

# **USG Boral Building Products Analyst and Investor Tour**

Indonesia | China - 2 & 4 June 2014 Introduction by Mike Kane

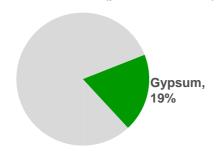




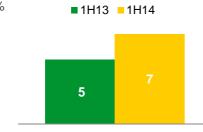
# Boral Gypsum - now a part of the USG Boral JV is integral to Boral's long term growth aspirations



#### 1H FY2014<sup>1</sup> Revenue (pre-JV formation)



## **Boral Gypsum ROFE<sup>2</sup>**



## **Boral Group**

- Targeting 15% ROFE2 through cycle
- Relentless focus on costs, margins & cash generation
- Maintain strong balance sheet

## **Boral Gypsum**

- Expect to deliver underlying <sup>2</sup> 15% ROFE through the cycle
- Deliver USG Boral synergies
- Long-term growth platform leveraging market growth, increasing product penetration, innovation and adjacent products

- Moving Annual Total EBIT return on divisional funds employed (segment assets less segment liabilities). EBIT excludes significant items.

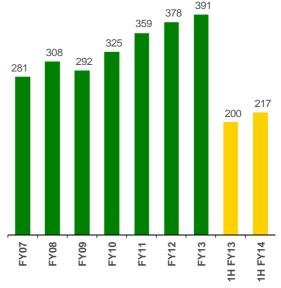
  Gypsum reported ROFE for Boral will be lower due to equity accounting impacts of reporting post tax EBIT due to commencement of the USG Boral joint venture.

# Combined volumes across Asia and Australia have been growing at CAGR of 6% p.a.

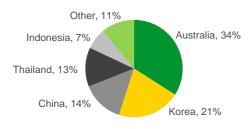


A\$m	FY12 – proforma <sup>1</sup>	FY13	1H FY14
Revenue	911	919	537
EBITDA	126	125	77
EBIT	88	83	55
EBIT margin (%)	9.7%	9.0%	10.2%





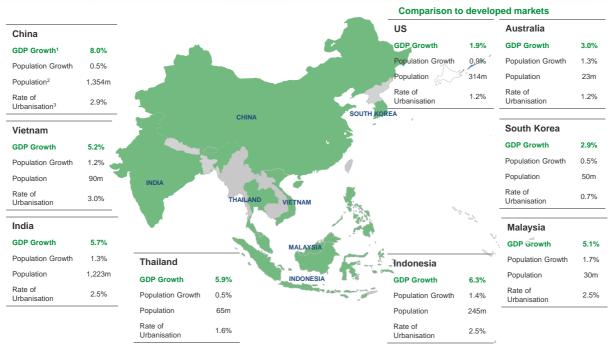
## Revenue by country<sup>2</sup>



- 1. Assumes theoretical consolidation of Boral Gypsum Asia for FY2012; acquired on 9 Dec-11
- 2. For the six months ended 31 Dec-2013
- 3. Includes plasterboard ceiling tiles volume

# Growth is supported by strong economic growth across Asia



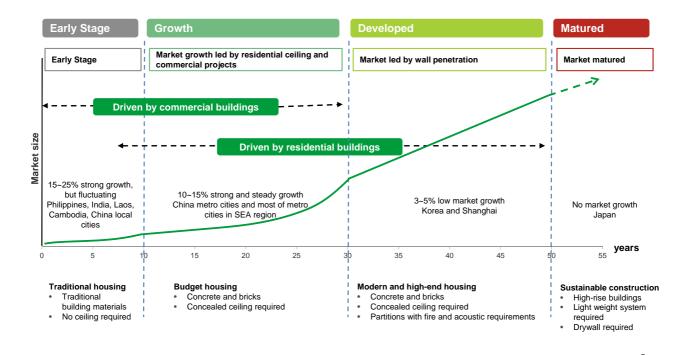


Source: IMF databank and CIA World Factbook.

- 1. CY2013 GDP Growth.
- CY2012 Population
- 3. CY2010-2015 annual growth, describes the projected average rate of change of the size of the urban population over the given period

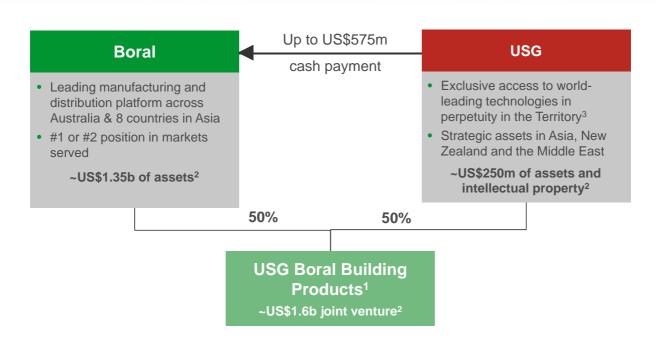
# Growth is also underpinned by product penetration opportunities





The strategic joint venture with USG further strengthens and secures growth prospects





Actual structure is via two JV legal entities

Asset values subject to finalisation of fair valuation, completion adjustments and final foreign exchange rates at the date of completion Encompasses Asia, Australia, New Zealand and the Middle East



# **Analyst and Investor Tour**



# **Agenda**

## DAY 1 - Indonesia

- 1. USG BORAL OVERVIEW
- 2. Sales & Marketing
- 3. Asia Pacific
- 4. Indonesia
- 5. Cilegon Plant

## DAY 3 - China

- 6. Technology & Manufacturing
- 7. Asia / Middle East
- 8. China
- 9. Star-USG JV & Ceiling Tile Plant

## FREDERIC DE ROUGEMONT

Bill Hogan

Tony Charnock

Yan Xu

Yan Xu

Joe Holmes

Dan Casey

**Gavin Burton** 

Frederic De Rougemont



# The Opportunity

- Build on our industrial platform as market leader and driver of innovation in building products and systems
- Leverage USG Boral partnership to achieve strong revenue and earnings growth
  - Technology
  - Enhanced product platform
  - New strategic assets (gypsum, acoustic ceilings, compounds)
- Develop a powerful brand across all markets
  - Accelerate adoption of light and dry solutions vs bricks and mortar
- Leverage integrated capabilities
  - Strong management team driving integration and change management plan

