

Equipped for inland transportation

rail & barge handling systems



Using iLoadout, Teck Resources has been able to cut its railcar unloading time by half.

indurad's systems halve rail loadout time, vastly increasing throughput

indurad is a German company that has made a sizeable impact in the world of dry bulk handling. Its products are used with a wide range of commodities, from metallic ore to agricultural products.

Since its founding in Aachen in 2008, indurad has branched off into all major markets and counts some of the world's largest mines, ports and terminals as its customers.

CASE STUDIES

TECK RESOURCES

Copper and coal miner Teck Resources operates Fording River mine in southeastern British Columbia in Canada. The mine produces nine million tonnes of metallurgical coal annually, which is shipped by rail to Vancouver for export.

In 2020, indurad commissioned its iLoadout solution at one of the mine's two

train loadouts and in the following month, railcar unloading was reduced by half and tonnes shipped was increased dramatically.

The system uses indurad's radars to determine exactly how and when to operate the chutes so that the load is maximized for each car while at the same time ensuring that no car gets overloaded and ensuring an optimal load distribution

between bogies.

The speed with which a car can now be loaded has been increased by 41.5%, reducing the total time to load a train to only two and a half hours.

Nick Himmelman is the Director of Technical Sales for indurad Corp. in Montreal and was responsible for the iLoadout deployment at Fording River.

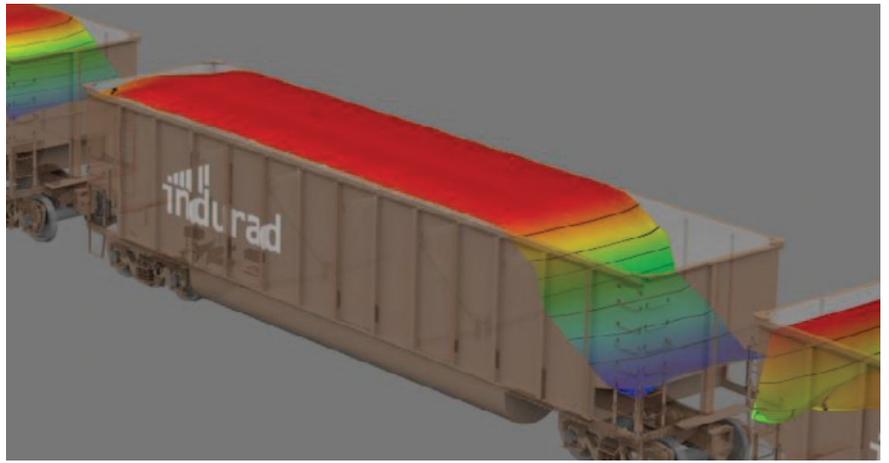
“It’s quite astonishing how large the untapped potential in train loadout stations can be. We find that they are often handling far less material than what they were designed for due to the lack of real-time operational insight.”

Himmelman said that several radars have been installed in the loadout to measure train speed, identify car types and to execute real-time volumetric scans of the cars as they are being loaded.

“Because the radars can see through dust, steam, rain, and snow, they can be mounted right next to the chutes. And when you move a sensor closer to what needs to be measured, you shorten the control loop which enables a much faster correction to the process. In the case of Fording River, they are now able to correct a deviation from normal in the very moment it occurs,” Himmelman continued.

“Compare that to more traditional measurement methods that often take place at a weigh station that could be quite a distance from the loadout. In those cases, you could have 20 cars to correct by the time a deviation makes itself known.”

Teck Resources is now planning to deploy iLoadout at other company-owned train loadouts.



VALE ILHA GUAÍBA TERMINAL

Another important market turning to indurad for solutions is Brazilian iron ore. Vale is the world’s largest iron ore miner and chose indurad’s iShiploader solution for its Ilha Guaíba terminal (TIG), in Rio de Janeiro when modernizing the facility.

Utilizing sensor fusion and advanced artificial intelligence (AI) software, iShiploader can help significantly reduce the time to load a ship while also reducing risk of harm through a sophisticated human-to-machine and machine-to-machine collision avoidance system.

Fabian Riedel, VP Sales at indurad GmbH, explains what makes indurad’s solutions unique. “In the case of Vale, reliability was everything. Traditional methods of monitoring the shiploading process were neither dependable, nor could they scale to meet the demands of a modern operation”.

Having been awarded the project, indurad deployed several of its next-

generation scanning radars to monitor the shiploader’s movements complementing the collision avoidance system.

“When we set out to solve a problem in dry bulk handling, there are two fundamental principles that we apply to the engineering and development processes,” said Riedel. “The first is that the sensing technology must excel in the environment in which it will be deployed. Next-generation scanning radars have shown themselves to be far and beyond the best option as they are unaffected by airborne dust, water spray, fog or precipitation and they even operate to within specification when covered by a layer of dirt or other material.”

Riedel continues: “The other design principle is that our solutions must be able to withstand the extreme conditions that they will be exposed to when in service. We make sensor housings from billet material and put them through a rigorous battery of tests to make sure they perform as expected whether deployed in the Brazilian jungle or on the Canadian prairie.”

FUTURE FOCUSED

When asked about what lies ahead for indurad, Riedel said that the company is increasingly focusing on helping customers reach their sustainability and safety goals: “The most efficient use of resources and zero harm are central to everything we do. Whether that means improving the utilization of existing assets or improving the safety of humans who work on or around machinery, we will continue to apply best-in-breed technology and best practices to help make it happen.”



Shiploading at Ilha Guaíba terminal has been made safer and more efficient with indurad’s iShiploader.