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It's a real lives-in-the-balance situation: world energy usage will swell by 50% by 2050, but a warming planet has challenged most sectors of society to be carbon neutral by 2035.

As electricity demand continues to grow, utilities must grapple with an aging electrical grid to deliver dependable capacity—increasingly from renewables—without missing a beat. The need to provide peak power with security and resilience will only intensify as electric vehicles (EVs), Internet of Things (IoT) devices and rising economies intensify the load on the grid.

So what's a planet to do? The answer certainly isn't to build more lines. Instead, Smart Wires is championing the ability to divert electricity instantly to unused lines while enabling real-time digital control of power flows. "We are transforming how power grids around the world are planned and operated," explains Marie Hayden, Chief Engineer of Smart Wires, a Silicon Valley-based developer of grid-optimized solutions. "Our diverse teams work all around the world united by a vision to develop a highly efficient electricity grid for a cleaner planet."

A dark blue rectangular graphic containing a quote. The quote is in white text and is enclosed in large, light blue quotation marks. The Smart Wires logo is positioned at the top center of the graphic. Below the quote, the name "MARIE HAYDEN" is written in white, bold, uppercase letters, followed by "Chief Engineer, Smart Wires" in a smaller white font. The background of the graphic features a pattern of white birds flying in a circular formation.





## UNION B R&D OPERATIONS ENGINEERING

Smart Wires’ products contain a lot of semiconductors, printed circuit boards and electromechanical assemblies, requiring significant expertise on all fronts. Moreover, rigorous testing capabilities with complete traceability was needed to ensure the highest levels of product quality. “Our goal is to develop products that can be manufactured easily, transported and installed seamlessly, as well as maintained to perform flawlessly over a targeted 40-year lifespan,” Hayden notes.

To address Smart Wires’ product development and manufacturing demands, the teams formed i2i, a dedicated group of Smart Wires and Jabil experts co-located at a new Jabil facility in Florida. “We have a unique relationship with Jabil — our engineers and head of operations are actually stationed at Jabil’s Florida factory,” notes Inam. Operations, engineering and R&D from both companies collaborate to accelerate bringing new products to market. Adds Beard, “We work together on continuous improvement in design and manufacturing processes, and our customers benefit from this ongoing collaboration.”

Working smart and working safe are top priorities. The use of smart torque drivers to control hundreds of fasteners on each Smart Wires product is an example of manufacturing and innovation alignment. “We start each workday and meeting with safety as everyone in the organization agrees it’s our top priority,” says Beard.

The evidence is typified by the ability to adhere to a world-class Quality Management System (QMS) and

Manufacturing Execution System (MES) while correlating massive amounts of testing and quality data to ensure adherence with rigorous quality and safety standards.

“Jabil has its own sophisticated processes while we have our own way of doing things fast in an entrepreneurial way,” Inam says. “The idea was to use the partnership to merge the two, because that’s where the magic happens as we can take innovation straight to the manufacturing floor.”

In supporting Smart Wires’ New Product Introductions (NPIs), Jabil brought together engineering, production and supply chain support to expedite the launch of game-changing products. “Our main co



**HAROON INAM**  
Chief Technology Officer, Smart Wires



# G M S C & E

In Jabil, Smart Wires found a global supply chain partner second to none. It's a good thing because Smart Wires' solutions are complex, drawing from power systems, semiconductors, cybersecurity and civil and structural engineering, among other disciplines. They also vary in size from tiny products on wires to very large systems.

Jabil has an impressive comfort level with product and system complexity, building everything from thermostat components to large wind turbines and huge lithium-ion storage containers. The company's procurement team is equally adept at handling electromechanical and custom mechanical supply chain demands. This proved essential in sourcing components for Smart Wires' products, which comprise up to 95% custom electromechanical designs.

"The supply chain aspect of our business is vital," George adds. "We're also in a safety-regulated environment, so we must have the highest quality while still being competitive on price. The Jabil supply chain offers access to more than 27,000 suppliers worldwide, which enables us to deliver the highest quality we can for the best value."

Picking the right suppliers from reliability and sustainability perspectives can be daunting. Thanks to the impressive reach of Jabil's global supply chain, Smart Wires leverages a wider selection of suppliers than previously accessible, including companies across the U.S. as well as in Asia and Latin America. "When global supply chains were rocked by disruptions caused by the COVID-19 pandemic, we were grateful to have an experienced partner like Jabil help manage those challenges; the team has been great in working around those issues," recalls Hayden.

Partnering with Jabil also ensures Smart Wires can source and qualify complex mechanicals that can be difficult to attain but are crucial to product industrialization. Jabil's quality processes and ability to build to exact specifications ensures that when the company takes control of a safety-approved design, strict standards are fully maintained. "Jabil has really helped us improve product design, manufacturing processes and supply chain capabilities to increase production volumes and reduce order backlogs," says Beard.

Moreover, Jabil engineers continuously offer real-time insights to elevate manufacturing efficiencies. "Having people thinking about how to develop the actual manufacturing processes around their idea is invaluable," Inam adds. "And not only that, but they then deployed those processes in an efficient manner, too."

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**AL GEORGE**  
VP of Operations, Smart Wires

