

BY GLENN AESAERT, PROJECT MANAGER VINTECC

ARCELOR MITTAL

DRIVING INNOVATION



EXPERTISE

AGV, DIGITAL TWIN, MATLAB/SIMULINK MODELING, POINTCLOUD PROCESSING
SMART MACHINES, SOFTWARE MIDDLE LAYER, VIRTUALISATION

PROJECT DESCRIPTION

“The site in Ghent has grown exponentially over the past 50 years,” explains Leander Verhofstadt, automation project leader at ArcelorMittal Ghent. “To keep up with the increased productivity, we started an extensive modernization project to be unrolled in four phases: renewing and retrofitting the existing machinery, restructuring the logistic models, increasing worker safety, and enhancing our automation capabilities. Upgrading our slab carriers is a key element of that last phase.

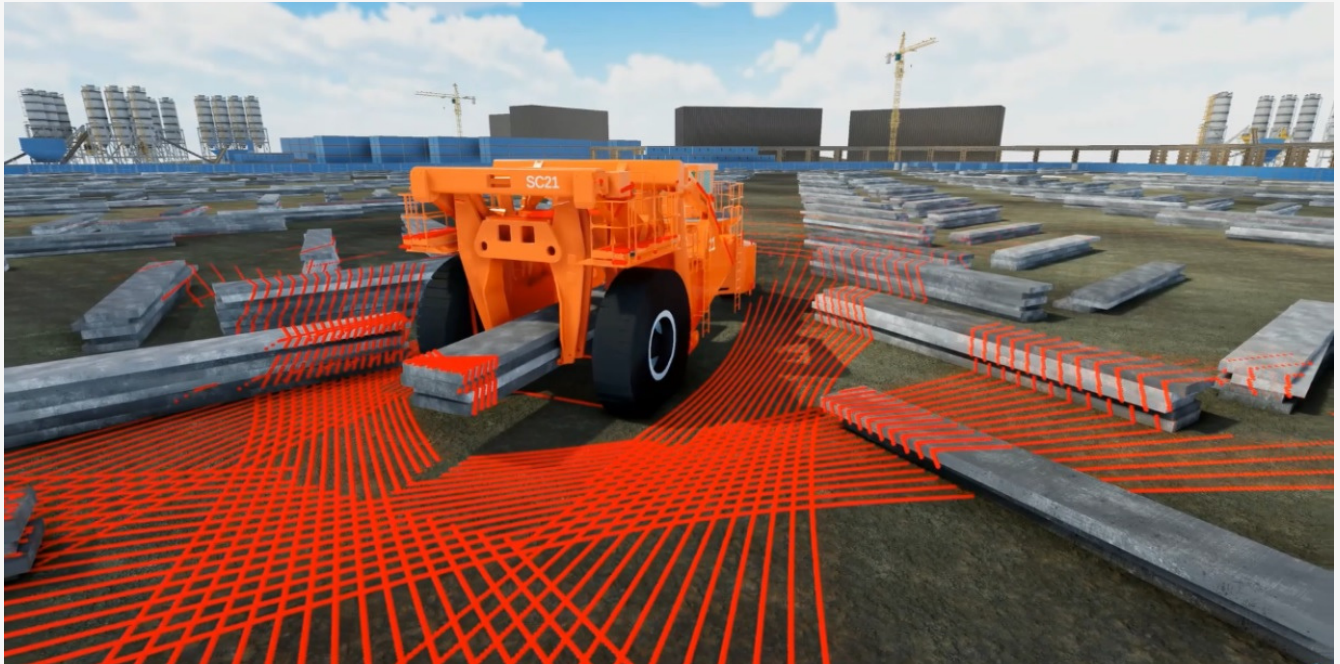


ABOUT ARCELOR MITTAL

At ArcelorMittal Ghent, innovation is always top of mind. To improve overall efficiency, the Belgian production site of the world-renowned steel group is looking to automate its ‘slab carriers’: enormous vehicles designed to handle steel slabs weighing 22 tons on average, for a total of 150 tons per transport. Vintecc’s experience with sensor technology, technical know-how and flexible service is proving to be a driving force behind the project.



FULLY AUTONOMOUS SLAB CARRIER



Custom-made carriers

The slab carriers are specifically designed to carry steel slabs from the steel factory where they are produced to the hot-strip rolling mill. Leander: “This is very challenging process, and not just because of the weight. Slabs are stacked upon one another and can have different measurements, so the trick is to pick up the exact amount needed. The carriers we ordered for this project are custom made for our specific needs.”

Completing the puzzle

But ArcelorMittal’s ambitions don’t end there. Leander and his team want to turn the customized slab carriers into fully automated, self-driving vehicles that are able to navigate the site and pick up slabs. To make this possible, they called in the help of Vintecc. “As ArcelorMittal’s center of excellence, we have a lot of experience with automation,” explains Leander. “But automating vehicles is a very specific expertise, which requires a profound knowledge of sensor technology. In addition, we needed to have everything in place in terms of software and automation architecture before the first ordered carrier arrived.” In our search for the right partner, we came across a small company called Vintecc, which apparently had experience in automating harvesting machines for agriculture.”

LEANDER VERHOFSTADT - AUTOMATION PROJECT LEADER

WHEN WE STARTED THE PROJECT, WE HAD NO IDEA THAT THERE WAS SO MUCH AUTOMATION EXPERTISE SO CLOSE BY. VINTECC IS, WITHOUT ANY DOUBT, AN IMMENSELY VALUABLE PARTNER IN THIS PROJECT.

From agriculture to ArcelorMittal

Vintecc's proven experience in model-based commissioning and the automation of harvesting machines quickly convinced Leander that the firm had what it takes to successfully finalize the project. "They started with a comprehensive sensor study to identify all the things the autonomous carriers need to recognize when navigating the site. Our environment is very challenging in this regard: it's very hot, and the steel causes a lot of reflection. Vincent and Karel visited us multiple times to try out new sensors to create an ideal configuration." The next step was developing the right automation software. "They actually equipped a jeep with their sensor configuration to drive around the site autonomously to test the software. After that, they went to work on one of our old slab carriers to make sure all the positions were right. Next up is a comprehensive study to determine the requirements for the actual handling of the slabs."

Valuable partner

"Throughout the project, Vintecc has proven to be a knowledgeable and reliable partner. They are very open about the technological challenges, but also about the financial side of the project. When we started the project, we had no idea that there was so much automation expertise so close by. They are, without any doubt, an immensely valuable partner in this project."

