

Remee Wire & Cable: where R&D drives every innovation

At Remee Wire & Cable's 250,000-sq-ft facility in Florida, New York, relentless cable design has pushed the company's capabilities beyond its size. Below, Tom Valentine, EVP of sales & marketing, explains how R&D and hands-on problem-solving transformed the company from a coaxial producer to a leader in complex hybrid and fiber projects—a range few in the sector can match.

At Remee Wire & Cable (Remee), R&D isn't just a department, but the very essence of its business approach. "Our R&D is our philosophy," observed Tom Valentine, EVP of sales & marketing, who traced the company's most unusual history from a simple coaxial cable manufacturer to a producer of advanced products, including sophisticated hybrid fiber-copper solutions.

Starting with coaxial cable in the 1980s meant working with familiar materials: polyethylene, PVC, copper and copper-covered steel. Expansion into security and life safety cables followed naturally, sharing similar manufacturing techniques and distribution channels.

The real complexity emerged in the mid-1980s when Remee entered fiber optic cable manufacturing. Suddenly, the company was working with optical glass instead of copper, transmitting photons rather than electrons. Making a fiber optic cable requires protecting delicate strands of glass with specialized jacketing materials such as Hytrel and medium-density polyethylene, while devising ways to ensure accuracy at every connection point. "It starts to become a physics and chemistry experiment," Valentine explained. "You don't have to worry about capacitance when you're passing photons, but you do have to worry about mechanical connections when these strands of glass are being terminated at some point in line."

A pivotal moment came when both IBM and Corning approached Remee to develop hybrid fiber-copper cables for IBM's next-generation supercomputers. That collaboration set a pattern that continues today: taking existing knowledge and applying it to unprecedented challenges.

Valentine said that designing new cables isn't just a matter of swapping materials or tweaking existing designs. "Sometimes a customer asks for something that looks simple, but it's really like starting from scratch. You run into problems you didn't expect—materials don't behave the way you hoped, or you realize you need a whole new way of putting things together. That's when you find out what kind of company you are."

Every new cable is a joint effort, beginning with conversations with engineers and buyers, Valentine said. "Also, not all projects succeed initially, so we try again, and the experience adds to our knowledge base."

Remee's path hasn't been typical for its size. "We deliberately stayed away from being a commodity player, churning out endless runs of basic cable," Valentine said. "Our decision was always to specialize, to chase tough projects, even if it means more headaches." Instead of rigid production timetables and relentless cost-cutting, Remee builds in flexibility for custom work. Sometimes months are filled with testing and waiting for certifications, other times quick pivots are needed to meet market shifts. "It's a balancing act," Valentine noted. "But it's the only way we'd want to run things."

Valentine said that Remee's mindset—embracing challenges and learning from missteps—is what makes evolution possible. "Every cable we make is a story. Sometimes we get exactly what the customer wants right away. Other

times we learn more from what doesn't work." Sometimes deadlines are brutal. "When you're up against time, and something isn't right, you don't just throw it out. You pull the team together and hit it again, from another angle. That grit is part of Remee's tradition."

Remee's evolution means also keeping an ear open for market changes and client feedback. Valentine spends time visiting clients, watching how their cables perform in real situations. "That's where you see what really matters—how the cable bends, how it lasts, whether it fails when it shouldn't. You can't get that from a spreadsheet."

Designing cables is more than specs and drawings; it's trial and error, discussion, and late nights working

through problems.

Valentine said that what sets Remee apart is its "tribal knowledge," the accumulated understanding of how materials behave, interact, and perform across decades of experimentation and production. That comes from Engineering Manager Steve Luciana and Lead Process Engineer Cesar Vasquez, who together represent a century of experience. "Steve and Cesar have been doing this so long, they can often spot trouble before anyone else. You need more than formulas—you need the practical knowl-



Valentine



Remee Wire & Cable's Steve Luciana and Cesar Vasquez: engineers extraordinaire.

edge to know what will work and what won't. There's no substitute for experience."