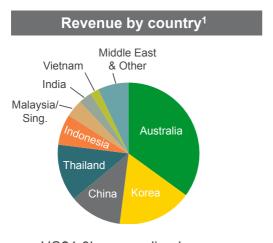
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## Overview

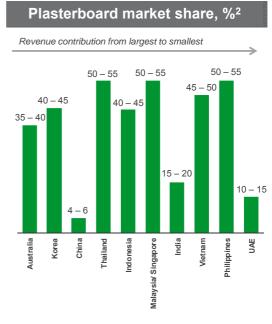
# Plasterboard & ceiling tile industry leader across Australasia, Asia & ME



Unparalleled capability in wall, ceilings and floor lining systems across Australia, NZ, Asia and the Middle East (ME)



- ~US\$1.0bn annualised revenue
- ~3,200 employees



- . Based on management estimates. Includes USG Boral share of JV revenues
- 2. Based on management estimates of plasterboard sales volume, excluding ceiling tiles





# **Extensive infrastructure generating** ~US\$1bn p.a. in revenue

	Plasterboard		Metal products	Mineral fibre ceiling tile/grid	Joint Compound	Gypsum	Other	
	Capacity (m m <sup>2</sup> )	Board lines	Ceiling lines	Plants	Plants	Plants	Mine	Plants
Total	633	25	6	12	3	12	3	3
Australia	86	3		1 <sup>3</sup>		1	1 <sup>6</sup>	2 cornice
New Z'land				1	Grid			
Korea	153	4	1			2		
China	155	7	1	2	Tile & grid <sup>5</sup>	3		Mineral wool <sup>5</sup>
Thailand	105 <sup>1</sup>	3 <sup>1</sup>	1 <sup>1</sup>	1		1	1	
Indonesia	65	3	1	1		1		
Vietnam	42	2	1	1				
India	9	1		23		1		
Malay./Sing	10	1	1	13		2		
Philippines				1				
Saudi Arab.				14	Tile & grid <sup>4</sup>	14		
Oman	8 <sup>2</sup>	12					12	

- 71% ownership interest in SGI. Boonya gypsum mine and PLT are 100% owned
- Owned in JV with Zawawi Minerals; own 55% of mine and 50% of plasterboard plant 50/50 JV with CSR (Rondo) one plant only in India

- 4. 45/55 JV with local partner Saudi Structured Contracting Company
- 50/50 Star-USG JV with BBMG Group 50/50 JV with CSR (GRA)

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## Overview

# **Expect to realise synergies of US\$50m** within three years of technology roll-out



## Targeted synergy breakdown



## **Integration costs**

**Expect upfront integration** expenditure to exceed synergies for first 2 years of JV

#### **Cost synergies**

 Plant trials have validated potential to achieve weight targets and sag resistance

## **Adjacent products**

Synergies have commenced with compounds and mineral fibre ceiling tiles being quick wins

## Revenue growth

- Facilitated by market specific two-SKU approach
  - NextGen technology to be introduced in more mature markets: Australia & Korea
  - USG classic plasterboard in remaining markets
  - Customer value proposition developed by market segment & customer/key influencer
  - Differentiated quality



# **Business Priorities / Challenges**

## 1. Revenue growth

- Price premium for advanced technology
- · New adjacent products
- Accelerate penetration of our solutions

## 3. Manage costs

- Deliver manufacturing and transport synergies
- Optimise the organisation
- Procurement
- Operations optimisation

#### 2. Mobilisation

- · Deliver NextGen roll out on time
  - Technical testing
  - Employee training
- Develop sales & marketing capabilities

## 4. Optimise capacity

- · Optimise plant utilisation
- Plan additional capacity as needed

Overview

# USG BORAL

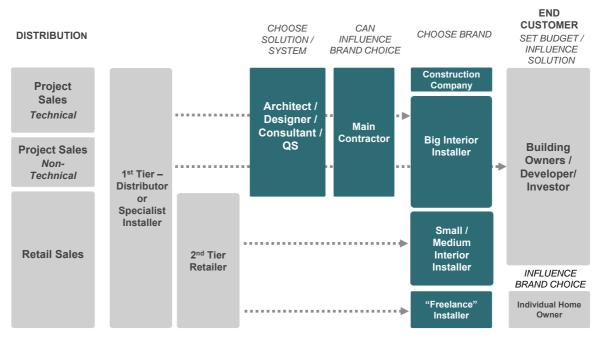
## 1. Revenue growth

Leveraging an enhanced product portfolio and sales & marketing capabilities

To

achieve our financial

goals

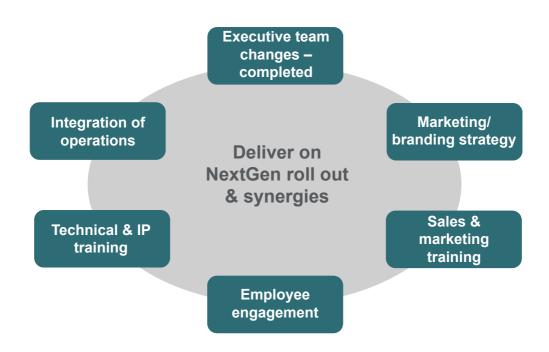


In Australia, distributors and installers are manufacturer owned as well as independently owned

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## 2. Mobilisation



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Overview



# 3. Manage costs

In addition to delivering cost synergies, commenced "Step Change" cost reduction program covering all cash costs

"Step Change" Cost Program	Cost Category				
Workstream Improvement Category	Transport Cost for goods delivered	Variable Cost of goods sold (raw materials, energy, traded goods)	Fixed Cost of goods sold (labour, maintenance, distribution)	SG&A	
% of Total Cash Costs <sup>1</sup>	5-10%	60-65%	15-20%	10-15%	
Organisation			✓	✓	
Procurement & Sourcing	✓	✓	✓		
Operational Excellence	✓	✓	✓		
Detailed Cost Reviews	✓	✓	✓	✓	

- Detailed programs developed for all workstream improvement categories
- Workstream teams staffed by dedicated internal resources supplemented by senior employees from shareholders USG and Boral
- All controlled entities in scope

<sup>1.</sup>  $\,$  % cash costs for JV controlled entities across all product groups

