EAGLE YARD™

LOTUS WIRELESS
Connect with Innovation

Unleashing Unmanned Operation
Redefining Yard Machine Operations with Dominant Automation

Cutting-edge Expertise
Mastering Depth of Cut Control in Coal Yard bucket wheel reclaimer Operations

Safety at its Core
Unleashing SIL 2 Certified Systems for Unparalleled Protection

RAW MATERIAL YARD SOLUTIONS

DIGITAL PLATFORM FOR RAW MATERIAL HANDLING YARDS

REMOTE CONTROL DESK

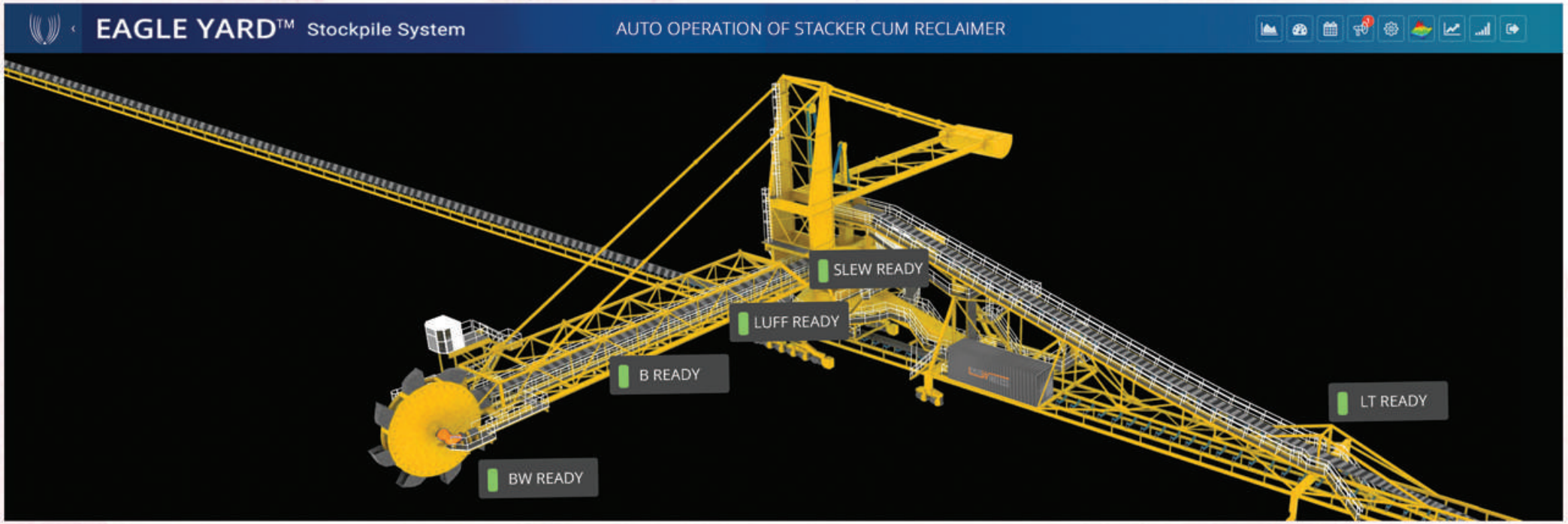
EAGLE YARD™

EAGLE YARD™ brings better visibility of the raw material handling yard to the user about the stacking reclaiming and the yard utilization information. The Platform tracks monitor and digitally recreates the yard status in real time to provide inputs for better decision making.

EAGLE YARD™ is a Manufacturing Execution System (MES), managing and monitoring the yard operation for optimum utilization of all the associated assets. It provides online information of total in & out flow of raw material in the yard further Integrating with Existing plant automation / DCS system.

EAGLE YARD™ is offered as Turnkey Solution with selectable modules of

- Man-less operation of yard equipment like Stacker, Re-claimer from CCR
- Online 3D visualization of stock pile and yard machine
- Automatic stacking / reclaiming of yard machines
- Depth of cut and constant rate control system for bucket reclaimers
- Wagon tippler to bunker / silos optimization including all conveyor management with diversion gates etc
- On line Belt / Silo volume measurement

