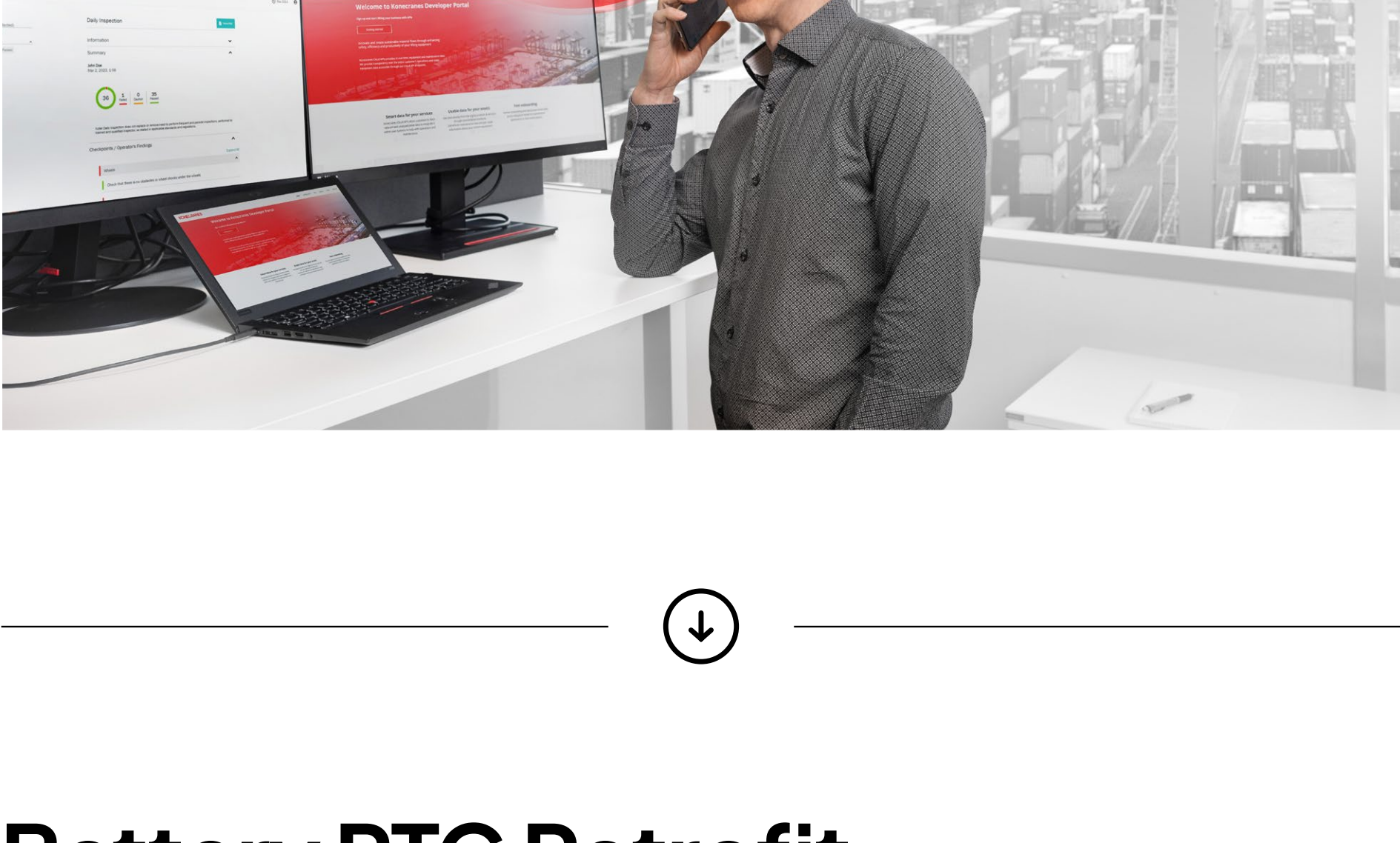


Battery RTG Retrofit

Zero tailpipe emissions*. Free-roaming. Charge at your convenience.