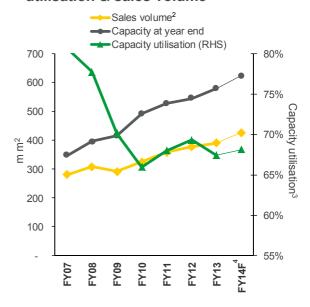




## 4. Optimise capacity

- Margins and earnings to benefit as recent capacity expansions are fully leveraged
- Capacity expanded by 277m m<sup>2</sup> since FY2007 supporting sales volume CAGR1 of 6% p.a.
- ~ 75m m² in recent expansions in Indonesia, China and Vietnam
- · Additional capacity requirements planned as needed
- Current focus is to infuse USG technology into existing plants

## **USG Boral plasterboard capacity** utilisation & sales volume



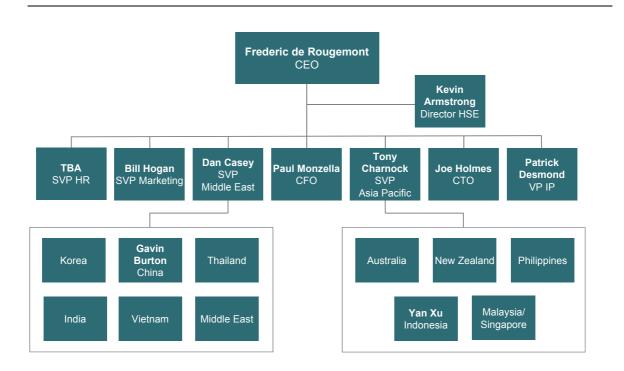
- Compound annual growth rate
- Includes plasterboard and ceiling tile volume
- Based on total production capacity at financial year end
  Capacity at year end for FY14F includes 45m m² capacity expansions in Vietnam and China

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Overview



# **USG Boral Building Products Team**





Overview



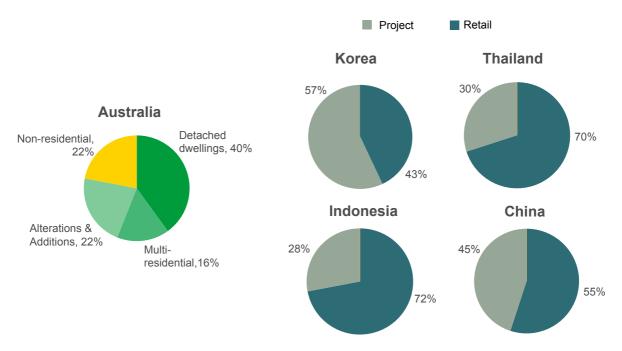
# Delivering customers an enhanced product portfolio

	Product		Description	Application	Manufacturing locations
<b>하</b> 로	Standard & Technical board	11	Plasterboard	Internal walling/ ceiling	Refer slide 5
Boral manuf. 1 include USG I	Plasterboard ceiling tiles		Plasterboard ceiling tiles	Ceilings	Refer slide 5
oral m clude	Cornice		Decorative cornice	Finishing for ceilings	Australia
B E	Joint compound		Readymix	Jointing, skimming, bonding	Refer slide 5
Other	Metal products	Ш	Metal products	Internal walling framing and ceiling systems	Refer slide 5
	Mineral fibre ceiling tiles	100	Mineral fibre ceiling tiles	Acoustic ceilings	US, China (JV), Saudi Arabia (JV)
cent ts	Ceiling (metal) grid	$\succ$	Metal exposed grid	ceiling grid for "lay in" tile system	US, NZ, China (JV) Saudi Arabia (JV)
USG Adjacent Products	Durock®		Cement board	Tilebacker board (flooring and walls), exterior walls (render system)	US Mexico
USG	Fiberock <sup>®</sup>		Gypsum fibre board	Flooring, technical wall application – interior	US
	Securock <sup>®</sup>	The state of the s	Gypsum fibre roof board	High performance roof board for low slope roofing systems	US





# Boral USG end market revenue exposure in key countries<sup>1,2</sup>



- 1. Australia end-market exposure based on revenue for the six months ending 31 December 2013
- 2. Management estimates for Korea, Thailand, Indonesia and China. Retail sold through retail channel. Project sold to identified commercial & residential large projects

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# **Agenda**

## DAY 1 - Indonesia

- 1. USG Boral Overview
- 2. SALES & MARKETING BILL HOGAN
- 3. Asia Pacific
- 4. Indonesia
- 5. Cilegon Plant

## DAY 3 - China

- 6. Technology & Manufacturing
- 7. Asia / Middle East
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Sales & Marketing



## **USG Boral - Sales & Marketing**

- We have a Plan to Win
- Revenue growth from NextGen technologies accounts for nearly 50% of synergy attainment
  - Our marketing strategies brand, portfolio and pricing are key elements of our Plan to Win
- Adjacent products account for 25-30% of synergy attainment
  - Category Management and Architectural Sales accelerate adoption and increase penetration
- Having the skills to sell our value is paramount



## **Our Plan to Win**



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Sales & Marketing

# **Brand Strategy**







# "NextGen" market research scope

- Attractiveness of attributes
  - Positioning
- Willingness to pay a premium
  - By market, segment, customer type
- Approach
  - 2,000 interviews; 14 markets; 3 customer types

Outcome informs strategy: Market, Pricing, Capital Expenditure

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Sales & Marketing



# Unlocking our full potential

## Plasterboard Manufacturer





# Full Portfolio Company









# **Category Management**

- Mineral Fibre Ceilings
- Performance Substrates
- · Join Compound and Accessories
- Plasterboard