At the same time, expertise unto itself is not the final solution. Tribal knowledge is tested when customers present seemingly impossible requirements: cables that must function in Phoenix heat and Canadian cold, meet direct burial standards while maintaining quarter-inch outer diameter limits, and satisfy multiple international certification requirements. "Steve and Cesar know how dissimilar plastics act when they are put against or with one another in an overall cable design, but they don't know what the customer wants. So they have to apply some of that theoretical knowledge about these materials as they're designing new products."

Being able to switch gears and explore new avenues has been key for Remece. "We're not a huge company, so we have to be nimble," Valentine said. "Big manufacturers can afford to run massive orders over and over. That's not our sweet spot. Our strength is making hard-to-build specialty cables for customers who need something unique."

Another aspect that cannot be ignored is that R&D must produce results, Valentine said. The company's philosophy is to support new projects, but if it is not for an existing customer, there has to be a business plan that shows why the market will welcome it, especially as results seldom happen quickly.

However, in the case of a revolutionary product like Remece's Class 4 fault-managed PowerPipe™ distribution cable—dual-listed as CL4Z/CL4P—it took a full year to go from concept to production. As a result, Remece is the only manufacturer to offer this cable today. "We spent about three months in prototyping because we kept missing the marks," he recalled. "We would hit four of the five requirements and then make the necessary revisions to pass all the tests."

Even more complex was Remece's SMPTE 311 camera cable for broadcast applications, a project requiring 18 months of development with six months devoted solely to prototyping. The cable had to incorporate copper pairs, fiber optic strands, central strength members, braid shielding, perfect roundness, and exceptional flexibility for demanding broadcast environments. The breakthrough came from applying tribal knowledge from the company's earlier IBM hybrid cable work.

"We looked at the design that the customer had from a connector perspective and we said this looks a lot like the composite cable that we made for IBM," Valentine recalled. "It has pairs that are somewhat twisted. It has fiber in it. It's about the same size. Now we need to make it perfectly round and flexible." The solution required reimagining their manufacturing approach, moving the

product to different machines and experimenting with polymer combinations that would provide the necessary flexibility without compromising durability. Six months of prototype iterations with broadcast engineers focused entirely on achieving the right "feel"—cables that could be repeatedly coiled and uncoiled in high-stress environments while maintaining signal integrity.

Unlike companies focused on commodity products running 24/7 operations, Remece, a mid-volume, high-value manufacturer, deliberately embraces what Valentine calls "tentative" manufacturing schedules to accommodate custom development work. This flexibility comes at a cost but enables capabilities that larger commodity manufacturers cannot match.

This discipline manifests in Remece's four-quadrant analysis framework: high volume/low value, mid volume/mid value, low volume/high value, and high volume/high value. The company deliberately positions itself in profitable niches where its tribal knowledge provides sustainable competitive advantages.

Of note, Valentine himself has a cable heritage, one that started long before he joined the field 26 years ago at Belden. His father, John Valentine, logged 30 years at Belden Wire & Cable, where he was executive vice president. Work matters often were part of talk at the dinner table. Time passes, and one of the lessons his father passed along—

planning for the future—is now the backdrop for Remece.

"Tribal knowledge ends when the tribe breaks up," Valentine said. He noted that Steve and Cesar represent irreplaceable institutional knowledge that must be preserved and leveraged more effectively. "We could put a catalog together of polymers, their flame rating, their temperature rating, their flexibility or their durometer," he said. "We could literally model cables based on that library or that captured tribal knowledge."

The goal isn't to replace human expertise but to accelerate the development process, reducing prototype cycles and enabling faster time-to-market for custom solutions. Valentine emphasized the competitive advantage this could provide: "Everybody remembers Charles Lindbergh. I don't want to be the second person across the Atlantic."

Valentine said that Remece stands at an inflection point about implementing artificial intelligence. Its adoption is likely if not inevitable, yet that evolution will not change the company's fundamental philosophy. Technology will enhance and preserve tribal knowledge, not replace it.

In an industry where a failed cable connection can cost careers and catastrophically impact major events, Valentine said, Remece's philosophy of treating R&D as a core identity rather than a peripheral function will provide the foundation for continued innovation.



Remece Wire & Cable's PowerPipe™ Class 4 fault-managed power cables.