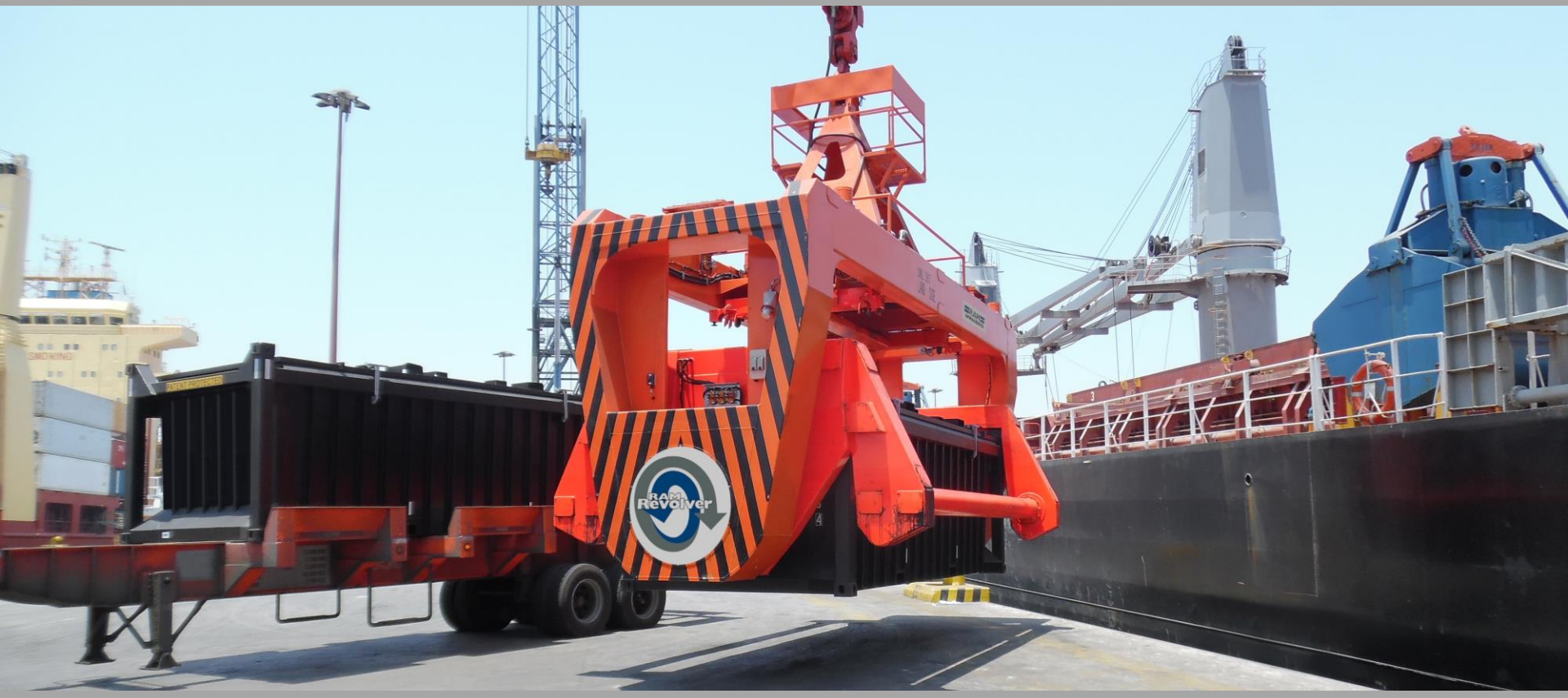


CONTAINERISED BULK HANDLING

The Safe & Secure Way to Handle Bulk



Multiple Handling Points

The level of risk increases with each handling point from:



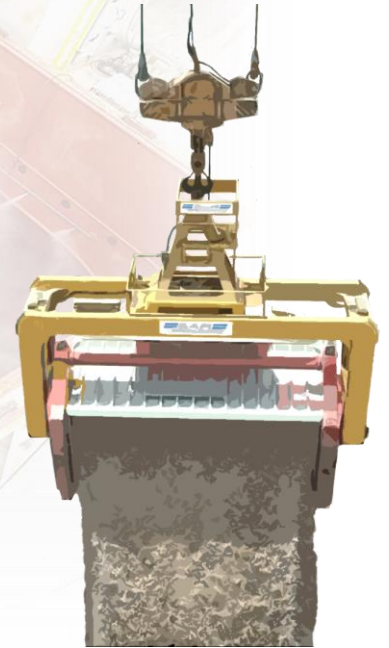
The more handling points, the more chance of:

- Contamination
- Loss
- Theft

Containerised Bulk Handling

RAM
SPREADERS

A safe and secure way to handle bulk



How does it work?