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Sales & Marketing



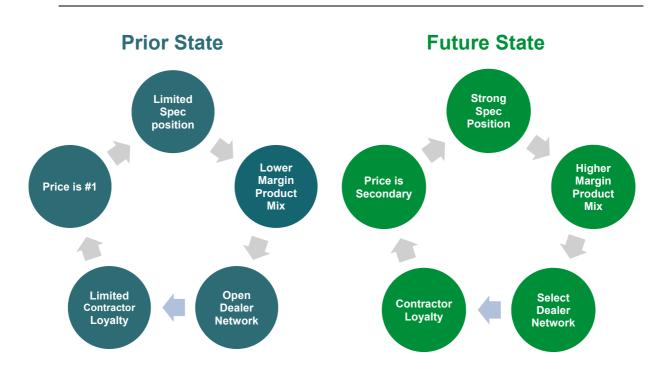
## **Architectural Sales**



Source: USG Corporation



# **Architectural Sales creates power**

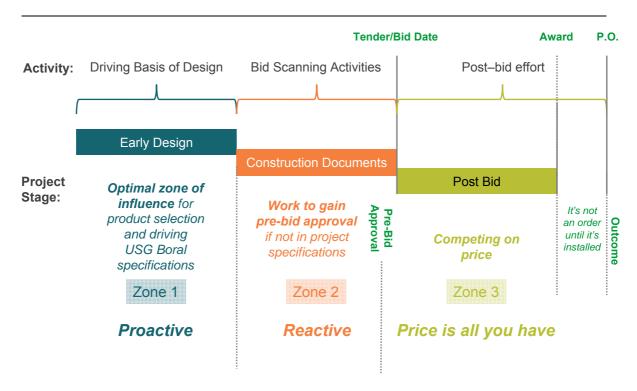


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Sales & Marketing



# **Architectural Sales pays dividends**





## Sales Excellence

- 1. Pricing management
- 2. Sales force management
- Organisation design and execution
- 4. Customer management



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Sales & Marketing



# **Focused Agenda**

- We have a Plan to Win
- Our #1 priority is to launch and secure a price premium for NextGen technology
- Build organisational skills to create, manage, and sell our full portfolio, increase our margins, shift the power in the channel and create loyalty with the end user

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- ASIA PACIFIC TONY CHARNOCK
- Indonesia
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## DAY 3 - China

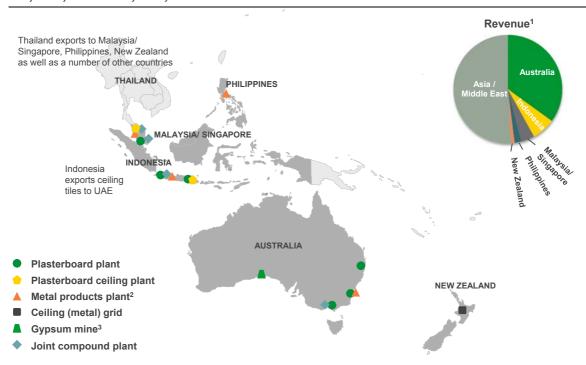
- 6. Technology & Manufacturing
- 7. Asia / Middle East
- China 8.
- Star-USG JV & Ceiling Tile Plant

Asia Pacific

# **USG Boral manufacturing footprint**

AU, IND, MAL/SIN, PHI, NZ

USG BORAL



- Based on management estimates. Asia/Middle East managed /presented under Dan Casey Metal plants in Australia and Malaysia held in 50/50 JV with CSR (Rondo)
- Gypsum mine in Australia held in 50/50 JV with CSR (GRA)



# Leveraging combined product offering

(including JV businesses)

Current product offering Future product offering

	Product	Australia	New Zealand	Indonesia	Philippines	Malaysia	Singapore
	Standard & Technical board						
Boral manuf. to	Cornice						
include USG IP	Plasterboard ceiling tile						
	Joint compound						
Other	Metal products						
USG Adjacent Products Trading products	Mineral fibre ceiling tile						
	Ceiling (metal) grid						
	Durock®						
	Fiberock®						
	Securock®						
	Insulation						
	Other (incl. JHX fibre cement)						

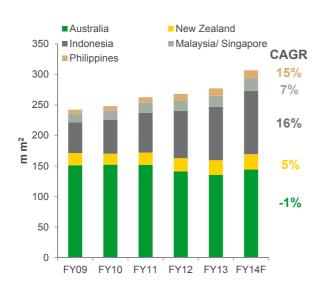
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Asia Pacific

# Plasterboard demand in Asia Pacific penetration upside







## Plasterboard demand per capita<sup>2</sup> m² p.a. per person



Management estimates. Excludes ceiling tiles Management estimates for plasterboard demand. Population data from IMF (2013)



## Singapore penetration success

- Residential wall penetration ~50% of dry area partitions in private residential projects; no penetration in public housing
- In March 2014, Government announced mandate to convert all dry area partitions to drywall solutions in non-landed public & private residential projects
  - Expect full impact from 2017
- Assuming "plasterboard" systems/solutions adopted, additional incremental growth of 20-30% could be delivered
- USG Boral market share 50-55%; strong specified offerings tailored to residential wall requirements



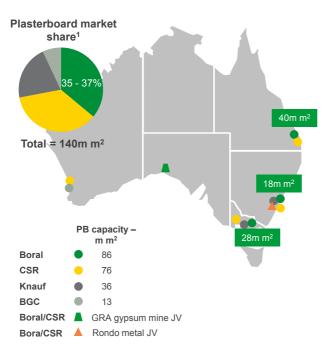


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## Asia Pacific

# Australia: Market dynamics & opportunities





- USG Boral #1 capacity position
- Good traction with Mar-14 price increase: ~5% secured
- Knauf importing gypsum
- Increase in residential demand lifting industry capacity utilisation

#### **Opportunities**

- Launch of NextGen planned for end of calendar year 2014
- Revenue growth from leveraging expanded product and systems portfolio
  - Acoustic ceiling tiles
  - Substrates including roofing
  - Joint compound

1. Management estimates based on FY14 production volume



# Malaysia/Singapore, Philippines & NZ: Market dynamics & opportunities

	Malaysia/ Singapore	Philippines	New Zealand
USG Boral Market Position	<ul> <li>MAL: #1 in PB¹ &amp; MF¹ ceiling tiles</li> <li>#2 in joint compound; key competitor ASG</li> <li>SIN: #1 PB &amp; MF tiles</li> </ul>	#1 in PB, PB ceiling tiles & joint compound	<ul> <li>#1 or #2 in joint compound, MF ceiling tile &amp; grid, metal products</li> <li>PB: small market position through Elephant brand</li> </ul>
Market Dynamics	Growth opportunity from government mandated use of drywall in Singapore	<ul> <li>100% import market for PB, joint compound &amp; PB ceiling tiles</li> <li>Supply cost challenges due to port congestion &amp; trucking regulations</li> </ul>	Winstone Wall Boards (Fletcher) only local manufacturer
Opportunities	<ul><li>Penetration of PB</li><li>Sale of expanded product &amp; systems offer</li></ul>	<ul><li>Penetration of PB</li><li>Sale of expanded product &amp; systems offer</li></ul>	Build on solid position in non-PB products
Plasterboard Competitors	<ul><li>St Gobain</li><li>Euroboard (local)</li><li>Knauf – imports</li><li>Small Thai players</li></ul>	<ul> <li>St Gobain – imports</li> <li>Knauf – imports</li> <li>Limited Chinese imports</li> </ul>	<ul> <li>Winstone Wall Boards</li> <li>Knauf – import ex Australia</li> </ul>

