



SAMSARA FOR FOOD AND BEVERAGE

Impossible Foods

As it has scaled operations to support the growing demand and distribution of its plant-based meat products, Impossible Foods has deployed Samsara sensors to verify food safety and compliance control points, increase manufacturing uptime, and maintain product quality.

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Americans have eaten more than 13 million Impossible Burgers since July 2016 when the flagship product first debuted. These 13 million plant-based burgers have saved more land than an area equivalent to 25 Central Parks and resulted in a reduction in greenhouse gas emissions that is equivalent to driving across the US, coast to coast, 80,000 times. "Our mission is huge: to preserve and restore the best planet in the universe by delivering uncompromisingly delicious, nutritious, sustainable meat for the meat-loving consumer," said CEO Pat Brown, Ph.D., MD in September 2018.

It's clear the Impossible Foods recipe is working. Since the opening of their Oakland, CA manufacturing facility in 2017 the company has quickly ramped up its distribution. Today, the Impossible Burger is featured in over 5,000 restaurants in the United States and around 100 restaurants in Hong Kong and Macau. In order to support data collection for food safety, compliance, and quality purposes, the Impossible team began using Samsara sensors in 2017 and has expanded its deployment to include temperature sensors, vibration sensors, and machine vision cameras.

Samsara is great to work with and incredibly reliable... from machine vision for quality to temperature and vibration monitoring. It's used every day by our quality department.

— Josh Ballard, Technical Manager

IMPOSSIBLE

• 13 MILLION

IMPOSSIBLE BURGERS

consumed since July 2016

• 5000+

LOCATIONS

serving Impossible Burgers in the U.S.

• 25x

THE SIZE OF CENTRAL PARK

the equivalent land area saved by Impossible Burgers since 2016



Bringing the Impossible Foods product to Everyone

In response to the overwhelming demand from consumers, Impossible Foods is beginning its plans to sell the Impossible Burger in U.S. grocery stores in 2019. The Impossible Burger's universal appeal and international demand have created the need to document and scale procedures that ensure product quality and food safety throughout the production process. From packaging verification and quality checks to temperature control and machine health alerts, Samsara has supported Impossible in successfully scaling its manufacturing.

Working with Samsara to Verify Batch Codes and Best-by Date Printing

Josh Ballard, Technical Manager at the company's Oakland manufacturing plant, understands the challenges of scaling a production line while maintaining uncompromising product quality and safety. "Food safety



Samsara VS2
Machine Vision System



Samsara HM11
Machine Health Monitor



Samsara EM21
Environmental Monitor

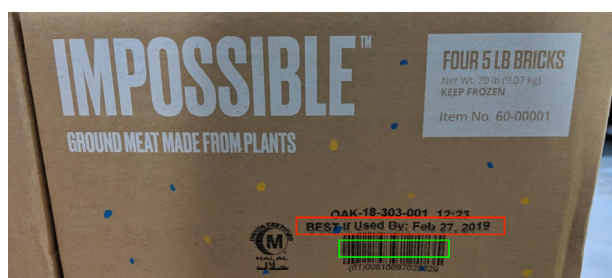




and quality are #1 to us," he said. "Customers need to know what they're getting, and the more we can automate quality inspections to ensure that our packaging and coatings are perfect, the better off we'll be."

Today, Impossible Foods uses Samsara Machine Vision cameras in its Oakland manufacturing facility to supplement its quality verification procedures. As it prepares for the rapid scaling of production the lies ahead, Impossible is using the cameras to verify thermo-printed overwrap packaging as well as carton and box inkjet printing.

The company believes that Samsara Machine Vision cameras will support its production as it continues to expand. The more Impossible Foods can automate quality inspections, the more it can ensure all operators and quality managers have visibility into and statistics on every product that is produced.



It's about protecting the product and keeping it safe and giving customers the information they need. Samsara machine vision cameras mean we can automatically identify if best by dates are correct for customers, and with the right lot code for traceability."

— Laura Shimmin, Packaging Development Lead



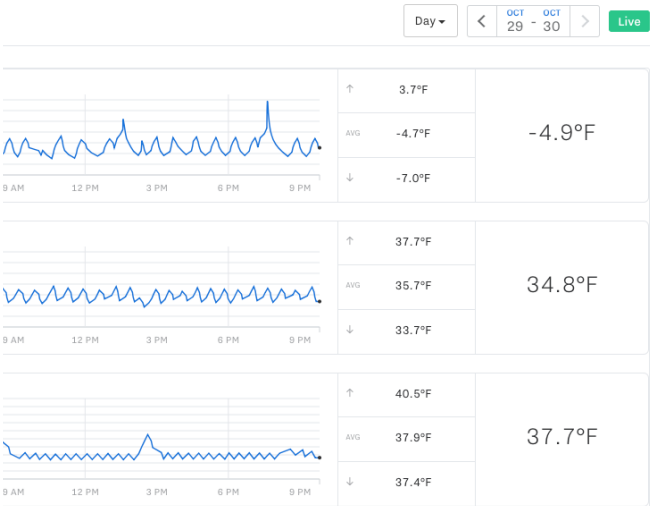
Having Samsara sensors helps me sleep at night. I know I'll be getting a text message and email if product goes outside of my acceptable threshold. It's so simple to set up and very intuitive. Sensors connect to the dashboard and within minutes everything is online. We like it a lot.

Greg Yurich, Lab Manager

Monitoring Live Temperatures

Greg Yurich, Lab Manager at the Impossible Foods Redwood City pilot location has also deployed Samsara environmental sensors and alerting to track temperature. “We installed [sensors] for both tracking temperature as well as getting alerts. We do frequent quality checks. Refrigerators and freezers need to remain at precisely calibrated temperatures, without any deviation. One time a door was inadvertently left open a crack; thanks to the Samsara alert, we discovered the situation immediately and didn’t risk any product quality.”

Greg has also received alerts for compressors that go offline. “A technician can be on site within minutes of the alert to diagnose and correct the problem. We’ve eliminated waste and maintained quality on product ranging from test batches to a walk-in freezer full of meat.”



Conclusion

By providing Impossible Foods with an easy way to monitor temperature and expand that monitoring into other manufacturing processes, Samsara has played a small part in helping Impossible Foods scale its production to meet its planet-sized mission.

While the company started in California's Silicon Valley and the Bay Area, Impossible Foods regards Earth as its home and its mission as global.

As Josh Ballard pointed out, “even a single [Samsara] sensor makes a big difference to ensuring food safety and quality.”

