

# A New Era of School Nutrition

## Enhancing K-12 Meal Programs with RealSense ID

### Spotlight on TabletKiosk

TabletKiosk is an original equipment designer (OED) of commercial-grade point-of-sale terminals, ergonomic mounting hardware, and accessories that allow K-12 schools to enhance food service delivery. Headquartered in Torrance, California, the company has been building and selling business tablets and accessories for the healthcare and hospitality markets since 2002.



*"The SDKs and hardware components from competing vendors were poorly documented and difficult to use. Our developers found the RealSense SDK to be the most robust of the alternatives."*

– Martin Smekal, President,  
TabletKiosk

**Challenge:** In order to receive federal funding, schools need accurate accounting of the number of meals served and validation that those meals are going to the right students. Traditional payment methods, such as card readers and PIN pads, can significantly slow down the meal checkout process.

**Solution:** RealSense™ ID Solution F455, embedded in the TabletKiosk TKANNA point-of-sale system, uses an active stereo depth sensor in conjunction with AI algorithms to verify facial biometrics quickly, accurately, and securely to identify students and authorize payments, while maintaining privacy.

**Results:** Boosting participation in federal nutrition programs improves student performance and boosts government funding for K-12 schools.

### Introduction

School nutrition programs, funded in part by the United States Department of Agriculture (USDA), provide essential meals to students. However, the process of ensuring that funds are used appropriately and that each meal reaches the intended student can be fraught with challenges. One significant issue is excessive time getting people through meal lines. As students queue up to pay for breakfasts or lunches, they sometimes have difficulty finding their cards or remembering their codes. In addition, some students share codes with other students, which makes it impossible for schools to accurately track who is eligible for free or reduced-price meals, potentially resulting in lost funding.

In response to these challenges, TabletKiosk has created a new point-of-sale terminal that uses facial authentication technology to streamline the meal-checkout process. TabletKiosk's TKANNA application, co-developed with Annabooks, leverages RealSense ID technology to enable biometric identification and authorization, replacing PIN pads and barcode scanners with a faster, more accurate, and more hygienic way to identify students and authorize meal payments.

### Improving School Lunch Programs with Biometric Technology

Nutrition plays a crucial role in student learning and development, yet inefficient checkout lines can lead to long wait times, causing some students to get frustrated and skip meals altogether. On average, students take 6 to 9 seconds to enter their ID numbers, and even longer if they can't readily locate their cards or remember their PINs. In some cases, checkout personnel must manually search for a student's information, further holding up lunch lines.



*Quick, accurate authentication of students helps drive participation in school meal programs.*

With TKANNA, students simply glance at an embedded RealSense ID camera, and the system matches their facial images to their student ID numbers, then automatically processes the correct payments. Each school can train the TKANNA system using photos from the images stored in the Student Information System database, and even class yearbooks. Digital face prints are converted into nonsensical strings of data, impossible to reverse into a picture, ensuring that facial images can never be copied, misused, or shared.

RealSense ID encrypts and processes user data quickly and safely. It only takes about one second to authenticate each student – versus several seconds or more with traditional payment methods.

“In essence, a student’s face becomes their personal barcode, streamlining the checkout process,” explains Martin Smekal, president of TabletKiosk. “The pictures are deleted as soon as the camera enrollment process is complete. No images are saved, and no image data is stored in the database, so it’s completely private and secure.”

As students look at the camera, the system compares the face print stored in the database to the face print intercepted by the camera. “Faster checkout means more meals served, more accurate accounting, and better academic performance for students,” Smekal adds.

## Selecting RealSense ID

TabletKiosk chose to collaborate with Intel due to its reputation as a leading hardware supplier and the comprehensive RealSense software development kit (SDK). “RealSense ID is a ready-to-go, out-of-the-box solution,” Smekal says. “The SDK makes it easy to write custom applications. The hardware and software we looked at from other vendors was poorly documented and difficult to use. Our developers found the RealSense SDK to be the most robust of the alternatives.”

In addition, has developed a comprehensive set of training data that allows developers to hit the ground running with custom solutions. “When we looked at developing something similar from scratch, we realized it would have required millions of dollars of investment and years of development,” Smekal notes.

