

# A CARBONDALE MANUFACTURER AND IMEC PARTNER TO TURN RIVER SCIENCE INTO GLOBAL IMPACT

In the heart of Carbondale, Emriver is quietly shaping how the world understands water. The manufacturing company’s story does not begin in a boardroom, but along the gravel-strewn waterways of the Missouri Ozarks, where the late Steven Gough saw a problem most people couldn’t see.

Landowners in the Ozark region mined gravel from streams to build roads and driveways, unaware they were destabilizing entire river systems. When Gough worked for the Missouri Department of Natural Resources, which tried to intervene, he was met with skepticism. Gough, who died in 2020 from complications of renal cell carcinoma, believed the issue was less intentional than it was a lack of understanding that disturbing gravel beds destroys aquatic habitats and lowers water quality, both upstream and downstream. His life’s work was fluvial geomorphology, the study of how rivers interact with the land, and he knew people needed to see river science, not just hear about it.

At the time, stream tables existed to show the interaction of water and soil, but they were bulky, stationary, and impractical outside of universities. Gough envisioned something different: a portable, hands-on river simulation model that could be used in classrooms, field research, and public decision-making. He called his company **Emriver**, short for “emulating rivers.”

Today, under the leadership of Gough’s wife, Katherine Poulos, Emriver has grown from a niche educational toolmaker into a globally recognized provider of river **simulation models**, while remaining firmly rooted in Carbondale. (Click the embedded link in bold to view the model in action.)

“We’re in 48 states (all but Delaware and Hawaii) and more than 20 countries,” Poulos said. “Our next phase of growth is more international. We’ve partnered with a distributor in China and we’re exploring opportunities in South America. International sales now represent about 20 percent of our business.”

Despite its global reach, Emriver remains a small manufacturer with a big mission, and Poulos is quick to say the company hasn’t navigated that journey alone.



## WELCOME TO OUR 2026 MADE IN MY HOMETOWN SERIES

Southern Illinois innovator Emriver translates scientific expertise into scalable manufacturing systems and long-term business sustainability. Their success, and the stories shared through this *Made in My Hometown* series, supports skilled jobs, academic and research partners, customers around the world, and regional economies built on precision manufacturing and made-in-Illinois innovation.

That’s why IMEC is highlighting manufacturing companies like Emriver. We want the world to see how manufacturing touches many lives. Small to midsize manufacturers are steeped in can-do spirit, yet many struggle with how to grow without losing the ingenuity that defines them.

Illinois is driving the era of Industrial Reinvention, and IMEC is proud to be the first stop for the more than 12,500 manufacturers statewide.

Cheers,

Dan Hofmann  
Interim President  
Illinois Manufacturing Excellence Center



**IMEC PROVIDES CRITICAL RESOURCES FOR SMALL MANUFACTURERS**

Manufacturing is vital to communities like Carbondale because it creates jobs that last, supply chains that endure, and opportunities that allow families to thrive. But like many small manufacturers, Emriver had deep expertise and purpose, not excess bandwidth.



“IMEC supports small and medium-sized manufacturers, and my role now is focused on companies with fewer than 20 employees,” IMEC Regional Manager **Cassi Igert** said. “These are the manufacturers that often need the most help but don’t always have the time, resources, or even awareness that support exists.”

Many of those companies, she noted, are family-owned operations where leadership is stretched thin. “The owners are wearing multiple hats and working in the business, not on the business,” Igert said.

That reality has shaped a long-standing relationship between Emriver and **IMEC**.

“Steve developed the relationship with IMEC years ago,” Poulos said. “They helped us realize we needed more space because we had outgrown our old footprint. Additionally, IMEC looked at workflow, layout, and training. We’ve used their 5S training and process support, and it’s made us far more efficient.”

“They needed more space, so we had to be very intentional about making the footprint work,” Igert said.

Beyond operational improvements, IMEC also connected Emriver to external funding resources that made those improvements possible.

“I introduced them to the **Illinois Department of Commerce and Economic Opportunity** and their local WIOA (Workforce Innovation and Opportunity Act) office (**Illinois workNet Center**). Both agencies helped fund projects,” Igert said. “Making those connections is a big part of what we do.”

Jim King, Emriver’s production director, has worked closely with IMEC as the company evolved.

“When we moved into our current building, IMEC helped us lay out our equipment,” King said. “As we planned our next expansion, they came back, reviewed our flow, and helped design the expanded manufacturing layout we’ll be implementing in 2026.”

