

# South American Grain Revolution



# Background

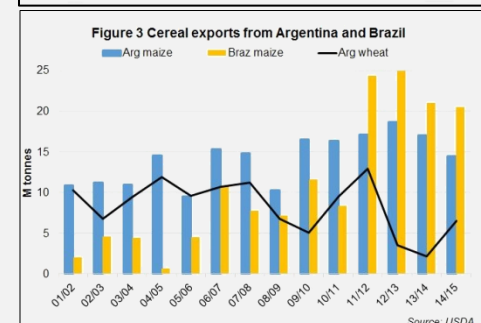
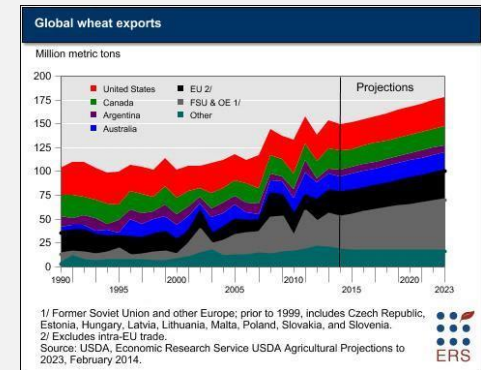
# Growth

## Global Grain

- Growing global population = growing global demand
- Strong dollar, lower oil price and cheaper
- World record production of corn, wheat and soybean in
- Export growth from markets outside the USA , EU & Australia

## South American Grain

- Total planted acreage up by 12 million acres
- More fertile land set to be opened up in SA nations in the future.
- Will produce additional 30M MT of soybeans compared to last year



## Challenges

### Restricted route to market

*“the top of the hour glass is going to get bigger with a record large soybeans crop and the restricted part of the hour glass, which are the ports in Brazil”*

*President Dilma Rousseff's government announced a \$26bn (£17bn) package to modernise the country's ports.*

# Challenges

## South American Grain

### Port congestion

- Long lead time for small to medium sized grain exporters
- Most terminals are working at capacity and bulk port development is slow
- Alternative transoceanic multimodal route Brazil-Peru would allow Brazil's grain to be exported through Peru's ports

#### Scenario:

A vessel is forced to wait 60, 70, 80 days to load soybeans from Brazil, it could end up being cheaper getting the soybeans from the U.S. even if the price of the commodity is a little higher.



# Challenges

## South American Grain

### Port congestion

#### **Fire Consumes Brazilian Sugar Mega-Terminal 180,000 Tons Destroyed**



# Challenges

## South American Grain

### Lack of infrastructure

A good analogy for the infrastructure problem in Brazil is an hour glass.

Dr. Cordonnier said in 2014 *“the top of the hour glass is going to get bigger with a record large soybeans crop and the restricted part of the hour glass, which are the ports in Brazil,”*.

Source: AGWeb.com

### Lack of capacity

- On fixed Infrastructure / Silos

### Investment scarcity

- Large investments required for bulk terminals and long lead times for design, planning and execution

### Government restrictions

- Approval process over new public or private infrastructures. Environmental and operational licenses

### Unforeseen political scenarios

- Upcoming Presidential elections in Argentina and Brazil's current political and social issues

### Cost maintenance

- On traditional bulk infrastructures

### Labor disputes

- Strike action can block exports

# CONTAINERIZED BULK HANDLING



# CBH Solution



## Any container terminal

- CBH system allows exporters to take grain to any container terminal

## Storage

- Grain stored in high cube 20' or 40' containers with lids

## Offset high inflation

- Lowering logistical costs with CBH can offset high inflation in some LATAM countries

## Sealed containers

- Innovative sealed containers eliminates contamination
- No loss of commodity during transportation/storage

## Ready for new cargo

- Many container terminals are available and ready to receive new cargo
- Only requires Rotating Spreader and Containers

## Existing Terminals

- Already built and operating
- Grain loading is just a new business

## No maintenance

- None complexed ship loading equipment means no maintenance

## Portable

- Containers can be re-located to other operation port (with rotating spreader)

