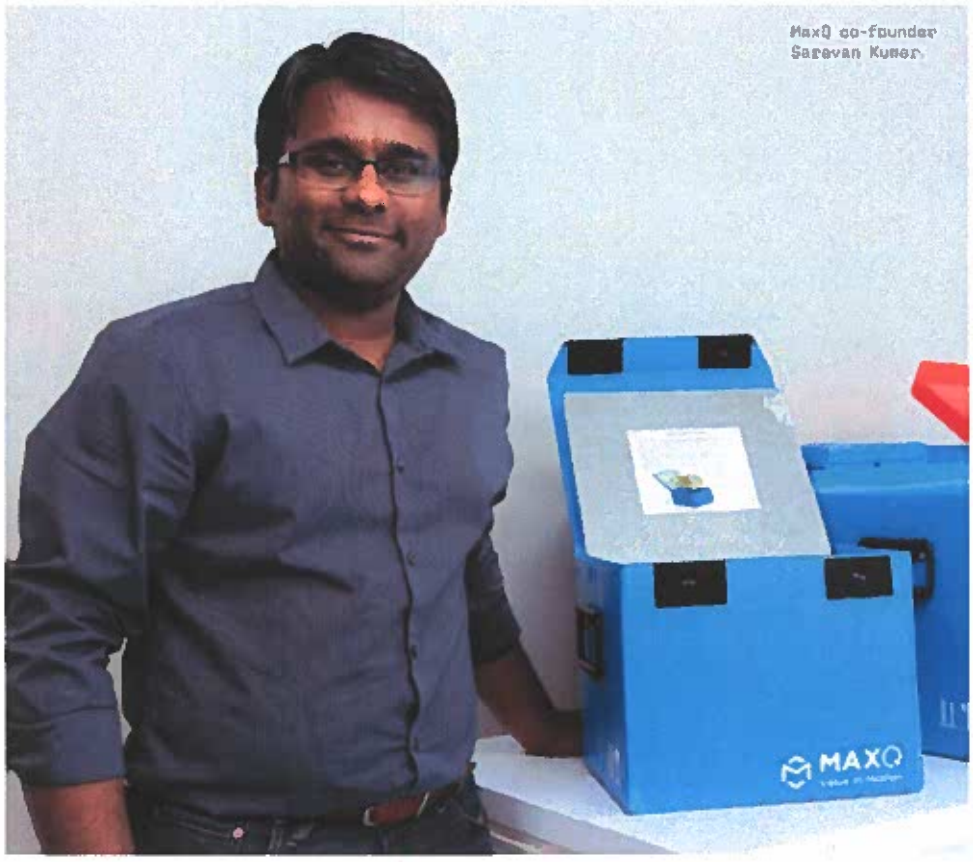

MaxQ co-founder Saravan Kumar.


Production technician Jheretheaj Tiwari assembles a red cooler.

Always Pivoting

Saravan Kumar co-founded MaxQ, a company that develops innovative thermal packaging solutions for temperature-sensitive biologics such as blood, medications, vaccines and pharmaceuticals, to protect the efficacy of drug products during shipping and enhance patient safety. Now, he is set to change the trajectory of a biopharma industry that loses $35 billion every year in lost products in the United States.

BY LORI WILLIAMS

ON THE DAY a pint of blood expired, the idea for Dr. Saravan Kumar's company was born.

"I was studying biomechanical engineering and doing my dissertation on blood flow dynamics," Kumar said. "So I often bought blood for research purposes. But sometimes it showed up without any ice and outside the required temperature range.

"Having to toss that blood led me to pivot from aerospace applications to life science packaging applications and co-found MaxQ."

From the very beginning, Kumar said he envisioned a company that built products and solutions that actually save lives. He worked to create thermal packaging boxes to eliminate blood or other temperature-sensitive products from expiring while in transport.

"In the early days, we used small pivots to find a true market fit," says the Stillwater-based entrepreneur. "Then we developed new technologies and products."

But the pivots weren't always smooth.

"We made so many mistakes and our customers hated our early prototypes," he said. "It was an educational process."

By the second year, he and his team had one clear goal: To sell one box.

"When we went from one to 10, it got through to me that we were OK at building boxes," he said. "Then we sold 100. In 2018, we said, 'Let's see if we can get into 100 hospitals.'"

MaxQ Head of Technology Arif Rahman stands by a thermal chamber

Four years later, that number quadrupled.

"Today we're in 825 hospitals across the United States," he said.

Now in its tenth year, the company is set to ship 5,000 boxes by the end of the third quarter of 2022, with projected sales of 7,000 boxes by the end of the fourth quarter. Additionally, MaxQ expects to go from 25 to 35 employees while doubling its production capacity during the next 12 months.

The company co-founder also plans to keep thinking inside – and outside – the box.

MaxQ's packaging solutions are built with proprietary insulation, coolant and tracking technology, and constructed of reusable and recyclable materials. Many of the packing solutions offer ergonomic features such as wheels and telescopic handles.

The really cool coolers offer standard or optional temperature monitoring systems. For example, the MaxPlus Vaccine Cooler can be equipped with an on-board digital data logger and temperature probe. The system utilizes Bluetooth technology and the MaxTemp app to offer seamless package tracking. Kumar and MaxQ's design team can also customize thermal packaging solutions such as personalized medicines and cell and gene therapies. These temperature-controlled shippers are pre-qualified for up to 120 hours.

"We have 25 different boxes in our catalog," Kumar said, "which represents a lot of pivots. But that's a good thing because pivoting is one of the biggest competitive advantages a small company, such as a start-up, can have.

"Our company still pivots as needed, usually every other month or so. I built a team and culture that emphasizes being agile."

That mindset is the reason why one of the country's largest biopharma companies is validating MaxQ's technology now.

"We're working on a digital suite of technologies that could be applied to large pallets of drugs worth millions of dollars," Kumar said. "We'll be able to forecast and predict when those pallets of drugs are going to fail. When we know in advance, we can move mountains to save those medicines."

Saving those drugs means saving lives and saving money. But Kumar knows that one single solution won't solve the problem entirely.

"We're going to keep pivoting," he says. "We're going to keep redesigning and reimagining so we can make a meaningful dent in the number of losses experienced by this industry." ■