

OEM Solutions

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SafeGuard
*Integrated smart
sensor for collision
avoidance and
obstacle detection in
a mining environment*

Safety is everything.



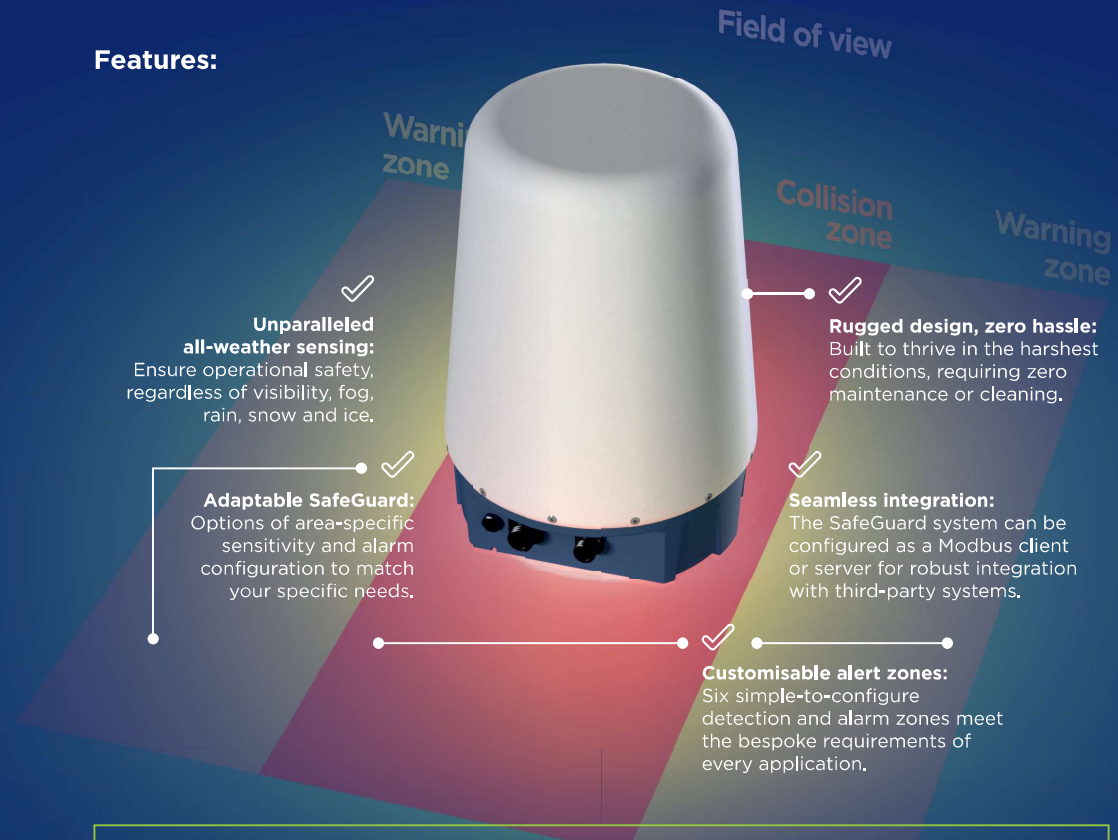
Robust performance in the harshest of conditions

SafeGuard is a stand-alone solution for challenging obstacle detection and collision avoidance in the mining environment. This innovative, smart-sensing system has been designed to address a specific gap in the sensor technology market. Where dust, snow, fog or steam present challenges that cause traditional sensors to fail, radar's robust, penetrating performance is unimpaired. Radar is the most suitable technology for the mining industry.

SafeGuard is an embedded feature of the Navtech Radar RAS – a range of sensors specifically designed for harsh environments. These have an established reputation for working in all environmental conditions, at a high resolution, and with a rapid update rate which results in faster and more accurate detections. The system is simple and intuitive to configure; either with a click-and-drag pictorial view, or by numeric alignment with machine drawings and stipulated safety zones. With the flexibility to configure up to six independent zones (of any shape or size) within the radar's field of view, this productivity and safety solution is as versatile as it is effective.

