

Power of Cummins

CTO Combines STEM and the Humanities



Keira Amstutz

Not so long ago, says Cummins Inc. Chief Technology Officer Jennifer Rumsey, the process for preparing a product for a global market was pretty simple.

“A decade ago, Cummins would take a product we made for a U.S. market and simply tweak it and take it to other markets,” Rumsey says.

Not anymore. These days, she says, global firms like Cummins recognize that succeeding in other markets requires an appreciation for how people in those markets use their products. It means creating solutions that don’t simply address engineering challenges but that also consider the human beings who will confront those challenges. It means appreciating the cultural differences that will influence engineering outcomes.

In other words, it means understanding that success emerges from the place where science, math and engineering intersect with the humanities.

Rumsey’s role puts her right in the middle of that place. As leader of Cummins’ global research and development team, she helps to develop products used in more than 190 countries. She travels around the world to visit customers and employees. And she eagerly immerses herself in the customs, cuisine and cultures she encounters along the way.

Crucial background

This global reach sits in sharp contrast to Rumsey’s childhood. She grew up not far from Cummins’ headquarters in Columbus and while she traveled quite a bit in the U.S. and later lived in Boston, she left North America only once, on a trip to Germany during her school years.

Fortunately, what Rumsey lacked in global

exposure she made up for with educational experience. “I do not describe myself as a stereotypical engineer,” she states. “I grew up definitely strong in math and science, but that was complemented by a lot of the arts and humanities: music, drama, language.”

That background in the humanities, Rumsey notes, gave her what has proven to be essential in her career: the ability to think beyond engineering, beyond her own backyard and beyond obvious answers.

Of course, it helps to work for a firm where that kind of thinking is engrained in the culture and at the heart of its creation story. Cummins got its start when a banker (William Irwin) believed in the vision of a mechanic and chauffeur (Clessie Cummins) who saw opportunities for innovation in a new technology (diesel engines) created by a German inventor (Rudolf Diesel). The partners found new ways to put this new technology to work and, before long, the company’s engines were being used – and produced – all over the world.

While much has been made of the engine technology Cummins pioneered, Rumsey notes that the company created what might be an even bigger competitive advantage through its respect for the diversity of humanity. “The roots of the company are in this idea of leveraging diversity, of creating an

Continued on page 39



AUTHOR: Keira Amstutz is president and CEO of Indiana Humanities. This is the second of a “Take the Leap” series, which focuses on individual Hoosiers who are making a difference by merging STEM and the humanities. Learn more at www.indianahumanities.org/QuantumLeap



Jennifer Rumsey, shown with Srikanth Padmanabhan (president of the Engine Business segment of Cummins), says the company is committed to meeting the cultural demands of its markets.

Power of Cummins

Continued from page 12

organization where people with all different backgrounds and experiences come together,” she shares.

Making a match

Those roots bear fruit to this day. Columbus, where Cummins is headquartered, is much more diverse than most Midwestern cities of 45,000. In fact, Bartholomew County has the nation’s second-highest per capita rate of visa applications for engineers and computer scientists. And, of course, the city’s cultural amenities – including world-class architecture – are often credited with helping to make Columbus attractive to the diverse hiring pools companies seek.

But it’s where the rubber literally meets the road that Cummins’ commitment to cultural difference is most vividly on display. Rumsey says her team talks about making products “fit for market,” which means designing engines for the way people operate them in the places the vehicles will be used. For example, commercial truck drivers and the infrastructure in China are very cost sensitive and tend to favor smaller trucks carrying higher payloads. Differences in highway

speeds, driver shifting behavior and maintenance practices all mean unique product requirements for these customers.

As a result, rather than simply trying to force its U.S. or European engines on Chinese drivers, Cummins developed a smaller, lighter weight heavy duty engine specifically for the Chinese market with components optimized in consideration of the local market maintenance practices. The bonus? That lighter weight heavy duty engine is finding a home in trucks in America.

Rumsey thrives on this kind of innovation. “What I say I enjoy most about my job and one of the things that has made me effective is my ability to balance the customer and business and engineering,” she offers.

This balance gets to the heart of why it pays to think beyond engineering solutions. “Often there’s a couple of big things that drive how we innovate and develop new products,” Rumsey says. “You’ve got a problem you’re trying to solve and sometimes you rely on what you know, but sometimes you have to say, ‘How do I come to this in a different way?’ ”