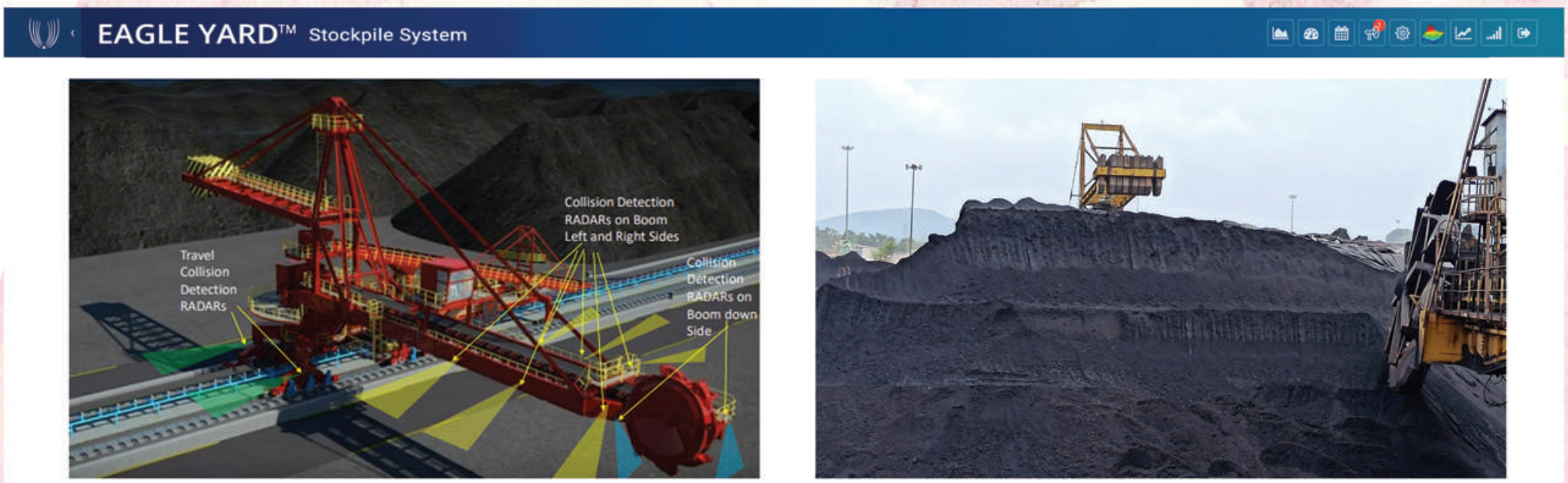


AUTOMATIC STACKING OPERATION

- Completely automate stacking of stockpiles based on performance, capacity, and quality requirements and create machine operation plan as per the demand
- Optimize stacking shapes with advanced Eagle Eye Hybrid Sensor Technology for stock pile scanning
- Improving the stockyard utilization by providing information of precise location of the stock pile
- Reduced dust by adjustment of the stacking boom close to the top of the pile

AUTOMATIC RECLAIMING OPERATION

- Eagle Eye Hybrid Sensor Technology for stock pile scanning works in harsh environmental conditions and as its mounted on the machine further gives continuously updated stockpile profile information while reclaiming the stockpiles
- Control logic for fully automated reclaiming based on stockpile shape and volume model
- Optional Depth of cut control operator guidance system
- Optional Constant Rate Control System