<sup>1.</sup> PB – plasterboard, MF – Mineral fibre

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Asia Pacific

## **Priorities**



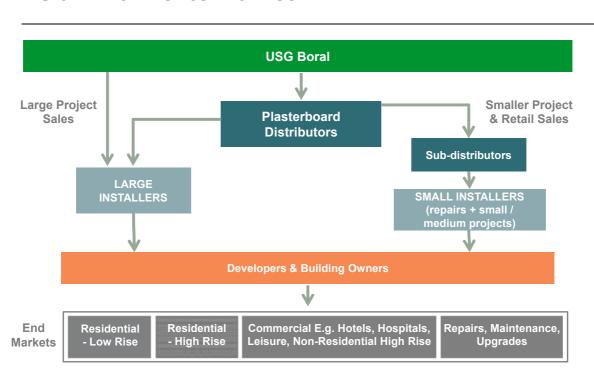
- Drive revenue growth
  - Higher penetration of plasterboard products
  - Increased focus on sales of adjacent products and technical boards; leverage our full products and systems offering
- Deliver on USG technology rollout
  - Wave 1 focused on Australia and Indonesia
- Recover escalating input costs: energy, labour, raw materials
- · Adopt strict capital investment criteria to lift capital returns
- Lower cost base through 'Earn the Right to Grow' program
- Improve safety performance through better awareness of risk and introduction of behavioural-based programmes



Asia Pacific



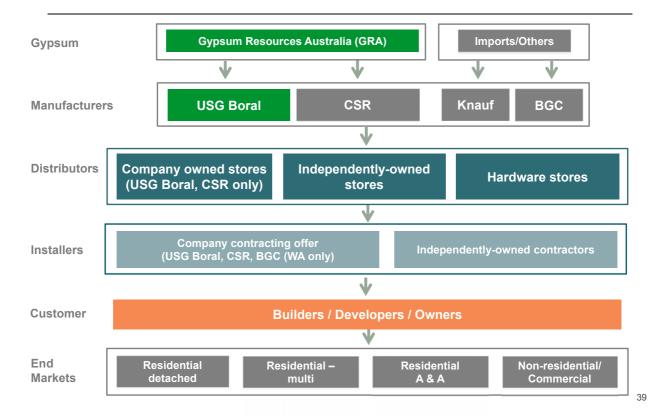
## **Asia: Channel to Market**







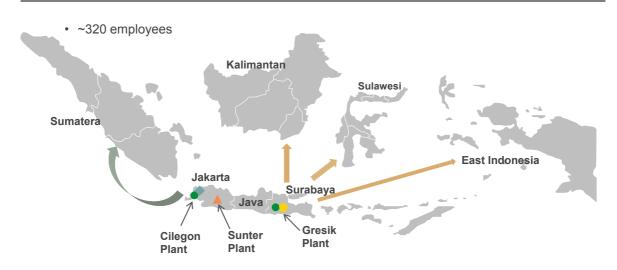
## **Australia: Channel to Market**



# Agenda DAY 1 - Indonesia USG Boral Overview Sales & Marketing Asia Pacific INDONESIA - YAN XU Cilegon Plant DAY 3 - China Technology & Manufacturing Asia / Middle East China Star-USG JV & Ceiling Tile Plant



# **USG Boral manufacturing footprint**



- Plasterboard plant
- Plasterboard ceiling plant
- ▲ Metal products plant
- Joint compound plant

Plant name	Gypsum type	Capacity m m²
Cilegon 1 & 2	Natural Gypsum	51
Gresik	Natural Gypsum	14
Sunter (Metal)		

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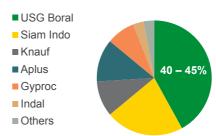
## Indonesia

# Competitive landscape & opportunities



Competitor	Competitors		
Siam Indo	<ul><li>In high-end Retail</li><li>Presence in compound &amp; metal</li></ul>		
Knauf	<ul><li>In high-end Project</li><li>Presence in compound &amp; metal</li></ul>		
Aplus	<ul><li>In mid &amp; low-end Retail</li><li>#1 in joint compound</li></ul>		
Saint Gobain (Gyproc)	<ul> <li>In mid &amp; low-end Retail</li> <li>New domestic plasterboard plant under construction to be ready for FY2015</li> <li>Currently importing</li> </ul>		
Fibre Cement Board	Competes for ceiling application in low-end residential		

#### Market share<sup>1</sup>



USG Boral largely competes in high-end Retail & Project segments

## **Opportunities**

- · Fast growing market with strong demand
- Superior product quality with USG technology
- More complete product portfolio MF ceiling tiles, Fiberock®

<sup>1.</sup> Management estimates based on plasterboard sales volumes, excluding ceiling tiles (FY2013)



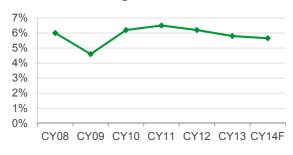


## High plasterboard growth

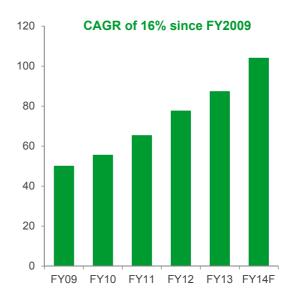
## Supported by economic growth & product penetration

- Average GDP growth over 6 yrs to CY2013 of ~6%1
- Fast growing middle class and decreased dependency ratio driving increased residential demand
- Jakarta CBD is fastest growing rental office market in Asia Pacific<sup>2</sup>

