

FICTIV



M'CHEL HAIRCARE

M'CHEL

HAIR

From Prototype to Production for Bestselling Haircare Company



Industry: Consumer Products

Product: Day After™ Brush

Location: San Francisco, CA

Why Fictiv

Customer Challenges: m'Chel was unable to find a manufacturing partner who offered a complete menu of services that included reasonably-priced prototyping, low-volume production, comprehensive design for manufacturability guidance, and production at scale.

Capabilities Leveraged: Injection molding, overmolding, compression molding, ultrasonic welding, 3D printing, product validation, screen printing, bristle grafting, and design for manufacturability guidance.

Result: Brought a new product from ideation to engineering and design, to testing, and then to full-scale manufacturing plus logistics and fulfillment. Leveraged Fictiv's global manufacturing network and cutting-edge platform to seamlessly build 90% of the Day After Brush—from prototype to final product.



“ There were a lot of barriers with other manufacturers that I didn't have with Fictiv. Fictiv made the process so easy. ”

Michelle Kim, CEO, m'Chel Haircare

GREAT PRODUCTS START WITH GREAT IDEAS

For creators, innovators, designers, and engineers, bringing ideas to life is a formidable but exciting challenge. m'Chel's journey from an inspired idea to a fully manufactured product faced many production hurdles, including prototyping, low-volume production, manufacturability issues, and more. Overcoming these challenges took grit, determination, inspiration, and a strong manufacturing partnership. Keep reading to learn more.

M'CHEL HAIRCARE'S ORIGIN STORY

m'Chel Haircare specializes in natural, sustainable products for hair. The company's signature product, the Day After Brush™, is a reusable dry shampoo applicator that works with an organic, gentle dry shampoo powder.

The idea originated in m'Chel Haircare Founder Michelle Kim's childhood when she cut and styled Barbie™ hair and realized she wanted to style hair when she grew up. Next came cosmetology school immediately following high school, where she found her calling in styling and supporting healthy hair for clients.

After a few years, however, she noticed the strong chemicals used in the salon negatively affected her health. And her hair. Dry shampoo was no better and had been the same since the 1970s—an aerosol spray that left the hair coated and stiff. It also contained butane and ethanol, both hazardous to the environment and human health.



m'Chel's Day After Brush is manufactured by Fictiv.

This sparked an idea: Create a sustainable, non-toxic dry shampoo powder that could be applied with an applicator to target oil and not damage the scalp, without the harmful chemicals in aerosols and other formats. In 2016 she started with the concept of a dry shampoo that was nontoxic and sustainable—something she didn't see anywhere else in the market.

However, turning the idea into a product took years. After months of traveling around the world to manufacturing tradeshows, and approaching various factories with her prototype ideas, finding the right manufacturing partner proved one of her biggest challenges.

A CHALLENGING MANUFACTURING JOURNEY

According to Kim, "Once I knew I had a dry shampoo formula that worked well, I pushed myself to do something I knew nothing about—product design. I even patented one early design, only to find out that the product was not manufacturable. I ended up having to ditch that design and start from scratch." That was a wake-up call.

At this point, Kim realized she needed to develop a proof of concept and create a design that was manufacturable. But first, she had to identify her design goals. First, the dry shampoo brush applicator had to function well. Second, the applicator and refills had to be sustainable and reusable. Her final design goal: Style. Given that the look of dry shampoo hadn't changed in 50 years, Kim wanted her product to look sleek and modern, without sacrificing sustainability or functionality. When coupled with creating a non-toxic powder that would flow through and onto the brush applicator, the engineering challenge was immense. Kim recalls, "The dry shampoo brush I had conceptualized was more difficult to design than I initially thought."



A MANUFACTURING PARTNERSHIP IS BORN

Choosing Fictiv was a no-brainer. “Ultimately, there were a lot of barriers with other manufacturers that I didn’t have with Fictiv. Most manufacturers wanted initial commitments for 10,000-unit to 100,000-unit runs, whereas Fictiv offered lower volume runs (initially, 3,000 units) and made the process so easy. That, and prototyping with Fictiv was just so easy, whereas other factories simply would not give me a prototype.” As a growing business, it was critical to have a partner who understood her whole product and its unique manufacturing requirements.

According to Kim, other manufacturers also wanted to limit her creative approach to product design. “Before Fictiv, others told me there was only one way to make this product; Their capabilities weren’t enough.” When she came to Fictiv, she showed them her designs and her goal of building a more beautiful, functional project. “Fictiv had all the answers. They explained their capabilities and showed me my options, including how to make my product more cost-effective.”

