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NEXTWAVE PLASTICS
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Taking Ideas To Reality
CASE STUDY 02

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So your company wants to use ocean-bound plastic in its products. How do you go from talking to doing?

Plastic, by nature, lends itself to creativity. Shape-shifting and versatile, the material can be a soda bottle in one form, a watch or a desk chair in another. Repurposing ocean-bound plastic, however, requires a creative spirit apart from design. As Max Michieli of CPI Card Group knows, that means being willing to rethink long-established norms.

In 2018, Michieli, then CPI’s director of new card development, was having a conversation with his managing director about the problem of plastic waste in the ocean. The question was posed: Did Michieli think he could make a credit card out of ocean-bound plastic? Michieli, who today is CPI’s director of sustainability products, thought he could.

“It was really just brainstorming together. At that point, we didn’t know where to start,” Michieli recalls. “Dealing with recycled plastics in any way, shape, or form was a little bit foreign to me.”

**REIMAGINING THE CREDIT CARD**

On the surface, the idea seems simple enough. How hard could it be to swap materials in a roughly 3” by 2” rectangle? But the payment card industry is dominated by polyvinyl chloride, or PVC. The form factor of the card is strictly defined. It must be able to take on a variety of colors for designs and branding for CPI’s customers, which are financial institutions. And most importantly, it must reliably store sensitive data. PVC has done that job for decades, but you won’t find it among suppliers of ocean-bound plastic, which is dominated by other types of plastic.

Despite the challenges up front, Michieli was given license to figure it out. CPI sourced high-density polyethylene (HDPE) and began working with it. The process was bumpy.

“We went through many, many iterations trying to get this polymer into a sheet form that we could use in our processes and failed miserably many, many times,” Michieli says. Among other problems, the HDPE tended to crumble when it was run through the same calendering presses used for PVC.

Through perseverance and finding the right partners, CPI succeeded in creating a patent-pending process to integrate ocean-bound plastic into the core layer of its cards. The Second Wave® card was released in 2019, and Michieli says it’s been tremendously successful in the marketplace. The following year, CPI Card Group joined the NextWave Plastics consortium, where members share insights and collaborate on solutions for ocean-bound plastic.

**SHINOLA’S SUPPLIER-DRIVEN INNOVATION**

For NextWave member Shinola, the Detroit-based maker of lifestyle goods, the idea started with a supplier relationship. The company connected with Thomas Schori co-founder of #tide ocean material. #tide sources ocean-bound plastic from Southeast Asia for use in a variety of products. In 2021, Shinola released Sea Creatures, a line of watches made using #tide ocean-bound plastics.

“We were continuously looking at using that material in strap format for watches,” says Shinola’s Vice President of Product Design, Brandon Little. “That
Ensure buy-in from decision-makers

Think big, but start small with a pilot or a single product component to build momentum

Expect and plan for trial and error

Build on successes

Stay true to your commitment as a company
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