## Indonesia GDP growth<sup>1</sup>



Indonesia plasterboard market size<sup>3</sup> m m<sup>2</sup>



- Source : Word Bank, Bank Indonesia Source : Asian Real Snapshot (Spring 2013 by KPMG) Management estimate. Excludes ceiling tiles

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## Indonesia

# **USG BORAL**

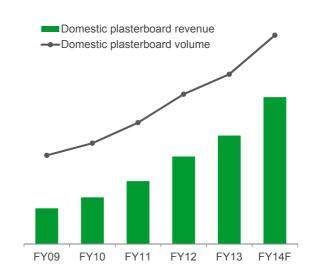
# Cilegon expansion supporting demand

- Domestic plasterboard revenue CAGR of ~20% over 4 yrs to FY2013
- Strong market position established through leading Jayaboard brand
  - Increased market share
  - High volume growth
  - Modest price growth

## Cilegon plasterboard plant

- Line 2 capacity expansion of 30m m<sup>2</sup>
  - Completed Mar-13 guarter
  - Now optimised with line 1 on-load sharing
- Supplies domestic market
  - Volume to Jabodetabek (greater Jakarta region), West Java, and Sumatera

## Domestic plasterboard revenue and volumes







## **Substantial distribution network**

**Supporting Retail & Project markets** 

#### 62 exclusive distributors across Indonesia

Number of distributors



## **Pakubuwono Signature Project**

- 107,000m<sup>2</sup> of plasterboard supplied in 2014
- Plasterboard system both for ceiling & partition
- Prestigious high-rise residential



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Indonesia



# Cost and price management

## Weaker rupiah has increased production cost

- ~80% of variable costs paid in USD
  - Gypsum and paper imported
  - Energy paid in USD
- Domestic currency (Rupiah) weakened relative to USD by around 20% over last two years
- Price increases starting from Nov-2013 across all products
  - Good traction on price increases to date
  - Plasterboard price increase of around 15% achieved
- Continued focus on Operation Excellence program to reduce costs





## **Priorities**

## Revenue growth

- Solidify #1 market position in board
- Continue developing drywall partition market
- Strengthen market position in MF ceiling tiles and joint compound
- Develop Fiberock® and Securock® market
- Strengthen specification capabilities & value offer through direct sales to market

## Improve margins

- Optimise price and cost management
- Maximise customer conversion to lightweight board
- Safety for employees and customers

Supplementary Information



# Jayaboard - "Top of Mind" brand

## USG Boral plasterboard brand, Jayaboard, voted preferred brand

**Top Brand** award 2011, 2012 (One of the most popular brands across all industries)



**iDEA RUMAH** award 2009, 2010, 2011, 2013, 2014 (Most popular brand in Plasterboard industry)



**Architect Choice** award 2012, 2014 (Preferred brand by Architects)



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## **Overview**

## **Background**

- 1997 1998: Construction
  - 2<sup>nd</sup> hand plant from France
- 2004: Compound plant upgraded
- 2013: 2<sup>nd</sup> plasterboard line expansion



## **Key facts**

- Two plasterboard lines
  - Line 1: 21m m<sup>2</sup>
  - Line 2: 30m m<sup>2</sup>
- Total investment in line 2 of ~US\$22m
- Two compound/plaster lines
- All volume supplied to Jabodetabek (greater Jakarta region), West Java, and Sumatera
- ~120 employees + ~ 80 contractors: loading, packaging, security
- 30% shipped by container

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Cilegon Plant

## **Products manufactured**



## **Plasterboard**









## Compounds













## **Casting plaster**

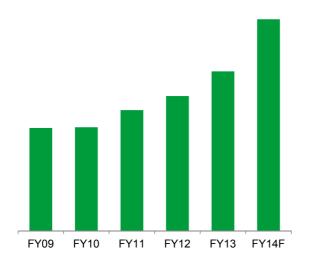


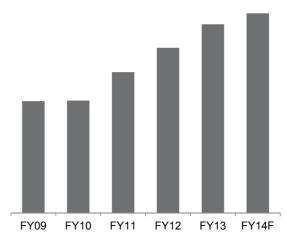


## **Production volume**

Plasterboard production volume  $m m^2$ 

Compound/Plaster production volume *K tonne* 



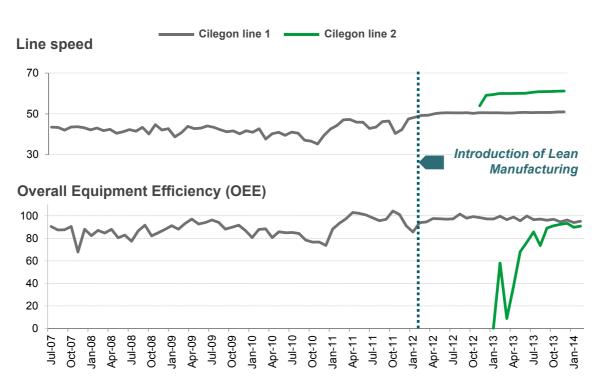


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Cilegon Plant

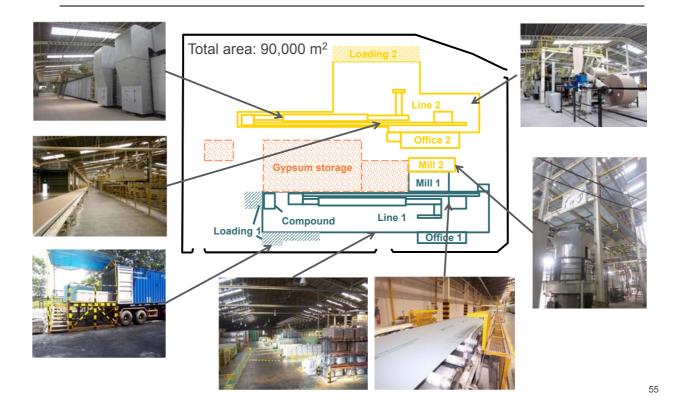
# **Performance**







# **Plant Layout**



# **Agenda**

## DAY 1 - Indonesia

- 1. USG Boral Overview
- 2. Sales & Marketing
- 3. Asia Pacific
- 4. Indonesia
- 5. Cilegon Plant

