



Rheinmetall Automotive at IAA commercial vehicles in Hannover

In response to the need to curb fuel consumption and CO2 emissions of growing importance, especially on commercial vehicles, is a reduction in engine friction. Over the past years, first-tier auto-industry supplier Rheinmetall Automotive (former KSPG) has systematically broadened and honed its expertise in this area. The outcome through its subsidiary KS

Kolbenschmidt, this specialist has achieved 20-percent less friction on a new low-friction piston assembly compared with the existing piston assemblies used on today's 2016 engines models. What's more, the reduced height of the new piston assembly also lowers overall engine mass.

This significant step forward has been facilitated by a detailed improvement



East Jordan Iron Company plans new foundry in Elmira



A prominent East Jordan employer is gearing for major changes to one of its facilities that have lined the small town's shoreline for 133 years.

EJ formerly known as East Jordan Iron Works will uproot foundry operations from its longtime facility in the area including 350 employees to a new location roughly 13 miles east in Elmira.

"We've grown significantly over 133 years and the current foundry is our original site," said Tom Teske, general manager of EJ. "It's been updated many times, but now we're at a point where we've seen the new technology available, and we've decided it's best to build a new location from the ground up." The infrastructure production company selected a site near the intersection of M-32 and U.S. 131 for the new facility, but the project is not final, Teske said. Many details still need to be worked out with state and local officials.

"Our announcement was a little premature, but we mainly did it so our employees understood what we were trying to do," he said.

EJ plans to retain all 350 employees through the relocation. Teske said the company worked extensively with the Michigan Economic Development Corporation and Northern Lakes Economic Alliance to keep foundry operations in Northern Michigan and ensure the new

location suited employees. "Our number one priority of this project was to make sure all our current workforce stays employed," Teske said. "We worked hard to find a feasible location for them."

Teske said the company's plans to build a smart foundry, with top-of-the-line equipment technology, could even create additional jobs in the new facility.

"Everything will be state-of-the-art," he said. "When you do that, you need a lot of different talents from electricians to highly qualified maintenance workers to programmers."

It is too early to say how many additional jobs, if any, would come from the relocation. EJ plans to train all current foundry employees on the new equipment before searching for new talent, Teske said.

"Our current workforce is our number-one priority in this project," he said.

Several upgrades at the new location modern foundry automation equipment, premier environmental controls and a technology-based production system are expected to revamp the foundry's image. One substantial change in energy supply may even make it unrecognizable as a foundry from the outside, Teske said.

"We use coal to melt the metal products in our current facility, but operations to melt metal at the new facility will be fueled entirely by electricity," he said. "It will be much cleaner."

EJ plans to break ground on the facility this spring, with a goal to move into the new foundry by fall of 2018 and have full production underway by February of 2019, Teske said. The company will phase employees out of the current foundry, which will remain in full operation until production starts at the new facility.

"Our employees won't have to miss a day of work, and we'll be able to keep supplying customers," Teske said.

EJ operations surrounding the 450,000-square-foot foundry in the East Jordan

package and hence still low and in some cases, even lower oil consumption not only reduces fuel consumption and emissions on engines for powering both on and off road commercial vehicles, it spells advantages in terms of leaner fleet operating costs and not least of all, less harm to the environment.

A key role in the friction reduction measured is played by a completely custom tailored piston assembly consisting of piston, piston rings, cylinders, piston pin and connecting rod. The individual parts of the total assembly are meticulously matched to the application requirements in terms of such parameters as geometry, surface properties, shape, and coating.

The tribology of the individual components and their best possible interaction is a complex challenge with a host of reciprocal effects. So, in order to accurately record the measurements while the engine is running, KS Kolbenschmidt has developed its own purpose engineered friction test bench. Included in the integrated system are slide-honed cylinders sourced from a co-operation agreement with GKN Cylinder Liners as well as special low-friction piston rings co-engineered with alliance partner Riken.

Industrial Park including the company's headquarters, pattern shop, product design group, water product facility and Northern Michigan sales office will stay where they are, Teske said.

The foundry itself eventually will be torn down. No plans have been made for the land, which includes a section of frontage on Lake Charlevoix, but city officials have begun to discuss its potential use. The company met with East Jordan's mayor, city manager and Chamber of Commerce recently, said Teske, also president of the East Jordan Downtown Development Authority.

"We'll meet on a regular basis with the city officials and planning commission to work on a redevelopment plan for a significant amount of the property," he said. "We're very committed to East Jordan, so we'll work on what we hope is the absolute best plan for the city."