1 FILL & SEAL

2 TRANSPORT

3 STORE

4 UNLOAD

Using a **4-stage** process, bulk is handled with minimal transfer points.

Resulting in reduced commodity loss and contamination compared to conventional bulk handling processes.



1



Fill & Seal container

- Existing equipment used
- Self locking lid system
- No loss of commodity
- No clean up
- No contamination

2



Transport container
by Rail or Road

- Sealed containers – No dust!
- No contamination
- No loss of commodity
- Existing infrastructure used

3



Store containers
at port or facility

- Fast & effective loading
- No stockpile – No dust
- No contamination of commodity
- Store multiple types of commodity in same area with no cross contamination

4



Unload using
Rotating Spreader

- For all types of crane
- Loads of up to 1,000TPH *
- SWL up to 45T *
- Twistlock & grippers secure container during rotation

What do you need for CBH?

Containers

Sealed Open-Top



Transport

Road / Rail / Both



Rotating Spreader

RAM Revolver



Misting System
(Optional)

CBH is available for all types of crane

STS



Model: 4111

MHC



Model: 4120

SHIP



Model: 4131

BRIDGE



Model: 4141

REACH STACKER



Model: 4151

DUST FREE EXPORT LOADING

CBH
4 stage
process

Fill container at the mine or facility
Seal with lid
Transport
Load at final destination



RAM
SPREADERS

Containerised Bulk Handling

RAM
SPREADERS



CBH FOR IMPORT

The CBH IMPORT

Port to Shed

RAM
SPREADERS



- Grab-to-Hopper system loads commodity into open-top containers on trucks

Containerised Bulk Handling

RAM
SPREADERS



Container Functionality

The special open-top containers used in the CBH system have many functions:

- Transport
- Storage
- Safety
- Security
- Unloading



Security Benefits

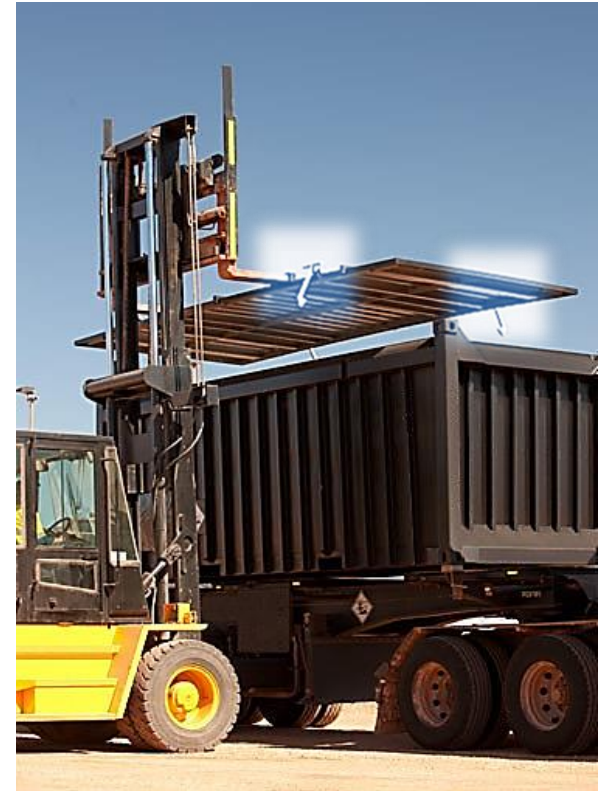
The Lid

Auto-latch lids placed on the open-top containers lock away and protect bulk commodities during handling and transportation.

It helps eliminate and reduce:

- **Dust generation** during transport and unloading
- **Environmental Issues** with contamination
- **Cross contamination** of commodities*
- **Commodity Loss** (through dust generation or theft)

**With CBH, multiple commodities can be stored next to each other without risk of cross-contamination.*



Security Benefits

Signed Sealed Delivered

As an option, CBH containers can be fitted with a transponder and lockable lid, making it ideal for blending commodities as grade and quantity are logged in a database.

