

SmartBolts are tension indicating fasteners that ensure proper clamp force is achieved at installation and maintained over time. Each SmartBolt features a visual indicator that changes color to measure and display tension in real time. Tension creates the clamp force that keeps a bolted joint secure.

MATERIAL HANDLING **SHIPLOADER** **SLEWING BEARING JOINT**

A shiploader continuously loads bulk solid materials such as iron ore, coal, fertilizers, and grains onto ships or barges. These machines are essential to the global shipping industry and are valued for their loading efficiency and adaptability. Slewing bearings rotate massive extendable booms and conveyors into alignment with a ship's storage containers to facilitate the transfer of bulk material from port. SmartBolt DTI installed in these slewing bearings visually verifies the joints are secure so that operators can have complete confidence the shiploader will function reliably and safely.

