



Retail Sampler Kiosk

From concept to retail in 10 months.

A very aggressive timeline. Engineering challenges others hadn't been able to solve. Changing requirements during development. See how we partnered to solve complex engineering and mechatronics challenges to make this innovative retail sampler kiosk a reality, in record time.

SOLUTION SPOTLIGHT



CUSTOMER:
INDUSTRY-LEADING CREATOR
OF SELF-SERVICE KIOSKS



PRODUCT:
RETAIL SAMPLER KIOSK



SOLUTIONS:

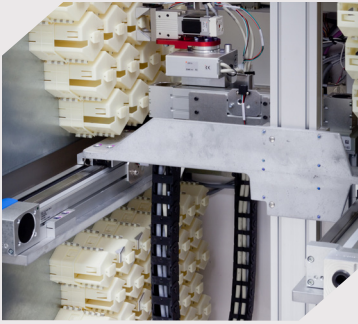
- Design and Development
- Supply Chain Solutions
- New Product Introduction
- Manufacturing
- Aftermarket Services

Self-service technologies can transform the retail experience.

For our customer, a major provider of interactive self-service kiosks, that's exactly what they intended to do. The project was a sophisticated retail kiosk meant to provide shoppers with a new and convenient way to sample health and beauty products. But this was not going to be your typical vending machine. The customer wanted to give consumers an engaging experience within an aesthetic that supported the high-fashion sensibilities of the cosmetics industry.

When the customer first came to Plexus, they had already developed a prototype kiosk that hadn't been as successful as they had hoped. So it was up to Plexus to create an entirely new rendition of the retail sampler kiosk—new architecture, new robotics, revised industrial design – within the same footprint and established aesthetic. A project of this complexity would generally require a 2-year development timeline. To meet the customer's deadline, we would have to deliver in less than 11 months.

Through engineering and design iterations, we were able to reduce the dispensing time from one minute to only 18 seconds.



Proving the concept.

Making the sampler kiosk work required advanced robotics and mechatronics – and a lot of complex problem-solving. The kiosk had to be able to dispense samples of various forms and sizes – your sample might come in a bottle, card or envelope. That meant designing a system that could register a user’s selection through a touchscreen, quickly and accurately locate the selected sample, grip it, and deliver it to the dispensing area. All within the tight space of the established footprint and a hard requirement for dispensing time.

Because of the confined space, cable management was a challenge, as well as creating a robotic arm capable of retrieving hard-to-reach items with very compact movement. To solve the challenge, we developed a six-axis robot, with mechatronics that pushed the boundaries of available technology at the time. This wasn’t a solution you could pull off a shelf, so we worked closely with one of our suppliers to help them custom design exactly the robotics we required.

Another significant challenge came in finding a design for internal inventory storage and management that could accommodate the various forms of the samples. We had to carefully consider the shape of each sample bay, to both maximize storage capacity and maintain the strength and integrity of the rigid frame. At the same time, it had to be flexible enough to allow technicians to restock samples with minimal disassembly time. And the challenge was compounded when the customer asked us to double the sample quantity from 150 to 300. Through multiple design iterations and close collaboration with the customer, we were able to arrive at a hexagonal design that met every requirement and unlocked innovative new possibilities for the unit as a whole.

Besides the inner mechatronics, the kiosk had to dispense high-value coupons, and incorporate sleek design, lighting and sound to support the look and feel of the sample brands. No matter what complex processes were happening inside the machine, the combination of the touchscreen interface, dispensing time and aesthetics of the sample reveal had to present a seamless experience for consumers.

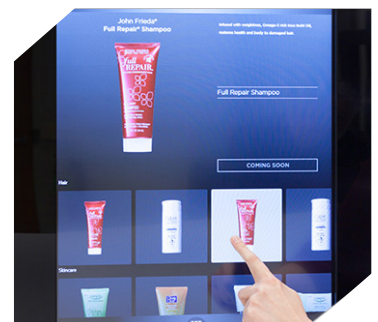
Bringing the product from idea to reality.

The timeline for completing the retail sampler kiosk was aggressive from the beginning. Along the way, changes to the design or requests for enhancements added to the pressure. Besides increasing the sample count from 150 to 300 during development, the customer also added the concept of a lightbox product display attached to the side of the unit. This addition required not only modifications to the exterior design, but aesthetically pleasing LED lighting that had to be integrated into the existing electronics.

The most significant challenge to our time-to-market came when a very large retailer requested a large number of kiosks to be installed prior to the holiday shopping season. This tripled the original 15-unit order – with only eight weeks left until the product launch.


To make this happen, we relied heavily on our integrated process and close, constant collaboration with the customer’s team. Our Design and Development and

With only 8 weeks until delivery, demand prompted the customer to triple their original 15-unit order.




Manufacturing teams worked together in an agile process to design and build on parallel tracks and ensure manufacturability. We completed simpler subassemblies while working out more complex components, then brought them together so we could move to the next complex component. Supply Chain Solutions was heavily involved to quickly source parts and materials as they were identified.

We stayed in constant communication with the customer's team, working together onsite for design reviews and testing in two- or three-week sprints. In some cases, we split up manufacturing, with the customer taking on some components once the design was finalized. This was an all-hands-on-deck situation, and it was only possible with the integration and collaboration that's a hallmark of the Plexus product development process.



A total of 42 sampler kiosks were installed in retail locations within 10 months of the initial project engagement.



Reinventing the retail sampling experience.

Within 10 months of initiating the retail sampler kiosk project, Plexus delivered 42 units to retail locations in time for the holiday shopping season. The kiosks saw great success, with coupon redemptions far surpassing typical rates and happy retailers asking for more installations. Seeing the impact of the kiosk, the top 46 cosmetics companies asked to get their samples in the machines. The customer was very pleased with the level of service they received and the collaborative partnership they shared with Plexus in making their sampler kiosk a reality.

Most importantly, consumers loved the sampler kiosk. From the very beginning, the customer's goal was to create an engaging experience that changed the way consumers interact with brands. With the commitment and skill of the Plexus team, that's exactly what they accomplished.



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