It also provides added security for tracking and securing valuable commodities from the mine to its final destination.



Security Benefits

Auto-Lid-Lifter

An automatic system lifts the lid immediately before the rotating spreader tips the commodity out.



Environmental Benefits

Add further protection

By adding a misting system to the operation, dust plumes are contained within the ship's hold during the unloading process.



Over 10 years in service

The RAM CBH system has been in operation for over a decade with the first RAM Revolver still in operation today.



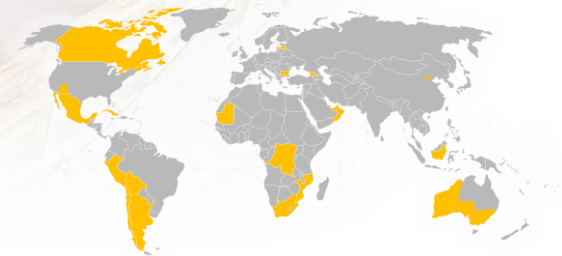
Award-Winning

It has also received 2 industry awards for **Environmental Protection** and **Innovation** from its ability to reduce the amount of pollution and its flexibility to integrate into current bulk handling logistics.



Global Presence

Over 30 projects in operation worldwide used by ports, terminals and handling facilities on **all types of crane**, handling **all types of dry bulk commodities** from coal to biomass.



