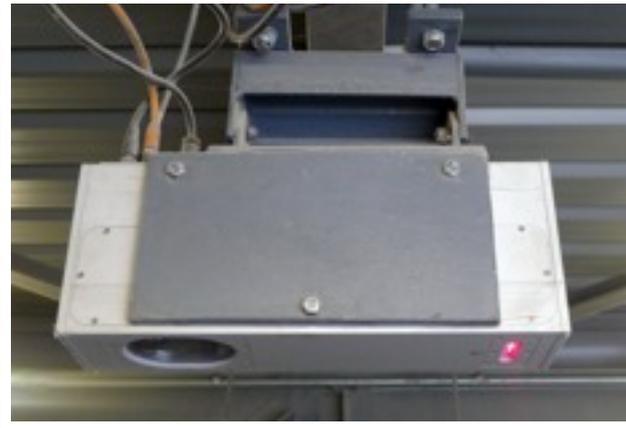


MBV-SYSTEMS 3DPM

ONLINE PARTICLE SIZE DISTRIBUTION MEASUREMENT ON CONVEYOR BELT

INCREASE PRODUCTION – SAVE ENERGY



USE THE PARTICLE SIZE DISTRIBUTION TO OPTIMIZE YOUR PROCESS



MBV
SYSTEMS

NEW KNOWLEDGE ALLOWS NEW OPTIMISATIONS

OPTIMIZE YOUR PROCESS INCREASE PRODUCTION AND SAVE ENERGY

3DPM is an automated online measurement system that provides continuous particle size distribution estimation on conveyor belt for your needs. A robust laser and camera system provides non-contact measurement of the 3D surface profile of piled particles on the conveyor belt. Advanced algorithms analyse the measured surface to detect individual particles and areas of fines to estimate the particle size distribution.

ONLINE PARTICLE SIZE DISTRIBUTION RESULTS

- New knowledge allows new optimisations
- Verification of particle size
- Learn more about your process operation over days, weeks, months
- Monitor size distribution through complex transportation & storage chains
- Automatic control for crushing, grinding mills, pelletizing, agglomeration, kilns and other particle processes

REFERENCE INSTALLATIONS

- Monitoring input to the grinding mills - Crushed rock including fines
- Quality control - Screened & stockpiled rock in different size ranges
- Feedback for control - Pelletisation of iron ore concentrate

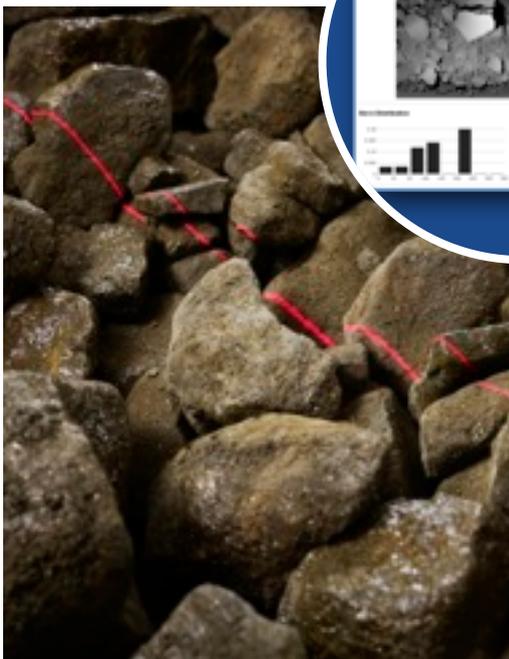
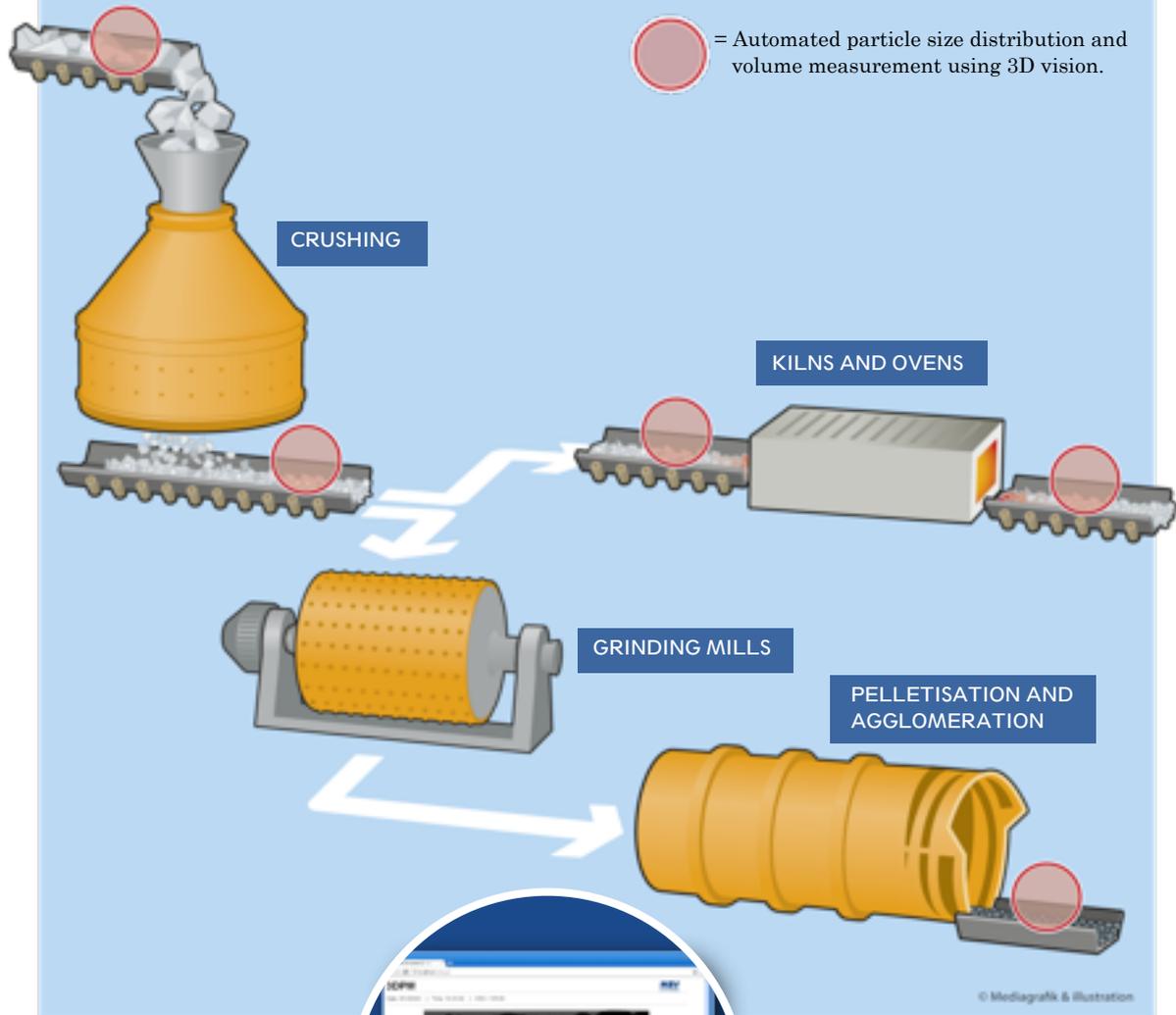
RESULTS FORMATTED TO YOUR NEEDS