## DAY 3 - China

- 6. TECHNOLOGY & MANUFACTURING JOE HOLMES
- 7. Asia / Middle East
- 8. China
- 9. Star-USG JV & Ceiling Tile Plant



# **USG NextGen technology – delivering** superior quality differentiation

## **NextGen technology**

- Proprietary raw materials
- Proprietary equipment delivery systems
- Building block processes



#### What it delivers

- Superior sag performance with improved score and snap
- Improved weight to strength ratio
- · Reduced gypsum requirement

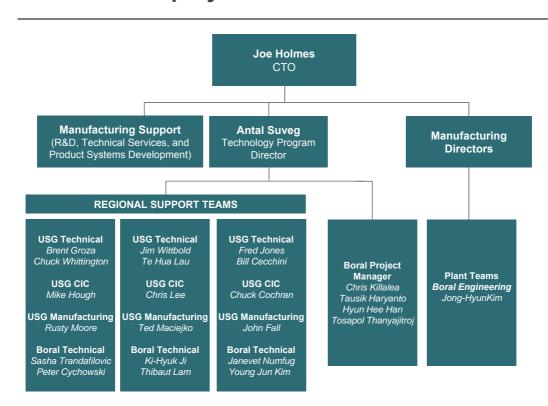


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## **USG Boral deployment team**



# USG BORAL

# NextGen plasterboard will start to be delivered to markets by the end of CY2014

## **US\$50m** capital rollout program

#### Wave 1:

- Launch in initial markets
  - Australia, Korea, Indonesia, Thailand, Export Markets

#### Wave 2:

- Fill the market gaps
  - Australia, China, Vietnam
- Improve product quality

#### Waves 3 & 4:

· Build on success

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# **Manufacturing Priorities**

## Safety

- Front line supervisory skills
- · Employee engagement
- Enhanced reporting transparency

## Quality

- Statistical quality control
- Beat the competition
- Operate at steady state condition

## **Operating Efficiency**

- Lean principles
- Technical services







# Lightweight process requirements facilitate cost reduction

## Requirement

## **Description**

## Comments



Optimise

hydration

Install key

lightweight

technologies

- Minimise feed rate variation
- Control stucco & additive quality
- Implement robust process controls
- Train operators
- Eliminate high cost additives
- Add set control systems
- Enhance gypsum crystal growth
- Improve core structure formation
- Introduce strength development additives
- Reduce gypsum usage

- Steady state operations equal <u>lower cost</u>
- Raw material reduction lowers costs
- Proprietary technology differentiates product and reduces costs

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# **Cost Reduction Opportunities**

- Raw material reduction
  - Gypsum and associated water
  - Accelerator
- Variation control
  - Stucco uniformity
  - Improved quality
- Manufacturing support
  - Uniformity task force
  - Troubleshooting
  - Leveraging best practices





# Training for improved manufacturing operations

- Safety training at company-wide plant manager meeting, May-14
- USG Boral Fundamentals of Plasterboard Training, March-14
  - Manufacturing and process teams
  - Training on NextGen technology, raw materials, process improvements, best practices
- Continuing training & development opportunities to maintain standards across corporation
- Extensive IP training (all manufacturing directors and plant managers)



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# **Protecting our Intellectual Property**

- IP Protection is a key priority with training on IP Security commenced March-14 and extensive IP policies developed
- USG has licensed over 740 Patents & Applications and 233 Trademarks
   & Applications to USG Boral for use in the Territory
- BORAL has assigned over 112 Patents & Applications and licensed 400 Trademarks & Applications to USG Boral for use in the Territory
- JV Board Technical Committee formed to:
  - Provide oversight on Licensed Technology implementation
  - Coordinate selection/transfer of qualified newly developed IP by USG and/or Boral to USG Boral
  - Furnish guidance to any proposed joint development between USG Boral and shareholders

# **Agenda**

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## DAY 3 - China

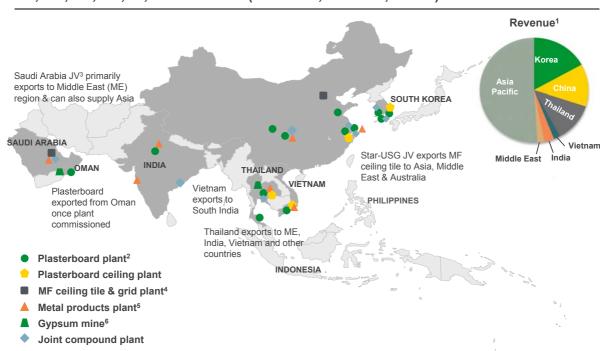
- **Technology & Manufacturing**
- ASIA / MIDDLE EAST DAN CASEY
- China
- Star-USG JV & Ceiling Tile Plant

## Asia / Middle East

# **USG Boral manufacturing footprint**

CH, KR, TH, VN, IN, UAE and JVs (Star-USG, USG ME, Oman)





- Based on management estimates. Asia Pacific managed/presented under Tony Charnock 50% owned plasterboard plant in Oman is under construction
- 3. 45% interest in Saudi Arabia MF ceiling tile, metal grid, metal stud and joint compound plant
- In China, MF ceiling tile owned 50% through Star-USG JV Metal plant near Mumbai in India owned 50% through Rondo JV
- Gypsum mine in Oman 55% owned



## Leveraging combined product offering

(including JV businesses)

- Current product offering
- Future product offering

	Product	Korea	China	Thailand	Vietnam	India	Saudi/ UAE	Export/ other
o t	Standard & Technical board							
anuf oorat 3 IP	Plasterboard ceiling tile							
Boral manuf. 1 incorporate USG IP	Joint compound							
Bo =	Perforated Plasterboard Panels							
Other	Metal products							
	Mineral fibre ceiling tile							
acen	Ceiling (metal) grid							
Adja	Durock®							
USG Adjacent Products	Fiberock®							
	Securock <sup>®</sup>							

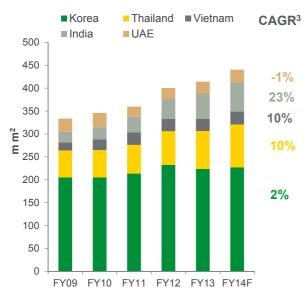
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### Asia / Middle East