Another critical aspect of the partnership was that Kim could rely on Fictiv for everything from prototype to production. Once she found Fictiv, “we completed the prototype, tooling, and production run—all within one year.”



Rona Wong, Fictiv Technical Program Manager and Vicent Xie, Fictiv Quality Control Inspector, and Michelle Kim examine 3D file of the Day After Brush.

But to get there also required a relentless commitment to the highest-quality end product. "As a small business," Kim said, "transparency, communication, reliability, and expertise impact how I see us succeed. Fictiv has the broadest range of capabilities that bring new products to life. With our business, that reliability ensures our customers are happy. So we can give them a flawless product."

From the beginning, Kim felt totally comfortable with Fictiv. "It immediately felt like a partnership." Trust was built on Fictiv's consistency, reliability, and the commitment of each part of the team to keep her in the loop. "Regardless of what facet of the project we were working on (prototyping, tooling, finishing) I had the confidence in Fictiv's expertise and knew I was in good hands." Not only that, Kim says "Fictiv's team of experts made me feel confident they would deliver the end result I was hoping for. Everyone at Fictiv took the time to explain each part of the process. I'm confident other manufacturers wouldn't have taken that time with me."

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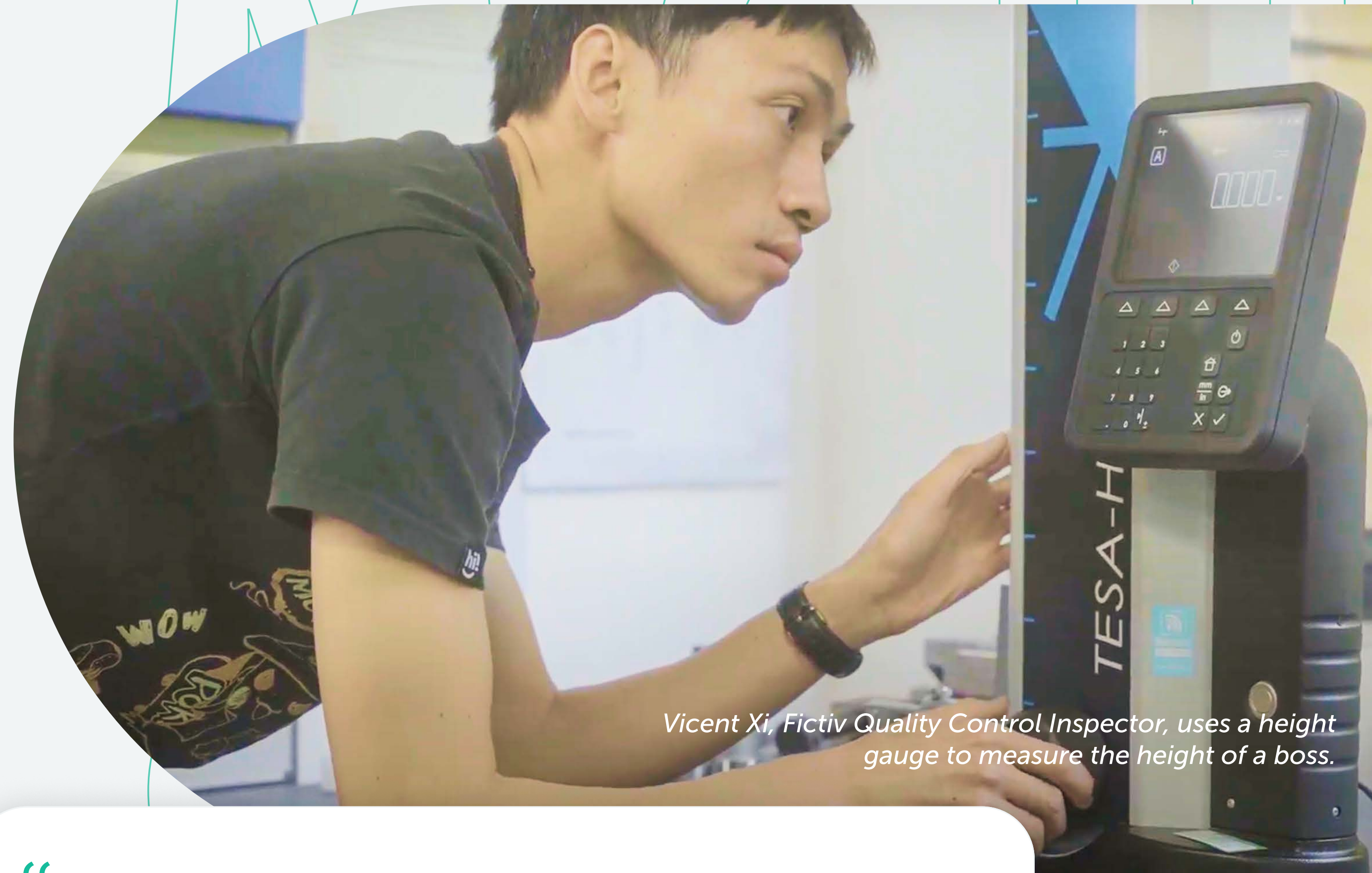
-MICHELLE KIM,
CEO of m'Chel Haircare