	CAMERA	LIDAR	RADAR
WORKS IN HEAVY DUST	○	○	●
WORKS IN RAIN, FOG, SNOW	○	◐	●
WORKS IN THE DARK	○	●	●
SERVICE-FREE DESIGN	○	◐	●
NO CLEANING REQUIRED	○	○	●
PLUG AND PLAY DESIGN	●	◐	●
TASK-APPROPRIATE RESOLUTION	○	◐	●
COST-EFFECTIVE OVER TIME	○	○	●
IMPACT RESISTANCE	○	○	●
FLEXIBLE ALARMED DETECTION ZONES	◐	◐	●
360° FIELD OF VIEW	○	●	●

Features:

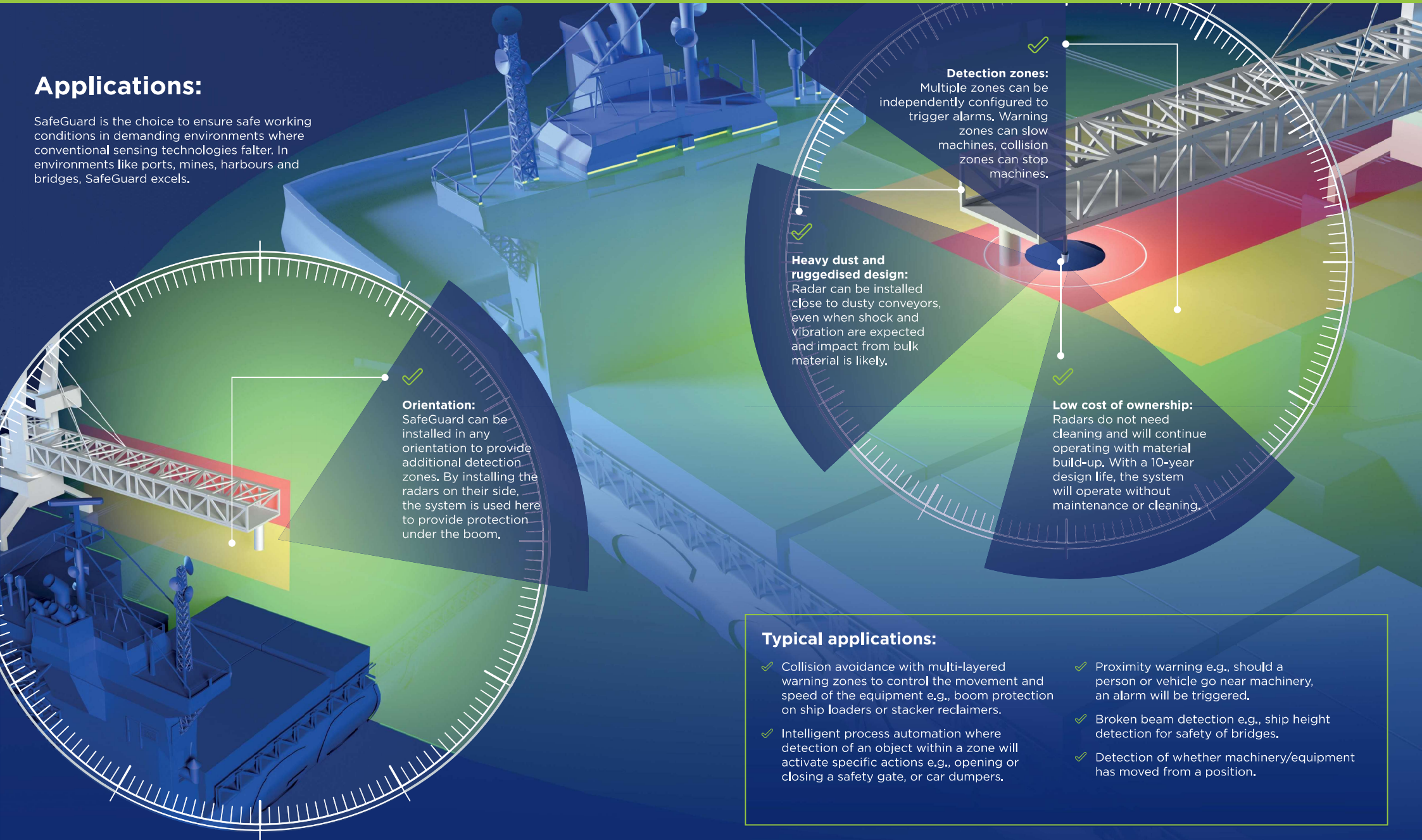


Reasons to choose SafeGuard:

- Cost-effective operations:** Designed for all-weather use and minimal maintenance to increase system availability and lower operational expenses, for long-term cost-effectiveness.
- Easier commissioning:** Simplify the commissioning process, make it more accessible for customers, and create a safer work environment, all day, every day.
- Expertise at your service:** We will guide you through system specification, commissioning, handover testing, and provide in-service support.
- Ongoing performance:** Ensure your radar system continues to operate optimally with our ongoing support, providing you with a valuable partner for the long term.