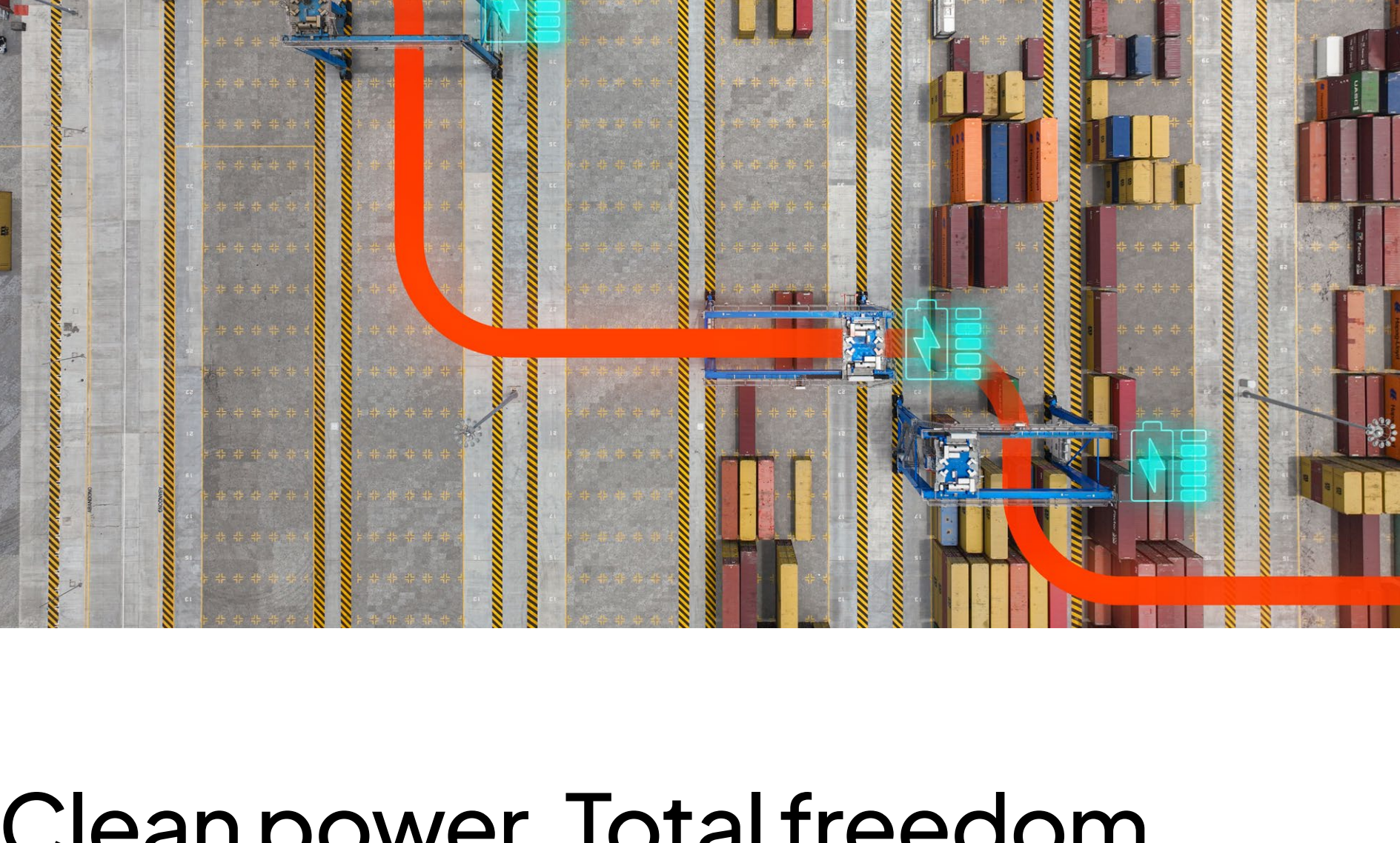
Adapt and thrive

Konecranes is the premier port services provider to brownfield terminal developments. Our range of retrofit products will enable your fleet to adapt to a fast-changing environment. Welcome to your evolution.



