

## Improving performance and minimizing downtime with indurad's iBelt

Operators of conveyor belt systems must often deal with the demand of increasing material throughput, while facing unscheduled downtime and high maintenance costs. There may also be issues with bottlenecks in the bulk material handling process and material spillage at transfer points to other conveyor belts, silos, or capital equipment like tripper cars, stackers, reclaimers or shiploaders.

Conveyor belts are often installed in environments with poor visibility, high dust loads, or exposure to rain and snow. Furthermore, they are often in remote areas that are difficult to access. This explains why optical measurement systems are often not suited to measure material across conveyor belts.

The iBelt, indurad's radar based bulk volume scanner, addresses those problems and can help debottleneck key processes, optimize process performance, improve safety, and increase availability of critical equipment.

The solution can be deployed in mines, plants, smelters, stockyards, ports, and on balanced machines like stackers, reclaimers, shiploaders and unloaders. The solution is applicable to all bulk commodities,

including, amongst others, crushed ore, coal, lignite, potash, sulphur, salt, cement, tar sand, grain or wood pellets. All indurad sensors are maintenance free, so regular cleaning is not required.

indurad has successfully deployed more than 100 iBelt units worldwide. Typical customer use cases are:

- ❖ **volumetric material reconciliation:** monitoring volumetric inflow and outflow of stockpiles or silos;
- ❖ **control of volumetrically constrained processes:** optimizing capacity by measuring feed, load, or discharge of crushers, stockpiles, silos, or dense media separation plants;
- ❖ **production rate control:** closed-loop control of stacker/reclaimer production rates;
- ❖ **belt scale calibration control:** detecting drifts of belt scales by volume flow monitoring for optimization of maintenance cycles;
- ❖ **bulk density calculation:** live monitoring of bulk density in crushing circuits;
- ❖ **belt alignment measurement:** enabling warning or automatic alignment control for long, maintenance-prone conveyor

belt systems; and

- ❖ **belt load control:** maximizing utilization to increase throughput.

The solution is modular and easy to install. Remote or local support is available globally upon request.

### ABOUT INDURAD

indurad is a Germany-based global supplier of radar-based automation technology. indurad's solutions are used to debottleneck bulk materials handling systems in mining and port operations. indurad has successfully implemented advanced automation solutions in Africa, Australia, Brazil, Canada, and Europe. indurad's proprietary sensors are part of a multi-purpose solution family that covers real-time inventory control, 2D and 3D stockpile visualizations, machine positioning with high accuracy, speed and volume flow control for conveyor belts, shiploaders, and more.

indurad has partners and clients in the mining, marine, and bulk materials handling industries on all continents and has local offices in Australia, Brazil, Canada, Chile, Russia, and South Africa.



*indurad's Bulk Volume Scanner in a Chilean open pit copper mine.*