Applications:

SafeGuard is the choice to ensure safe working conditions in demanding environments where conventional sensing technologies falter. In environments like ports, mines, harbours and bridges, SafeGuard excels.



Detection zones:
Multiple zones can be independently configured to trigger alarms. Warning zones can slow machines, collision zones can stop machines.

Heavy dust and ruggedised design:
Radar can be installed close to dusty conveyors, even when shock and vibration are expected and impact from bulk material is likely.

Low cost of ownership:
Radars do not need cleaning and will continue operating with material build-up. With a 10-year design life, the system will operate without maintenance or cleaning.

Orientation:
SafeGuard can be installed in any orientation to provide additional detection zones. By installing the radars on their side, the system is used here to provide protection under the boom.

Typical applications:

- ✓ Collision avoidance with multi-layered warning zones to control the movement and speed of the equipment e.g., boom protection on ship loaders or stacker reclaimers.
- ✓ Intelligent process automation where detection of an object within a zone will activate specific actions e.g., opening or closing a safety gate, or car dumpers.
- ✓ Proximity warning e.g., should a person or vehicle go near machinery, an alarm will be triggered.
- ✓ Broken beam detection e.g., ship height detection for safety of bridges.
- ✓ Detection of whether machinery/equipment has moved from a position.

Integration

SafeGuard offers low-power efficiency with a standard network interface for integration with existing machinery systems, ensuring coherent communication and alarm activation. Connecting seamlessly with third-party systems, SafeGuard-enabled radars are simple to integrate and connect seamlessly with industry-standard machinery, new-build and existing systems alike. Additionally, advanced features are incorporated to minimise false alarms.



Relay control:

For systems requiring full network isolation, SafeGuard-enabled radars can be configured to control a directly connected multichannel relay switching module.



Modbus integration:

Navtech RAS radar sensors with embedded SafeGuard can be configured as a Modbus client or server. This allows safe and swift reporting of alarms and alerts, and provides robust integration with third-party control systems.

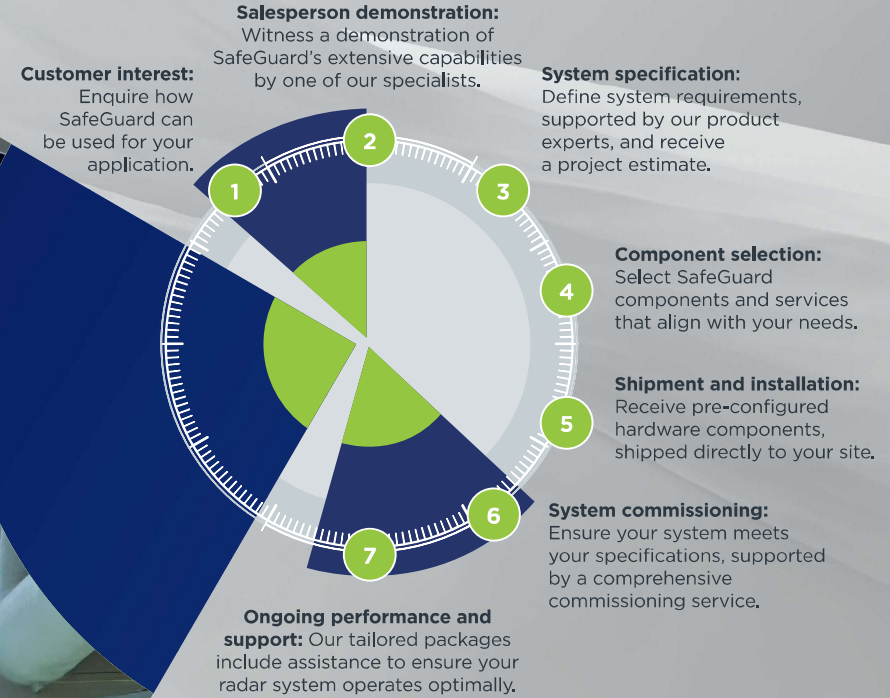


Radar health message management:

SafeGuard continuously monitors the RAS sensor health and offers watchdog functionality to ensure that control systems can trust the safety provided by SafeGuard.

The SafeGuard journey

As a Navtech Radar customer, we'll support you through every step of your journey, from choosing the right solution for your unique application to providing ongoing support and ensuring long-term performance.



New SafeGuard commissioning tool:

Now, SafeGuard is more accessible and efficient than ever, thanks to our dedicated Windows application, which has been designed to streamline the commissioning and support processes.