Battery RTG Retrofit

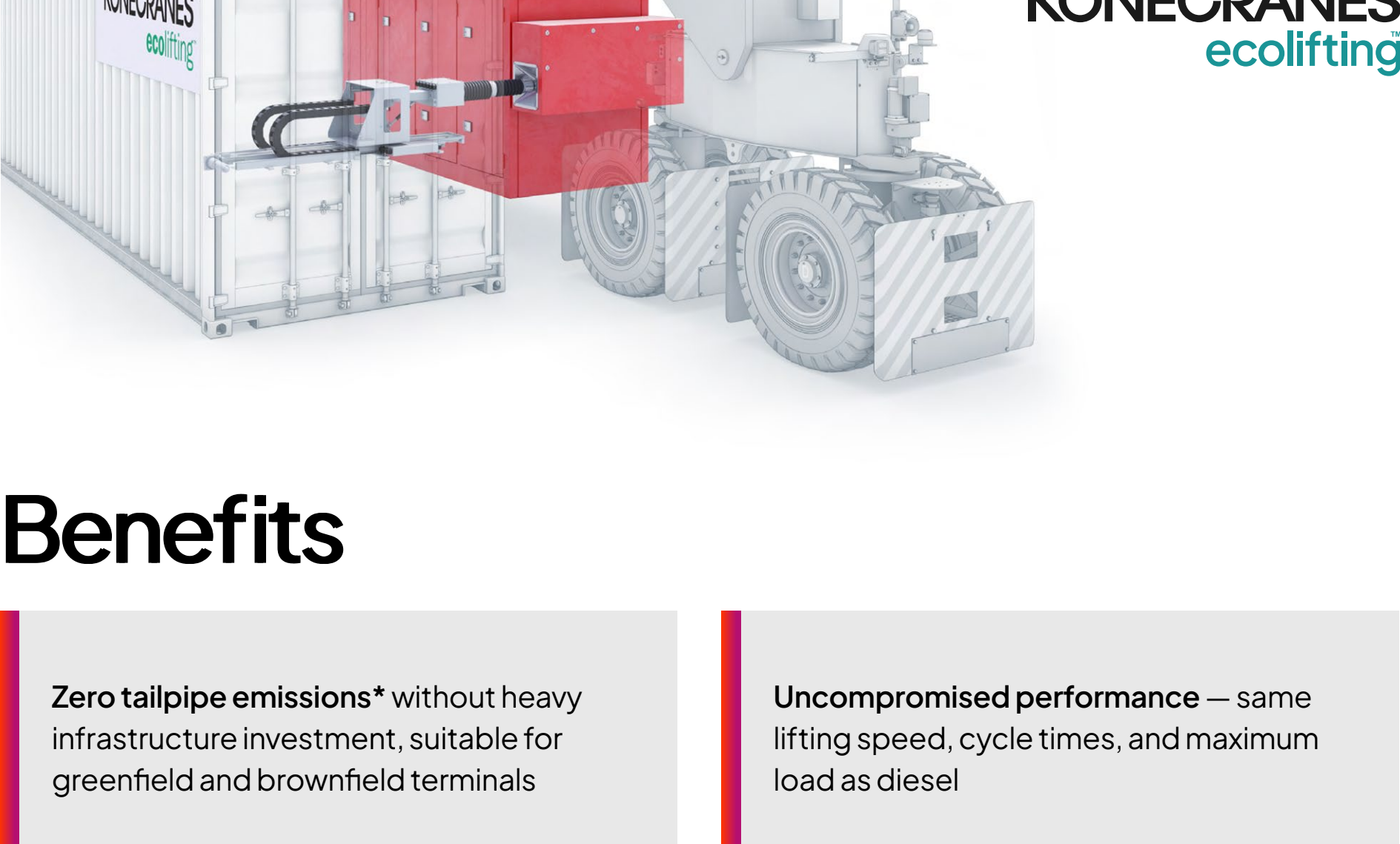
Replaces the ~500 kW diesel genset with a lithium-ion battery pack for **Zero tailpipe emissions*** in operation. The crane runs entirely on battery power. When the battery needs recharging, it connects to a charging station — plug-in AC, automated DC fast charging, or optional busbar-end charging. The diesel engine is completely removed.



Clean power. Total freedom.