CASE STUDIES



COMPANY: Transnet Port Elizabeth

COMMODITY: Manganese

CRANE: Ship to Shore

Containerised Bulk Handling

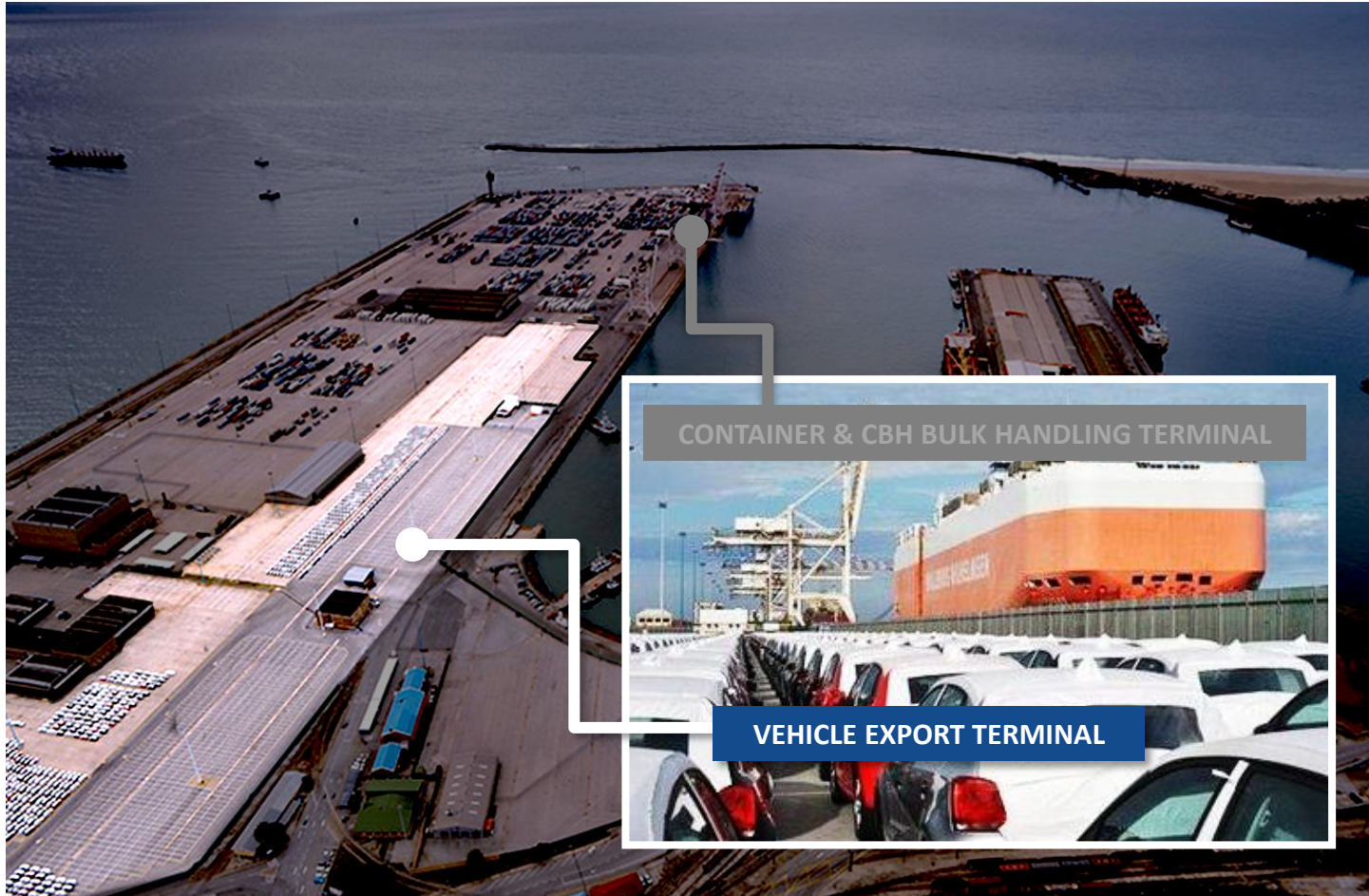


Containerised Bulk Handling



CONTAINER & CBH BULK HANDLING TERMINAL

Containerised Bulk Handling



CONTAINER & CBH BULK HANDLING TERMINAL

VEHICLE EXPORT TERMINAL

CBH has been in operation since 2014 at Port Elizabeth Container Terminal.

Handling an increasing large volume of bulk, in 2019 Transnet Port Terminals (TPT) placed a repeat order for a further 4 units of RAM CBH.



Dust Free Loading in Port Elizabeth

Delivery of 4 Revolver® spreaders helps Transnet Port Terminals commit to its sustainability agenda and reduce dust.

April 2019



Summary

Following the introduction of Containerised Bulk Handling at Port Elizabeth Container Terminal (PECT) in South Africa, Transnet Port Terminals (TPT) placed a repeat order with RAM spreaders of 4 units of the RAM Revolver® bulk handling spreader.



TPT handles large volumes of bulk exports annually at its Port Elizabeth Container Terminal and recently employed containerised bulk handling. The terminal invested in 4 units of RAM Revolvers®, to help them service their base of customers better.



Flexible Approach & Clever Use of Capital

Containerised Bulk Handling (CBH) allows for easy handling of bulk materials with a simple spreader change on the cranes. The cost of the CBH system is a fraction of the cost of new bulk loaders.

Speaking at the handing over ceremony of the Revolver's, RAM Spreaders Cameron Hay commented *"Since the first order of Revolvers In PE more than 5 years ago the CBH system has grown significantly. These new revolvers will allow TPT to ensure environmental compliance"*

www.ramspreaders.com

A Route to Market for Miners

Mining companies are now able to find a new route to market using CBH for exporting bulk through standard container terminals, which until now has only been possible with heavy investment and an expensive infrastructure.



Clean & Green!

PECT is located near to the main town of Port Elizabeth and like all cities dust is a sensitive issue.

The Containerised Bulk Handling system, using a hatch misting system is the greenest loading system in the world with zero fugitive dust emissions. It achieves this through a 2 pronged method:

1. The Revolver® adds very little energy to the bulk material as it tips at the very bottom of the hatch.
2. A hatch based dust suppression system mounted on the hatch, which stops any small amount of dust from rising up.

Local Community—Supporting Local School

RAM Spreaders & Transnet Port Terminals are both socially aware companies, who as a result of the bulk handling project, are helping to support the local community by employing a number of local technical staff and provide training programs to help further their skills in this new technology.

The local Green Apple Pre-school close to the Port Elizabeth Container Terminal is also benefiting from the new project, with RAM & TPT helping to subsidise teachers and provide funding to help the school add three new classrooms. This will allow more children in the area to receive a decent foundation education and in turn help the local area continue to prosper.



Tshipi é Ntle
Manganese Mining

Containerised Bulk Handling