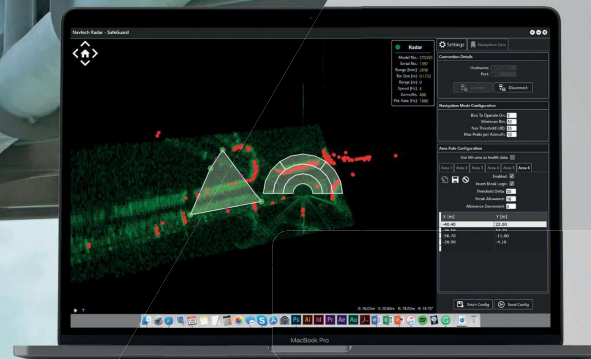
Stand-alone application

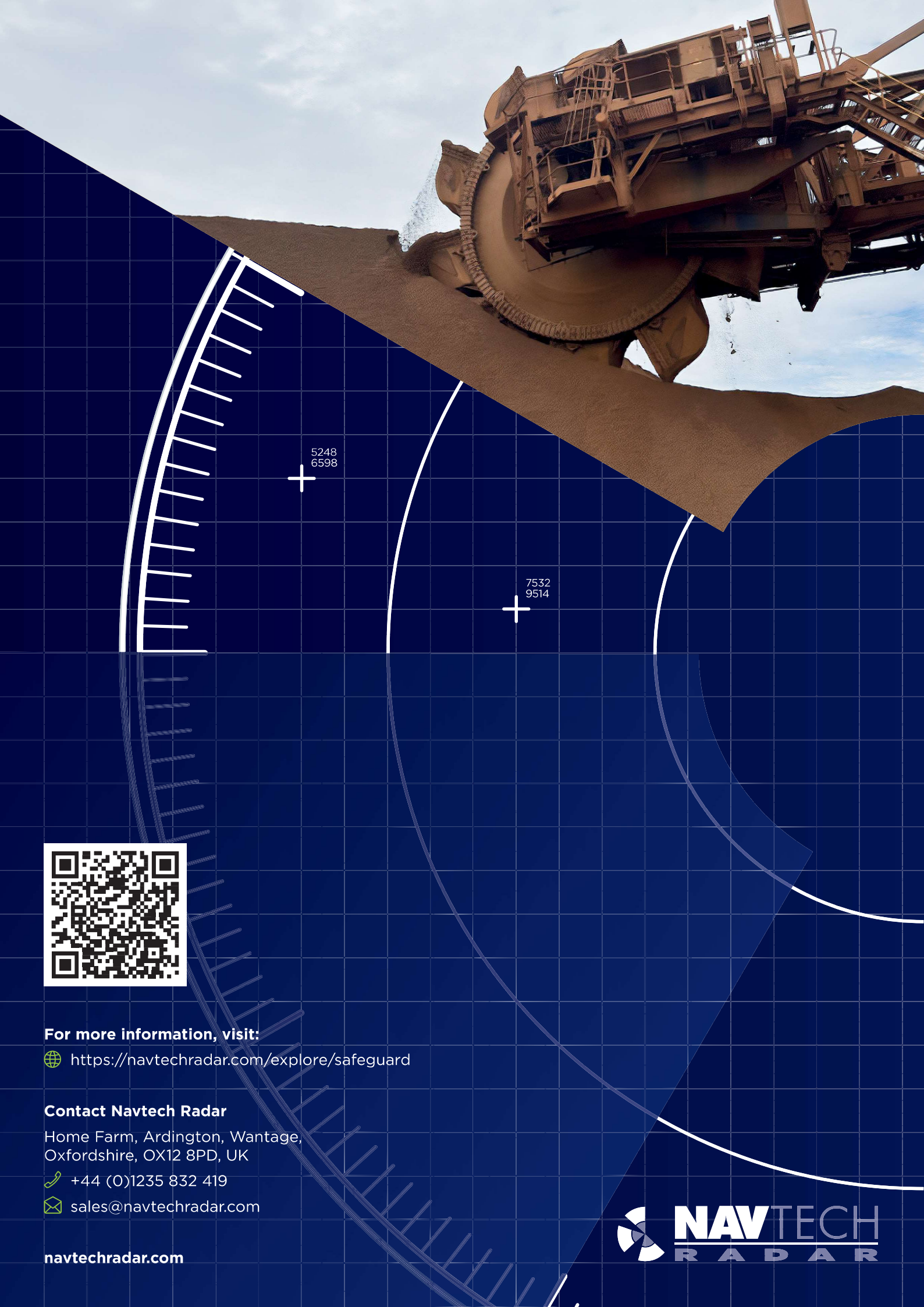


Live-time monitoring



Configurable SafeGuard





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For more information, visit:

 <https://navtechradar.com/explore/safeguard>

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