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## Tracking The Pit To Port Ore Movement

27th Oct, 2020

Once you have mined out ore from the earth, much depends on how efficiently you process it through a stockyard and then move the material seamlessly to a train wagon or a port. Mining companies and even integrated steel producers have been brainstorming and deploying automated solutions for tracking the pit to port ore movement. You realize its import since ore is finite and a 'once-only' resource.



Today, as mining product stockpiles swell across countries, companies are in a tight spot. On how to manage stocks efficiently. On the one hand, ore producers and end use industries need to build ample stocks to guard against fickle market forces and price vacillations. Add to this, they also have to be mindful of the costs associated with managing ore stocks. Stockyard is a critical component of the bulk material handling chain. When managed efficiently, it can cut turnaround time, enhance process efficiency and lead to higher operating profits.

# Stockyard Management: Blending Smart Engineering with Automation

New age **Stockyard Management Systems** blend real time machine metrics with laser enhanced stockpile modelling and smart analytics to deliver an optimized and seamless performance. Such smart technologies enable an accurate, real time 3D visualization of the stockyard operations and a suite of real time and historical reports showing actual and projected performance. The use of laser optimization for reclaimers promises to boost throughput as well. Agile solutions are also helping in quality management of the stockyard, linking mining and port systems to offer reporting data from the source to the supplier. This end-to-end tracking gives companies an edge over competition. Realizing it, companies are eyeing the next level of digitalization riding on game changing technologies for a paperless, contactless experience.

## Digital Future in IoT, Robotics powered Stockyard Systems

The future rests on a stockyard and stockpile management system that leverages niche technologies like Artificial Intelligence, Internet of Things (IoT) and Robotic Process Automation (RPA). A system that can optimally manage and automate the inbound receipts and outbound delivery of mined mineral. Aligning with this futuristic vision, we have implemented an IoT and RPA driven Stockyard Management System for Odisha Mining Corporation (OMC), the largest state owned mining PSU in India. The solution is automating OMC's Baliparbat stockyard within its flagship Daitari iron ore mines complex.

The system is capable of tracking vehicular movement on real time basis, thus preventing the entry of unauthorized vehicles to the stockyard area. Hosted on the cloud platform, it offers real time visibility of ground level mining operations. This stockyard management system brings in a string of benefits- automatic identification of mineral carrying vehicles, better management of sales activity, easy scalability of applications, reduction in operating costs and a single view of material entering and exiting the stockyard. Another advantage of the system is its easy ability to integrate with the **Integrated Mines and Minerals Management System** (i3MS), a solution we have developed since 2010 for recording end-to-end ore transactions.

Digitally enabled stockyard solutions not just power profits of organizations but take care of the other Ps- people and planet. Technology aided stockpile management ensures environment sustainability through better waste management. Smart stockyard solutions can thus balance productivity and profitability with sustainability.



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