**ABOUT EMRIVER**

- ✓ Five full-time employees
- ✓ The company’s product lineup includes several model types like Em2, Em3, and Em4 stream tables, and EmFlume1.5, each designed for different scales of river simulation and educational use
- ✓ Emriver models are used globally in classrooms, museums, research labs, and public outreach programs to demonstrate river dynamics, sediment transport, and fluid mechanics



**Companies with fewer than 20 employees ... are the manufacturers that often need the most help.**



IMEC also supported Emriver during the evaluation of a new enterprise resource planning (ERP) system, a critical decision for a manufacturer with fewer than 10 employees.

"We rely on IMEC and state and local resources to fill knowledge gaps," King said. "It gives us a place to turn."

IMEC is the only public-private partner in Illinois focused exclusively on Repeatable Excellence™ for small and midsize manufacturers. With more than 50 specialists statewide, IMEC helps companies strengthen leadership, enhance operations, build workforce skills, optimize facilities, and make data-driven decisions. When manufacturers succeed, Illinois communities become stronger, more competitive, and more resilient.

Illinois manufacturers cannot afford to fall behind, and the nation cannot afford for them to fail.

In 2025 alone, IMEC helped more than 3,500 Illinois companies scale, delivering an aggregate economic impact of \$910 million and a return on investment exceeding a 19:1 ratio.

For Emriver, support for IMEC translates into smarter facility planning, improved workflow, operational discipline, and a foundation for sustainable growth.

"Small manufacturers need someone to meet them where they are," Iger said. "Emriver is a great example of a small company with a strong purpose. Our job is to support them with the tools, training, and resources they don't have time or capacity to develop on their own."

**A RIVER OF IMPACT IN CARBONDALE**

Sold worldwide, Emriver's river simulation models start at roughly \$7,000 for the entry-level version. That's a prohibitive cost for many school districts, particularly in rural communities. Rather than allowing price to become a barrier, Emriver lends its models locally, expanding access to hands-on environmental science education across Southern Illinois.

At Marion High School, science teacher Holly Dunderdale has used Emriver's model for several years to bring environmental science to life.

"I can tell students how water influences land or show them pictures," Dunderdale said. "But when they see it happen in real time on the model, it clicks."

Students observe river behavior, experiment with human interventions like dams and levees, record time-lapse videos, and connect those lessons to real-world landscapes from Southern Illinois streams to Mars.

"It sparks curiosity," Dunderdale said. "And yes, it absolutely leads students to consider careers in environmental science, forestry, and ecology."

Emriver's models have been used by policymakers to visualize river management, by researchers studying global river systems, and by students discovering how water shapes the world.

Transforming products into lifelong impact is what makes small manufacturers the heroes of their hometowns.

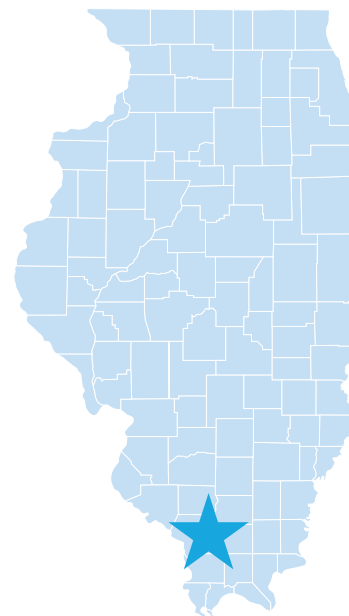


**IMEC ... has made us far more efficient.**



**EMRIVER**

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Carbondale, Illinois 62901



**A STRONGER ILLINOIS, ONE MANUFACTURER AT A TIME**

When small and midsize manufacturers scale, the impact is profound because it supports job creation, education, community vitality, and global competitiveness. IMEC ensures Illinois manufacturers don't make that climb alone.

"IMEC has been a huge help," King said.

From Carbondale to classrooms around the world, Emriver proves what's possible when innovation, manufacturing, and community purpose flow together. They become unstoppable.



*We rely on IMEC and state and local resources to fill knowledge gaps.*

**MADE IN MY HOMETOWN SERIES**

In every Illinois hometown, manufacturing impacts families, community, state, and country – and IMEC is there. We're the first stop to taking small and midsize manufacturers from status quo to unstoppable. You bring the can-do spirit, we bring the know-how to scale your goals.

Illinois Manufacturing Excellence Center (IMEC)

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**IMEC PROJECT IMPACT**

**\$50,000**  
AGGREGATE NEW SALES GENERATED

**\$56,400**  
IN TOTAL COST SAVINGS

**\$24,400**  
IN COST AVOIDANCE

**\$37,000**  
IN INFORMATION SYSTEMS AND OTHER INVESTMENTS

*"It absolutely leads students to consider careers in environmental science, forestry, and ecology."*



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