# Case Study

## TPR Rosario

### Open stockpile problems

#### Contamination of commodity

- Open stockpiles at risk of 'spoil' due to:
  - Contamination from vermin & birds
  - Moisture
  - Airborne contaminants
  - Open top Transport from Farm to Port
  - Other physical external contaminants

### The CBH Solution

#### Contamination free

- CBH contamination free process is down to:
  - Commodity being stored in sealed containers
  - Commodity kept secure & dry throughout the process
  - Lid on container lifted only during rotation of commodity into the ships hold



**No stockpiles = No Contamination!**

# Case Study

## TPR Rosario

### Fill at Farm

- Agri-bulk loaded into specially designed high cube 20' containers



### Container as Transport & Silo

- Multipurpose use:  
Fill – Transport – Store – Empty - Re-use



### Versatility of CBH system

- Flexibility:
  - Fully mobile and portable system
  - Operates from cranes power supply
  - Can be used at standard container Port (no special infrastructure required)
- Mobile:
  - Can be used at other Ports or locations as required
  - Transport revolver on a specially adapted trailer

### Loading

- Fast loading rates with CBH
  - Handling process can be as high as 25 cycles per hour
  - Up to 1,000 tons per hour can be achieved
- Low material loss
  - With innovative lid lifting system, no material loss during CBH process



# Case Study

## TPR Rosario

### Overview

Argentinean Terminal Puerto Rosario TPR revolutionized the world of grain loading and storage becoming the first terminal in the world to utilize Containerized Bulk Handling (CBH) to export grain.

The terminal is a key gateway hub for the North Central region, handling all types of import and export cargo.

Due to the growing business of exporting grain, TPR needed to find a method to improve productivity whilst also simplifying the operation with minimal investment and utilizing their current equipment and infrastructure.

Whilst researching a number of best possible solutions, TPR discovered a system called “Containerized Bulk Handling”.

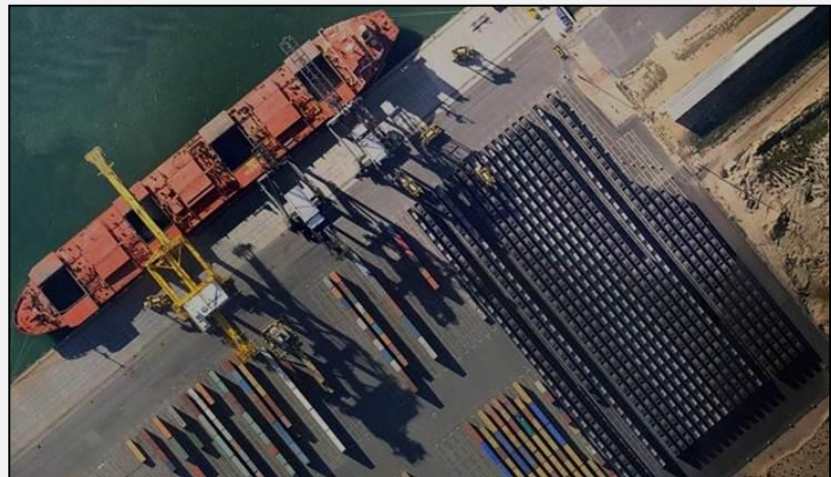
The CBH system involves loading the agri-bulk at a storage location or from a barge, into specialized 20’ high cube containers with a payload capacity of 27 tons.

TPR load, transport and store their grain product in specially designed food grade containers. These containers are handled like any other container at the port until they are tipped into the hatch of the ship using a revolver.



# Case Study

## CBH in Australia



## Case Study

### CBH in Australia



“Using the RAM Revolver and purpose built containers, we increased our volume by 20%, making DP World Adelaide the most profitable terminal in the group ” ... **Andrew Towers GM**



# 2000 tons per hour

### IMX crosses 2m-tonne export milestone

**BUSINESS EDITOR CHRISTOPHER RUSSELL - THE ADVERTISER - JULY 05, 2012 11:24AM**  
**COOPER Pedy iron miner IMX Resources has passed a milestone two million-tonne mark for exports.**

The company has gone on to load a record 85,140 tonnes at Port Adelaide aboard the Trans Hangzhou which departed on the weekend.

