

Big River revving up for auto AHSS R&D drive

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CHICAGO — Big River Steel LLC has teamed up with the Center for Collision Safety and Analysis (CCSA) to research how advanced high-strength steels might make future vehicles safer.

CCSA wanted to collaborate with a new steelmaker, like the Osceola, Ark.-based start-up, rather than a “traditional, volume-type steelmaker,” Steve Kan, director of the CCSA and a professor at George Mason University, said in a recent interview with AMM.

“In the future, maybe you are not making one grade in huge quantities but many very intricate steels in relatively small quantities. So to manufacture it, you need to be flexible, adaptable and cost-effective,” he said.

Kan was involved in some of the initial discussions with the steelmaker's investors about how the company would benefit from making advanced high-strength steels, Big River chief commercial officer Mark Bula said. And his work as a steel and vehicle safety “futurist” should help guide Big River beyond when it starts making coils in December.

“Some of it (advanced high-strength steel) we hope to be able to make in this current mill. But we also intend to expand that mill,” Bula said. “We are also looking at evaluating building other mills. So what can we make with our current mill configuration? And what do we need to think about 10 to 30 years down the road?”

Big River has said it hopes to double in capacity to some 3 million tons per year ([amm.com](#), Aug. 3), and is considering building a new mill and adding finishing capabilities dedicated to third-generation advanced high-strength steel ([amm.com](#), Sept. 15).

Kan's analysis of where vehicle safety needs to be improved will give Big River foresight on what steels the company should make and for which vehicle parts, perhaps even before automakers are aware that they need them, Jody Shaw, the steelmaker's applications development executive, said.

Most steelmakers want to be involved with automakers in the design process, but collaborations like that with CCSA will allow Big River to get further ahead of the curve, he said. “Even before they are starting the design, we are going to have come up with the right steel products. ... It gets us five to 10 years out into the future.”

That foresight is necessary because the auto industry could change dramatically over the next decade, especially given expected advancements in electric vehicles and self-driving cars, Kan said. “The entire design process will change. ... The configuration and the car's shape might change because there will be no need for a big engine in the front. But safety will remain a priority.”

Big River Steel will continue to pursue its own research and development efforts under Shaw's guidance, along with Denis Hennessy, director of product development, company executives said. The company hopes to work with local universities and government agencies as well, they added, citing Arkansas State and the Department of Energy.

The steelmaker doesn't want those efforts to occur in a vacuum. "We want to be collaborative. We don't want to assume there is one way to do (research)," Bula said.

Kan has also worked as director of the National Crash Analysis Center, according to CCSA's website. The Fairfax, Va.-based group, like the National Crash Analysis Center, aims to bring together government, academia and private industry.

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