"With satellite transmission we can reach 100 percent of stores every night," says Cohen. "For growing chains, we can meet their expectations."

Border Foods, operator of 80 Pizza Hut franchises in Minnesota, Iowa, and Wisconsin, receives orders online through satellite transmission. Its system allows customers to order online any time of the day and specify when the product is to be delivered. The system accepts cashless payments and coupons. Inside the restaurant, the register prints out a paper copy of the order for the kitchen. Border Foods estimates that about 5 percent of sales now come from online orders. In addition, 21 percent of online orders are from new customers. Speedy, simple, and successful.

Another place where speed is gaining momentum is the POS arena. Fumbling for money and fishing for exact change is becoming a quaint custom at many restaurants, as credit card acceptance increases at fast-food restaurants.

"The consumers at quick-serve restaurants want the same choice as at other retailers to use credit cards," says Tony Parente, director of the Quick Service Restaurant Group at American Express. "Also, research shows that credit card transactions are higher than cash. We're looking to improve the experience for consumer and operator."

American Express is implementing several POS solutions aimed at increasing efficiency at the cash register. The company is currently testing the use of satellite link to eliminate the time-consuming dial-up process.

Eliminating the card swipe is the next step in increasing speed of transaction. American Express has developed ExpressPay, a contactless payment solution based on RFID technology. Customers pay for orders by waving their ExpressPay device near a reader on the restaurant's counter. No signature is required.

"The operative word in the industry is 'quick' so we talked to leaders in quick-serve, and they don't want plastic to slow down the process," says Matthew Hood, director of American Express Network Development. "Eliminating the signature can save about 30 seconds in a transaction. With a POS device in the drive-thru lane the time savings are even greater because you don't have to pass a pen back and forth."

Currently in test at several different quick-service chains in Phoenix, ExpressPay shaved transaction times from 33.7 seconds for a cash exchange to 12.5 seconds.

In the future, look for RFID devices to be built into cell phones. It is already happening in Japan. There a customer punches in a product code and waves the cell phone in front of a reader. The same technology is also being used to link vending machines with credit card or debit accounts.

Another timesaving tool on the POS end is the hand-held system.

ASI has developed the ASI Write-On Handheld, a tool that can send written orders to the kitchen via a wireless network. Unlike some other POS systems that use a touch-button approach, the Write-On relies on handwriting recognition so it can work like a pencil and pad.

At minimal cost and a few modifications, the Write-On can also function as a mobile payment processor, allowing the complete payment transaction to occur in front of the customer. While especially suitable for restaurants where payment is processed away from the customer, it is also applicable in fast-food establishments.

"It's an ideal solution as a 'line-busting' tool," says Christopher Wright, director of marketing at ASI. "It's a comprehensive product that can take your order and process it while you're waiting in line."

The device is also useful in drive-thru lanes if traffic backs up. The order can be relayed to the kitchen and a credit card payment can be processed curbside.

In the end, 2005's foodservice equipment trends share the same focus on speed and better communication, hallmarks of the industry. The years needed to develop new products means that what you are likely to see in 2005 is not a complete revolution in technology. Rather, the industry's equipment partners plan to unveil evolutions of tried and true technologies and systems

Paul Gereffi last wrote about the DriveView for *QSR's* September issue. He completed this story as hurricane winds reached the shore of his home state, Florida. Contact him at pgereffi@aol.com.