MANUFACTURING THE DAY AFTER BRUSH

Manufacturing m'Chel's Day After Brush required injection molding, compression molding, ultrasonic welding, 3D printing, product validation, screen printing, bristle grafting, and design for manufacturability guidance. The end product also had to meet stringent cosmetic requirements as well as strict design and manufacturing parameters. The patented brush applicator required overmolding with injection molding and bristle grafting. The structure of the Day After Brush included non-toxic dry shampoo powder in a reusable jar with a brush applicator. The powder has to flow through multiple chambers and across multiple bristle types to target the oil in the hair (Figure 1).

According to Kim, whereas other manufacturers wouldn't go near her project, "Fictiv listened to me and helped bring my concepts to life in a way that exceeded my expectations." Fictiv ended up manufacturing the entire bill of materials, except the dry powder and also provided post-processing and logistics support.

Particular challenges associated with manufacturing m'Chel's Day After Brush included executing a complex design with over 120 parts, multiple versions and iterations, 20 different tools, and stringent fit and finish requirements.



Vicent Xi, Fictiv Quality Control Inspector, uses a height gauge to measure the height of a boss.

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Components and Manufacturing Processes:

1. Lid Enclosure: Injection Molding and Screen Printing
2. Bristles: Injection Molding
3. Base: Injection Molding, Overmolding, Compression Molding
4. Brush Anchor: Injection Molding, Overmolding
5. Powder Flow-Through Chamber: Injection Molding, Overmolding

Figure 1: m'Chel Day After Brush components.

Injection Molding



Each injection molded part of the Day After Brush is produced with specific tolerances, including small but allowable dimensional variations. As parts are assembled, if one tolerance is not achieved, the stack-up of tolerances could lead to aesthetic defects or powder leakage. Fictiv provided quality tooling and optimized the process parameters to achieve tight tolerances.

The bristles posed a particular challenge, however. They needed to be dense and smooth in order to apply the dry powder. The original design of the base that held the bristles was unsuitable for injection molding because the gap between holes was too thin to mold consistently. Implementing Fictiv's design for manufacturability guidance made the base moldable without sacrificing density and other bristle functionality. The bristle design was then validated with 3D printing before injection molding began.

An injection molded lid component for the Day After Brush.