RTG fleets are one of the biggest sources of terminal emissions and operating costs. With regulations tightening and diesel prices rising, the pressure to electrify is real — but so is the investment already sitting in your yard.

The Battery RTG retrofit transforms your existing fleet rather than replacing it. The diesel genset is removed entirely and replaced with a lithium-ion battery system. The crane operates freely across the terminal — no cables, no busbars, no block constraints — with regenerative braking that cuts energy consumption to roughly 2.5 kWh per typical move versus 5.9 kWh for diesel. Cleaner, cost-effective, uncompromised.



Benefits

- Zero tailpipe emissions*** without heavy infrastructure investment, suitable for greenfield and brownfield terminals
- Uncompromised performance** — same lifting speed, cycle times, and maximum load as diesel
- Flexible operation** across the entire terminal — no cables, no busbars, no block constraints
- Full avoidance of engine-related maintenance** — complete removal of diesel genset eliminates engine servicing, oil changes, and filter replacements
- Up to 70% lower operating costs** than diesel (up to 50% vs. hybrid) through zero fuel consumption and elimination of diesel maintenance
- Blackout resilience** — continues operating during grid outages, unlike conventional E-RTG
- Regenerative braking** — lowering energy is recovered and stored back in the battery
- Charging at your convenience** — plug-in AC (170 kW), automated DC fast charging (full in ~1 hour), or optional busbar-end charging at parking areas

Key Specifications

PARAMETER	DETAIL
Battery options	222 kWh (~4h runtime) or 296 kWh (~8h runtime)
Battery chemistry	Lithium-Ion
DC/DC converter	425 kW bidirectional
AC charging	170 kW via 3-phase plug-in (500 VAC IEC / 480 VAC UL)
DC fast charging	Empty to full in ~1 hour
Busbar-end charging	Optional; short busbar sections at parking areas (e.g. 25m back-to-back for 4 RTGs)
Regenerative braking	Yes — lowering energy recovered to battery
Performance	Uncompromised at 40T; same speed and cycle times as diesel
Battery cooling	Liquid cooling with BMS; optional Frigortec or external split AC
Battery design life	8 years at typical duty cycles

Charging Options

The Battery RTG offers three charging methods to suit different operational profiles and terminal layouts:

- Standard**

AC Plug-In Charging

Manual plug-in via 3-phase AC socket at 170 kW. Ideal for overnight, shift-change, or break-time charging. No special infrastructure beyond a power outlet at the designated parking area.
- Optional**