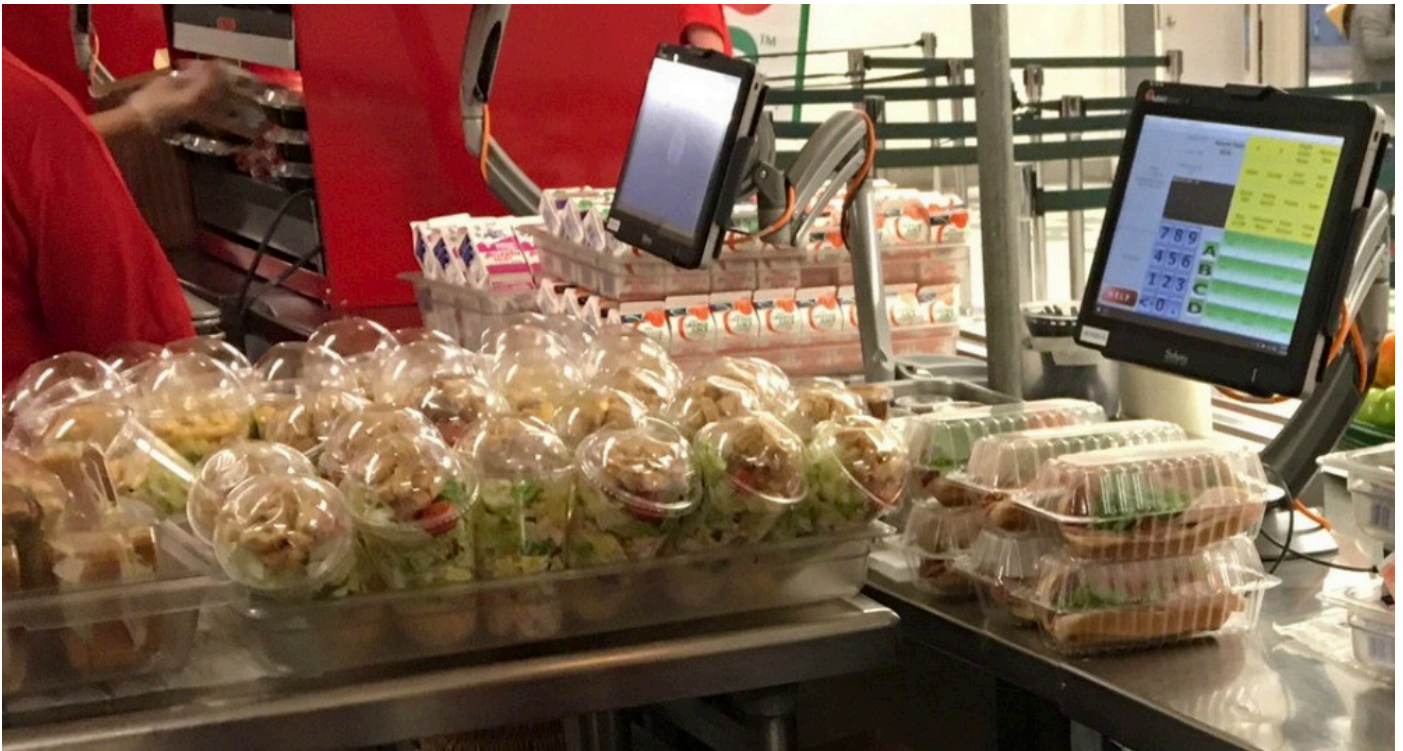
RealSense ID was also affordable – an important factor for an OED that must work within the budgetary constraints of publicly funded nutrition programs. “Pricing is a very important factor in our target market,” confirms Gene Ueunten, vice president of products and services at TabletKiosk. “RealSense ID offers the best price/performance of all the solutions we investigated. Speed and accuracy are especially important to our point-of-sale applications, and RealSense ID delivers.”

## Accelerating the Transition to Cashless Checkout Solutions

As a leading ODM in the K-12 School Nutrition sector, TabletKiosk has established a strong brand presence. According to Ueunten, Intel’s worldwide reputation as a technology leader adds credibility to TabletKiosk’s marketing efforts. “As we expand our reach to schools throughout the nation, we plan to leverage the Intel brand to promote the innovative nature of our point-of-sale solution. We are also happy to have a U.S.-based partner. The SDKs from the Taiwanese manufacturers left much to be desired. We have received incredible support from RealSense.”

The potential impact of TabletKiosk’s biometric point-of-sale solutions is far-reaching: K-12 Nutrition departments served 4.2 billion meals in 2023 at a cost of 17.2 billion dollars. These departments are compensated by the number of meals they serve, so quick service is crucial to getting students through the checkout lines quickly. “Preliminary testing has shown a 15 to 18 percent increase in participation when schools use our mobile point-of-sale solutions,” Ueunten continues. “With TKANNA, we expect to increase this metric by an additional 10 percent or more, while possibly reducing the number of operators required at checkout.”





TabletKiosk's TKANNA solution ensures a smooth checkout process.

## The Impact of Nutrition on Student Performance

Studies have shown that students who miss meals may experience fatigue and have difficulty concentrating, which negatively impacts academic performance. Adequate nutrition is essential for brain function, energy levels, and overall well-being.

TabletKiosk's TKANNA solution not only ensures a smooth checkout process for students, and thus more time to enjoy their meals, it also helps to alleviate the stress on school nutrition departments. Furthermore, by eliminating the need for students to handle shared devices, TKANNA helps to reduce the spread of germs and viruses. Finally, incorporating reliable biometrics minimizes the risk of duplicate charges, accurately identifies students with food allergies, and simplifies federal reporting.

"Our objective is to help schools deliver more meals more easily by removing obstacles in processing payments and authorizations," Smekal concludes. "As we roll out this solution to K-12 schools in California, and beyond, we are conservatively expecting a 10 percent uptick in student participation in school meal programs."



It's easy to roll out TabletKiosk's mobile point-of-sale solutions.

*"When we looked at developing something similar from scratch, we realized it would have required millions of dollars of investment and years of development."*

– Martin Smekal, President, TabletKiosk

## Learn More

- TabletKiosk TKANNA point-of-sale solution
- RealSense ID for facial authentication

<https://www.realsenseai.com>