Overmolding of Rubber and Plastic

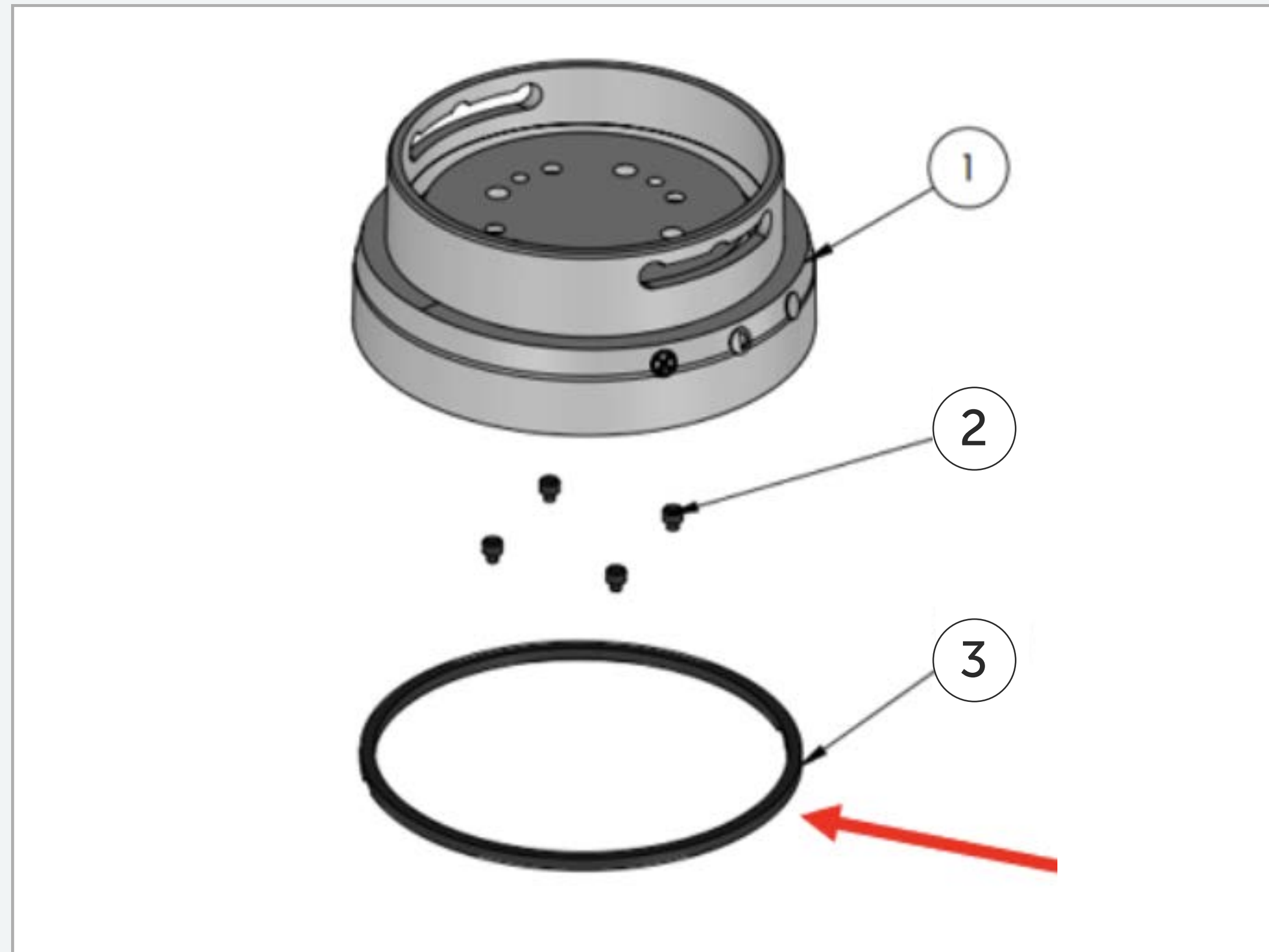


Figure 2: Day After Brush plastic and rubber parts.



Injection molded Day After Brush body component.

Overmolded rubber and plastic parts (1, 2, & 3), required gates in the mold. Using a switchable runner kept tooling costs and production times low.

Validation Testing

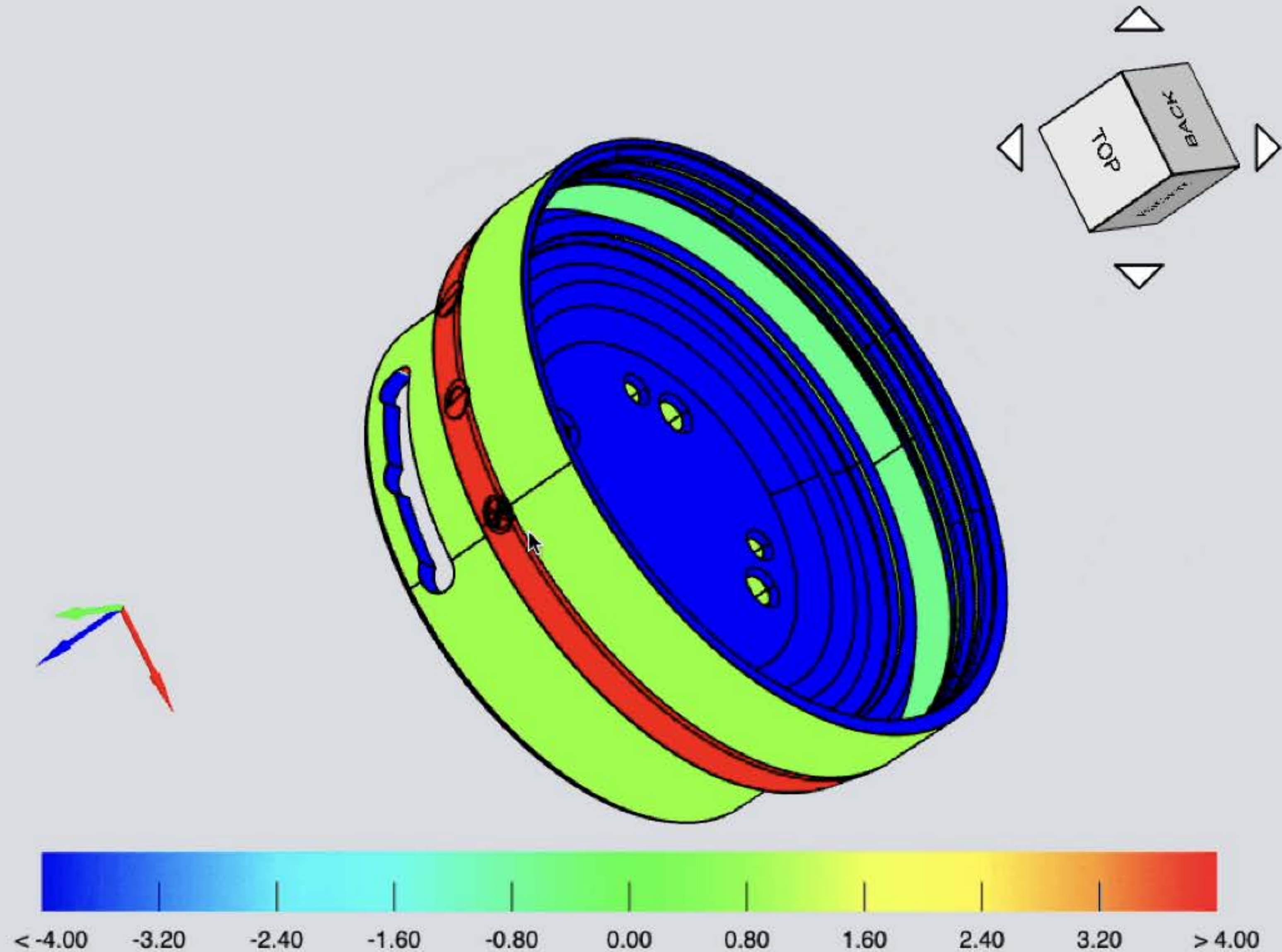
Fictiv tested products for the defects that a m'Chel customer could experience. For example, Fictiv assembled the product and tested it for powder leakage. Importantly, Fictiv then suggested design improvements to address the problem.