“Thanks to the efforts of our broker, Probulk in Singapore, and operator Cargill, we managed to locate a uniquely sized vessel that fitted the requirements of Port Adelaide,” IMX logistics manager Mark Hoepfl said.

“We have shipped over two million metric tonnes to date and we usually average approximately 75,000 metric tonnes per vessel.

“Our previous record was 80,471 metric tonnes, making this a landmark shipment,” Mr Hoepfl said.

The ore – a unique blend of iron and copper – is from IMX’s Cairn Hill mine southeast of Coober Pedy.



IMX Resources' logistics manager Mark Hoepfl with a cargo ship bound for China.  
Picture: Bianca De Marchi. Source: The Advertiser.

## Case Study

## CBH in Australia



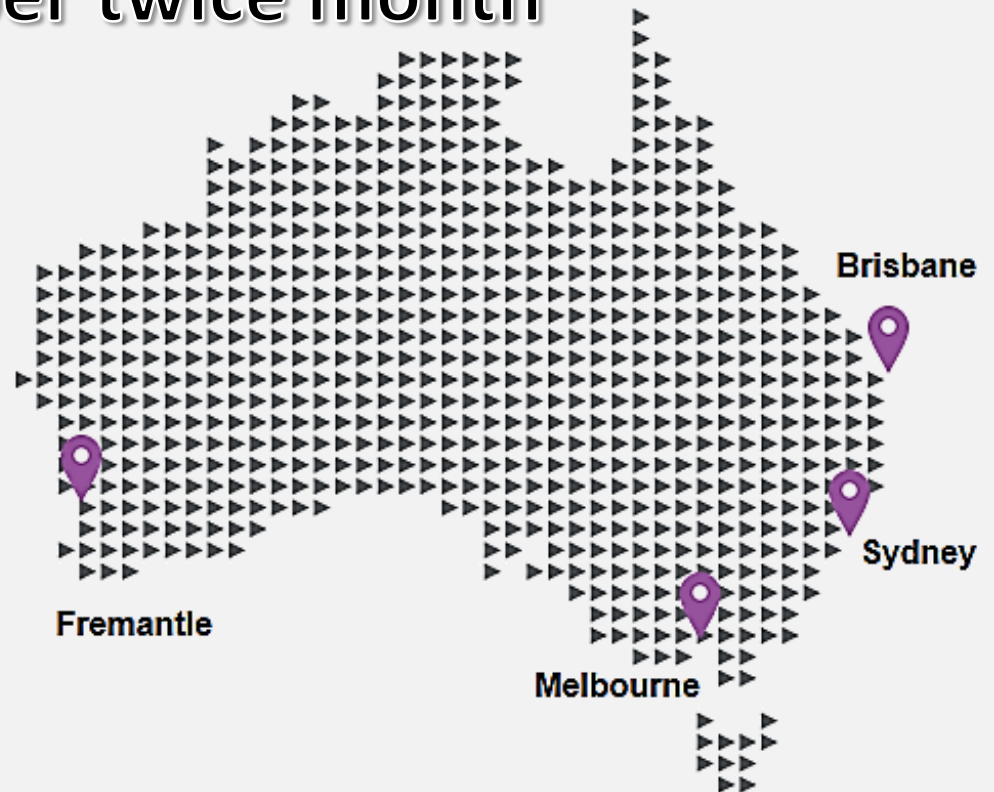
DP WORLD  
Australia

### THE NUMBERS

**85,000** tonnes of ore per twice month

**8 year** contract

**\$ 2000 Ton per hour**



# CONTAINERIZED BULK HANDLING

## Join the revolution

### CBH Companies

- Exxaro
- Grinrod
- DP World
- Eletheni/ SNR
- BHP B
- Oz Minerals
- Hillgrove Copper
- Transnet
- FQML
- TPR Argentina
- Ironclad
- Patrick



**RAM Revolver™**  
Winner of 2014 Int'l Bulk Journal  
Environment Protection Award