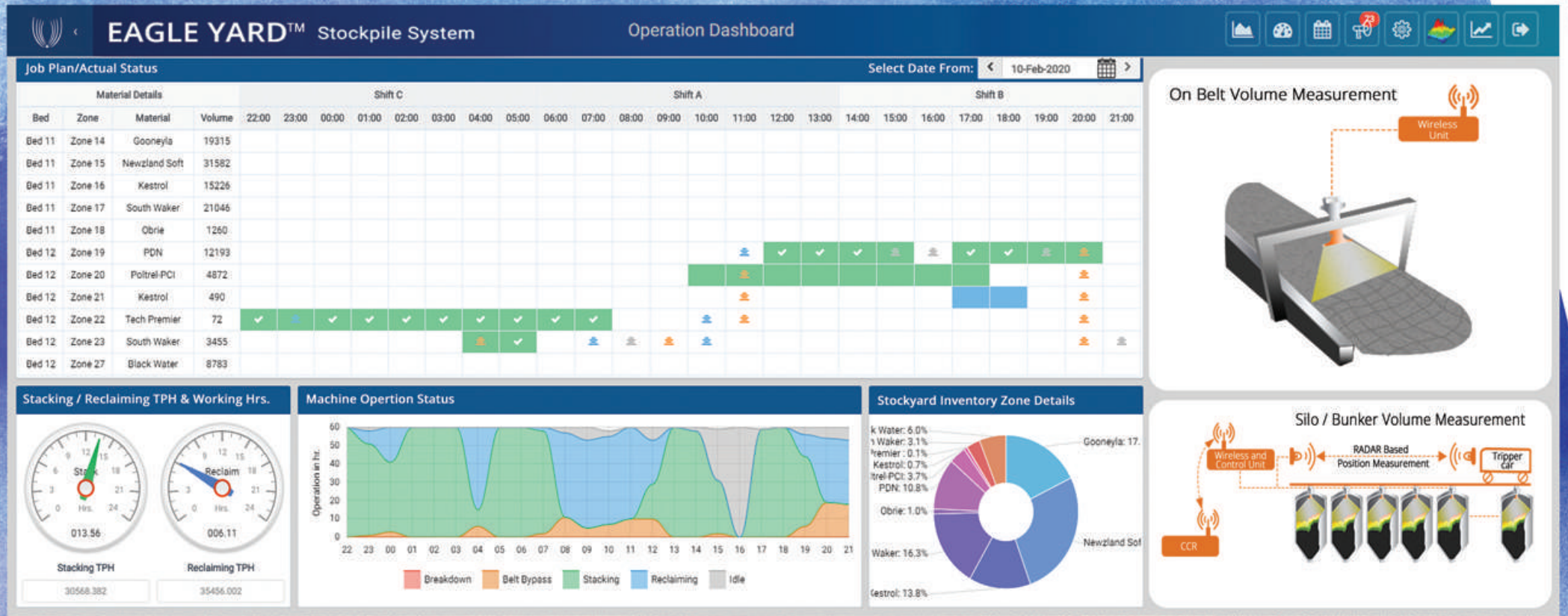
DEPTH OF CUT CONTROL

The Sensor used for depth of cut control in coal reclaimers is Eyrie hybrid measurement systems. These systems utilize laser and radar combination sensors to accurately measure the distance between the cutting wheel or drum and the surface of the material being reclaimed. The sensors emit beam and wave that reflects off the surface, and the system calculates the distance based on the time it takes to return.

HERE'S HOW THE TECHNOLOGY WORKS

Distance Calculation by Hybrid Sensor: The reclaimer is equipped with one or more hybrid sensors that are positioned above the cutting wheel which calculates the distance between the sensor and the surface .The depth of cut measurement is then used as feedback to control the cutting wheel's position and maintain the desired depth. It provides real-time information to the operator or an automated control system, allowing adjustments to be made as necessary.

Algorithms with adaptive control and machine learning approach We have developed sophisticated algorithms for depth of cut control which enables system to accurately monitor and adjust the cutting depth, ensuring the desired level of material removal. This technology helps optimize the reclamation process, improve efficiency, and minimize the risk of over or under cutting



STOCKYARD VISUALIZATION:

Stockyard visualization offers a graphical view of the profile of stockyard and the stockyard machine location

- Real-time visibility of the yard inventory, and material location
- Real-time asset management with location tracking of all the moving equipment
- Modelling the transportation and stacking/reclaiming process of a stockyard
- 3D visualization of stock pile and yard machine
- Heat mapped visualization of different material and stack height with planned and unplanned downtime management
- Comprehensive reporting in terms of stock location, tonnage, grade and age

EAGLE YARD KEY FEATURES

- Eagle Eye Hybrid Sensor Technology for stock pile scanning
- Eagle Eye Hybrid Sensor Technology for belt speed and on belt material volume measurement
- Graphical Visualization at CCR of the stockyard with volumetric assessment
- Equipment to Equipment and Equipment to Pile collision prevention system
- Zone mapping and overlapping control along with safety Interlock
- Pre-Planning of stock piling into configurable virtual grid based on stock volume increasing productivity & effective utilization of Stock Yard

VALUE DELIVERY OF MAN LESS YARD OPERATION

- 5% improvement in production by avoiding unnecessary stoppage of movement of machines by operator as total movement of machines is controlled only from CCR
- 5% More output due to proper pile dressing and efficient reclaiming
- 10% improvement in production as all machine movement Jobs are preplanned according to available space, material quality and quantity
- 15% energy reduction due to machine travel movement optimization
- Reduction in unplanned shutdown expenses

www.lotuswireless.com

Lotus Wireless Technologies India Private Limited

Innovation Center
B-7, EE IDA "B" Block
Industrial Park Auto Nagar
Visakhapatnam - 530012.
Andhra Pradesh, India.
info@lotuswireless.com

Manufacturing Unit-II
Industrial Park, Plot No. :29
to 36, Aganampudi,
Gajuwaka Manadal,
Visakhapatnam-530046,
Andhra Pradesh, India.

Manufacturing Unit-III
Manufacturing Unit-K,
Survey No.480/2, AMTZ Campus,
Pragati Maidan,
Visakhapatnam - 530031,
Andhra Pradesh, India.

IT Development Center
Kamal Tower, Rushikonda,
Visakhapatnam - 530045,
Andhra Pradesh, India.

Hyderabad
Unit #D1, Fourth Floor,
Spaces and More Business Park,
Inorbit Mall Road, Madhapur,
Hyderabad- 500081, India.

Germany
Haselweg 28, 75228,
Ispringen, Germany.
+49(0) 152 5135 5396
sb@lotuswireless.com

Bangalore
Office no.206, 2nd Floor,
Brigade IRV Center,
Nellurahalli Main Road,
Whitefield,Bangaluru - 560066
India.

Noida
1604, Plot No. BW-58,
Sector 32, Near Noida
Metro Station, Noida-201301,
Uttar Pradesh, India.

Navi Mumbai
Office.No: 308, 3rd Floor,
Building No. A-1, Sector-1,
Millennium Business Park,
Mahape, Navi Mumbai-400701,
India.

Kolkata
Space-X, Tower 1, 15th Floor,
P.S. Srijan Corporate Park,
Plot G-2, Sector-V, Salt Lake,
Kolkata - 700 091, India.

Jamshedpur
Premises #3,1st Floor
Kashi Kunj Building Opp. Prerna
Classes, Road No.2, Contractor
Area, Bistupur,
Jamshedpur - 831001, India.

Durg
5, New Shopping Complex,
Durg, Chhattisgarh - 490001,
India.