- Continuous cumulative size distribution, or specific size classes
- Specified cumulative percent-passing values
- Results as instant values and averages for monitoring trends
- Integrated OPC server for communication with PLC

STEP-CHANGE TECHNOLOGY THAT OVERCOMES MAJOR LIMITATIONS OF THE PAST

- Rugged equipment specifically designed for harsh mining environments
- Low maintenance over years of operation
- Fast measurement technology tailored to your conveyor belt speed and width
- Highly accurate 3D surface measurement regardless of material color
- Size distribution estimation based on the reality of the visible piled particles

MEASUREMENT FOR PROCESS CONTROL



GEORGE WILKINSON, MILL MANAGER AT BOLIDEN TARA MINES

“IMPROVED EFFICIENCY AT BOLIDEN IN IRELAND”

The 3DPM system from MBV-Systems has provided Boliden Tara Mines in Ireland with the potential to improve communication between the mine and the grinding mill. “When we learn to use this to its full potential, it will provide the opportunity to optimise production at less cost”, says mill manager George Wilkinson.

PARTICLE MEASUREMENT ON CONVEYOR TO GRINDING MILL

Boliden Tara Mines Limited in Knockumber, north of Dublin, Ireland, installed the 3DPM system early in 2012. The 3DPM system is installed to measure the particle size on one of two conveyor belts transporting material from the coarse ore storage into the recently installed autogeneous grinding mill. In this mill the ore is ground into the finer particles as the first step in the process resulting in zinc and lead concentrate.

VERY USEFUL FEEDBACK TO OUR SUPPLIER

The results so far are very promising. The information from the 3DPM system has provided the mill management with insight into the effects that feed particle size has on the mill throughput. “The information about how particle size affects mill efficiency is very useful as feedback to our supplier, our colleagues in the mine”, says George Wilkinson.

OPTIMISE MILL THROUGHPUT AND LOWER PRODUCTION COSTS

The information from the 3DPM system will be a valuable input into an ongoing fragmentation project at Boliden Tara Mines, with the purpose to optimize mine and mill processes and improve integration. “This project, with input of the new information about optimal particle size, has the potential to optimise blasting in the mine. This in turn could optimise mill throughput and lower the production costs”, says George Wilkinson.



FACTS ABOUT BOLIDEN TARA MINES

- Location in County Meath, north of Dublin, Ireland
- Tara is an underground mine, with an orebody at 50 to 900 meter below surface
- Production of zinc and lead
- Producing 200 000 tonnes of zinc concentrate and tonnes 40 000 of lead concentrate
- Tara mine is the fifth largest zinc mine in the world, the largest in Europe. Production began in 1977.

The 3DPM system is developed in collaboration with Luleå University of Technology, ProcessIT Innovations and the Interreg IVA programme of the European Union. **Contact: www.mbvsystems.se**