Color Matching

Because the Day After Brush is a cosmetic product, m'Chel needed to produce it in elegant colors. Fictiv achieved Pantone colors with the precision that m'Chel required.

Design For Manufacturability Guidance

Fictiv offered design for manufacturability (DFM) guidance for 20 tools, which helped m'Chel perfect its designs in terms of fit, quality, and cost as well as life cycle and reusability.



A FORTUNE 500- CLASS SUPPLY CHAIN FOR A SMALL COMPANY

Fictiv's solutions for m'Chel went beyond manufacturing a complex product. They helped m'Chel handle supply chain, logistics, and finishing challenges as well. After COVID, Kim felt many aspects of the supply chain just weren't reliable anymore. Fortunately, "Fictiv handled everything I normally would have had to do myself, including identifying the right suppliers, sourcing and then manufacturing each part, as well as all the logistics and shipping details." She says, "Because they do everything, you don't have to worry about having in-house people to handle your supply chain. And I knew about their rigorous manufacturing standards, which gave me full confidence in the quality of my end product."

Kim used Fictiv's platform to check the status of her order, contact Fictiv team members with questions, and ensure everything was going smoothly. Kim credits the Fictiv team with clear and consistent communications throughout the entire development process. "They kept me in the loop the whole time."



Fictiv's global manufacturing partners also delivered the quality Kim needed to ensure each brush was flawless. Fictiv's stringent quality management processes for manufacturing and its regional quality managers ensured m'Chel delivered the best product to customers.

Fictiv's scalability was also invaluable. To meet ambitious business goals, m'Chel required readily available manufacturing capacity. "If I outgrow one vendor, Fictiv already knows my product front and back, so they can integrate a manufacturer who would better assist me when I scale from the different stages," says Kim.

Fictiv's expertise, quality management oversight, reliability, transparency, digital infrastructure, and Fortune 500-level supply chain helped her scale quickly and have confidence that her product was in good hands. Beyond a manufacturing partner, she considers Fictiv her supply chain solution. For Kim, "Fictiv did the supply chain heavy lifting for me."

WHAT'S NEXT FOR M'CHEL HAIRCARE

To Kim, the ability to see her original idea for a dry shampoo in 2016 become the signature product of her haircare company was incredibly inspiring and gratifying. Ultimately, "Fictiv showed me the possibilities."

For m'Chel, the future is bright, organic, and fully sustainable. "We still have our eye on sustainable haircare with no primary packaging," says Kim. m'Chel Haircare has other products in the pipeline, but for now, customers are flocking to the Day After Brush. Together, Fictiv and m'Chel brought this sleek, modern design to life. As Kim looks to the future of m'Chel, "I know Fictiv is the first place I'll call and they'll be my partner in developing more products."

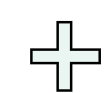


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