Automated DC Fast Charging

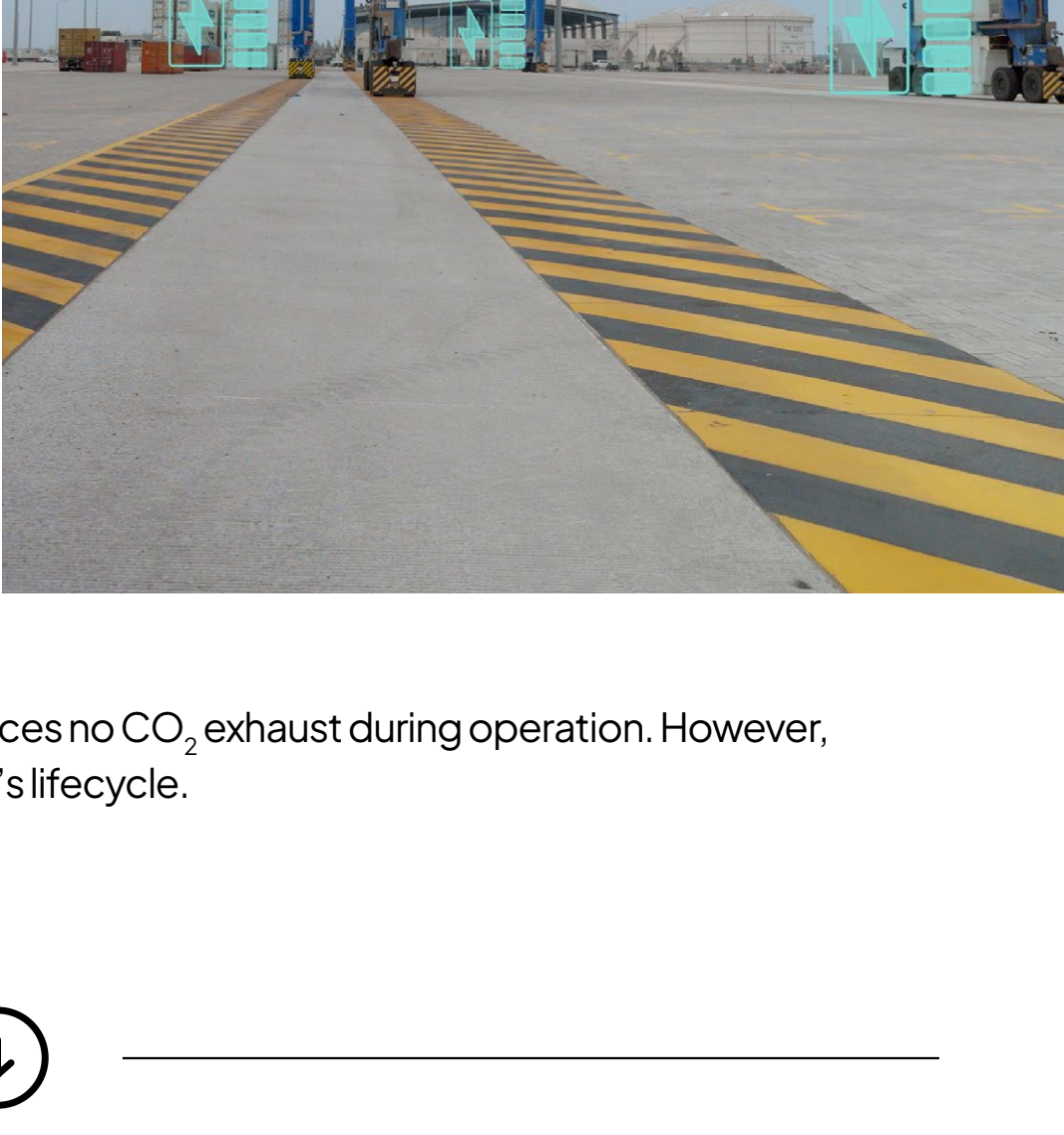
Automated DC charging station built into a standard 40ft sea container, positioned as part of the container stack. The crane drives to proximity using GPS, and the charging plug connects automatically. Empty to full in approximately one hour — or 7.5 minutes of additional operation. Hoist and trolley remain operational during charging.
- Optional**

Busbar-End Charging

Short busbar sections installed at parking areas (e.g. 25m back-to-back for 4 RTGs). The crane's current collector arm connects automatically to the conductor rail. Ideal for topping up during natural idle times. Minimises infrastructure investment compared to full-length busbar installations.

Ideal for

- Terminals with **natural charging windows** — shift changes, lunch breaks, overnight — that align with battery capacity
- Brownfield sites** where installing busbar or cable reel infrastructure is impractical or too costly
- Moderate utilisation operations** where 4-8 hours continuous operation between charges is sufficient
- Operators seeking **Zero tailpipe emissions* with full yard flexibility** — no cables, no fixed blocks
- Regions with grid concerns** — battery provides a buffer against short outages
- Fleets looking to **validate battery technology** before committing to larger-scale new equipment orders



* Zero tailpipe emissions mean the equipment produces no CO₂ exhaust during operation. However, emissions may still exist in other parts of equipment's lifecycle.

Selected References



YEAR	CUSTOMER/LOCATION	QUANTITY
2025	GCT Vanterm/Canada	1

Ports. Evolved.



Konecranes is a global leader in material handling solutions, serving a broad range of customers across multiple industries. We consistently set the industry benchmark, from everyday improvements to the breakthroughs at moments that matter most, because we know we can always find a safer, more productive and sustainable way. That's why, with around 16,500 professionals in over 50 countries, Konecranes is trusted every day to lift, handle and move what the world needs. In 2025, Group sales totalled EUR 4.2 billion. Konecranes shares are listed on Nasdaq Helsinki (symbol: KCR).

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