

The TENSA **ROBORIGGER** products (patent pending) use gyroscopic and inertial forces to allow loads to be controlled and orientated remotely. Release operations can also be performed using wireless control. No people need to be in the vicinity of the load during the dangerous lifting and lowering phases.

ROBORIGGER increases safety dramatically and makes some challenging tasks so easy.



ROBORIGGER uses gyroscopic and inertial forces from rotating flywheels to orient the load. This is similar technology to that used to orient spacecraft.

ROBORIGGER can orient the loads when hanging on a single wire with a swivel. It does not need anything attached to it. The unit has sensors which detect the rotation rate and the heading. The sophisticated control system ensures that the load rotation is controlled within strict parameters and that the unit is able to hold the load at a constant heading when required even if there is gusting wind.

WHY YOU NEED **ROBORIGGER**

ROBORIGGER improves the efficiency of lifting operations



Without **ROBORIGGER**

Men beneath load use tag ropes to orient load on lift off then let go of tag lines

- Load is lifted and may rotate in the wind. Crane driver must keep load clear of structure.
- men at top beneath and alongside load - grab tag lines, stop load swinging, orient load and disconnect rigging.

With **ROBORIGGER**

- One person needed to connect rigging to load then stands clear
- Crane driver engages **ROBORIGGER** to orient load and lifts load. Load does not rotate - it holds the orientation.
- No tag lines are needed
- Crane driver or dogman requests **ROBORIGGER** to reorientate load to new orientation for placement. Crane driver lowers load.
- Crane driver or dogman disconnects rigging remotely using double button press system.

NO PEOPLE NEED TO BE UNDER OR NEAR LIFTED LOAD.

ROBORIGGER allows operations that were previously very challenging to be undertaken simply and safely.

Without **ROBORIGGER**



Personnel needed to guide load into place and verify correct positioning. Once in place, personnel need to reposition in order to access and release rigging



Load needs to be captured and then guided into place by personnel with harnesses. Once secure personnel climb onto component and release the rigging



Load is free to rotate and can hit building until captured. Load has tag lines that are hooked by reaching out with sticks. Personnel then rotate load and it is brought into place. Personnel then go to top of load to disconnect rigging

With **ROBORIGGER**



Load is oriented and landed using crane driver or 1 observer



Load is oriented and lowered into position with rotation controlled by rigger in a safe location. When load is positioned, rigger secures load then releases load remotely from a safe location.



Panel is lifted and maintains perfect orientation using **ROBORIGGER**. Load is swung into position and then secured by personnel. Load can be released remotely once it is secured.

ROBORIGGER keeps personnel away from the load when undertaking lifting and lowering operations



X These people do not need to be near the load!



✘ These people do not need to be near the load!



HOW CAN I USE **ROBORIGGER**?



Tower Cranes



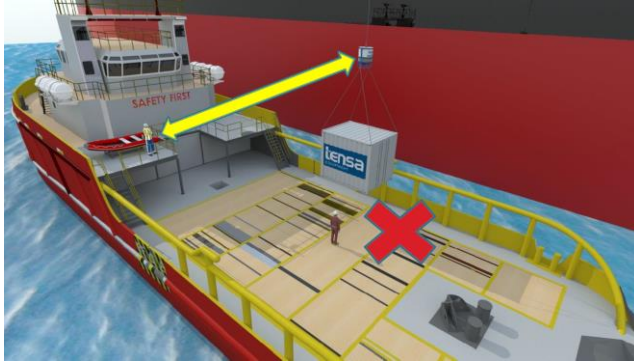
Mobile Cranes



Installing wind turbine blades



Lift frames and spreader beams



Offshore

Many models and accessories

FEATURES

- Ability to rotate and orient load using a wireless remote control
- Remote hook release that requires 2 button press and will not release under load
- 12 hour battery life. Batteries rechargeable overnight.
- Optional exchangeable battery module allowing 24x7 operation
- Integrated load cell with load readout on remote handset
- Inbuilt condition monitoring, lift logging and diagnostics direct to the internet
- Downward looking video camera that provides live video feed and still shots of all loads

CAPACITY

Currently we have 5t SWL and 10t SWL units available. 15tSWL and 20tSWL designs are ready to be built.

DESIGN, STRENGTH AND SAFETY

Roborigger is designed as a lifting appliance to AS 4991. ultimate strength = 5 x SWL. Each unit is load tested to 2 x SWL. The remote control complies with the Australian Crane Code AS1418 and includes all of the safety features required for crane operation. The electrical system uses low voltage DC and does not require licensed electricians. The external battery charger runs on 240V single phase.

TRAINING AND COMPETENCE

To use Roborigger functionality it is almost as simple as just pressing the clockwise or anticlockwise buttons. Experienced riggers and crane drivers are working proficiently within 10 minutes. A comprehensive training programme has been developed to cover prestart inspections, troubleshooting, basic maintenance, and use of the internet monitoring.