## Plasterboard demand growth and penetration upside in Asia/Middle East

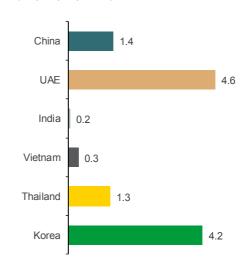


### Plasterboard market size<sup>1,2</sup>



### Plasterboard demand per capita<sup>1</sup>

(m² p.a. per person)



- Source: management estimates. Excludes ceiling tiles China market size discussed in China section of this presentation CAGR cumulative average growth rate



## Unique benefits of plasterboard lining systems driving adoption

#### **Environmental benefits**

- ✓ Low embodied and lifecycle energy
- ✓ Recyclable
- ✓ Can be manufactured from recycled inputs

#### **Flexibility and Performance**

- ✓ Ease of reconfiguration and repair
- ✓ Job site cleanliness & safety
- ✓ Design solutions for specific requirements (e.g. fire, acoustic, wet area, impact)

### Lightweight

- ✓ Reduced building mass & foundation costs
- Lower thermal mass





Note that these unique benefits driving adoption of plasterboard are also relevant to Asia Pacific markets

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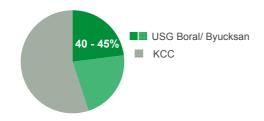
### Asia / Middle East

## **USG BORAL**

## Korea: Market dynamics & opportunities

### **Key Competitors** · Only other domestic manufacturer with estimated plasterboard capacity of **KCC** · #1 in plasterboard & MF ceiling tiles Plasterboard & plasterboard ceiling tiles supplied by USG Boral under OEM1 Byucksan · Manufactures fibre cement & MF ceiling • #1 in compounds with ~90% market Terraco

### Plasterboard market share<sup>2</sup>



- **Opportunities**
- Expansion of product portfolio base
- Development of new channels to penetrate adjacent products eg. joint compound

Uplift in housing & non-residential activity vs 2013 driven by Government new real

First significant price increase in over 5 yrs

Continued increase in demand for green

and energy efficient products & buildings

estate policy<sup>3</sup> to boost construction

implemented March-14

- Accelerating residential PB demand:
  - Shift to small size units: use higher drywall ratio than larger units
  - Legal requirement for more 'green'/ energy efficient buildings

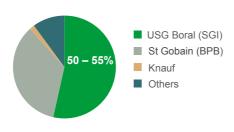
- OEM Overall Equipment Manufacture
- Management estimates CY2013; excluding ceiling tile
  Permanent acquisition tax cut and abolishment of increased capital gains tax on multiple home owners
- FGD Flue Gas Desulfurisation (gypsum obtained from power plants)

# Thailand: Market dynamics & opportunities



Key Competitors				
St Gobain	Major competitor in PB, compound & metal products     Small position in PB ceiling tiles			
Knauf	<ul><li>Small position in plasterboard only</li><li>New entrant with local manufacturing</li></ul>			
Plaster glass	#1 in cast gypsum ceiling tiles			

#### Plasterboard market share<sup>1</sup>



1. Management estimates CY2013; excluding ceiling tile

- USG Boral #1 market share in plasterboard (PB), joint compound, PB ceiling tile & metal products
- Recent political unrest has dampened strong underlying construction growth
  - Risk that impact may be greater in medium term
- Highly competitive pricing no material price growth since FY2010

#### **Opportunities**

- Continue to grow Thailand through partnerships with Siam Cement Group
- Continue to grow presence in adjacent countries (Laos, Cambodia, Myanmar)
- Drive plasterboard penetration / substitution for wall applications
- Launch USG substrates range to expand into new applications

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### Asia / Middle East

# Vietnam, India and UAE: Market dynamics & opportunities

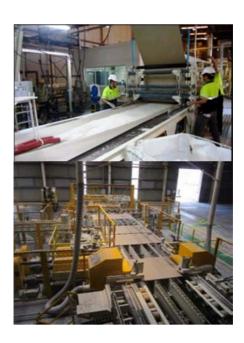


	Vietnam	India	UAE
USG Boral Market Position	• #2 in plasterboard	<ul><li>#2 in plasterboard</li><li>Entering ceilings market as a second player</li></ul>	<ul><li>#3 in plasterboard</li><li>#1 joint compound</li></ul>
Market Dynamics	Moderate growth in high-end market	<ul> <li>Expect continued high growth</li> <li>High inflation market/ currency risk (US\$ inputs)</li> </ul>	Competitive pricing – driven by market over capacity
Opportunities	<ul> <li>Leverage Ho Chi Minh capacity expansion</li> <li>Leveraging project sales to build adjacent product opportunities</li> </ul>	<ul> <li>Build profitability in North &amp; strengthen position in South (Vietnam and Oman)</li> <li>Leverage new putty business</li> </ul>	<ul> <li>Build integrated approach across Middle East</li> <li>Leverage sourcing plasterboard from Oman</li> </ul>
Plasterboard Competitors	St Gobain     Knauf – new entrant; importing from Thailand	<ul><li>St Gobain</li><li>Other imports</li><li>Potential new domestic entrant (small capacity)</li></ul>	<ul><li>St Gobain</li><li>Knauf</li><li>Gypsemna</li><li>Other imports</li></ul>



## Ho Chi Minh plant upgrade will support domestic and export growth

- Plasterboard capacity expansion of 30m m<sup>2</sup> ramping up
  - Delivers lower cost modern equipment platform to leverage USG technologies
  - Expect cost benefits through board line efficiency improvements and improved stucco calcining energy efficiency
- Production will support growth in region through exports – primarily to India
- Elimination of Thailand imports into Vietnam will give immediate landed cost benefit
- Existing 12m m<sup>2</sup> line 1 operating at 100% capacity will be mothballed
- Technical boards (fire rated) will be launched to further build product range capability



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### Asia / Middle East

### Middle East JV businesses



Oman Gypsum JV	<ul> <li>55% owned in JV with Zawawi Minerals (Zawawi)</li> <li>World class facility capable of producing 3mt p.a. with proven reserves of 47mt</li> <li>Gypsum exports commenced Mar-14</li> <li>Will largely serve cement players in India (India is short gypsum) and USG Boral plasterboard plants in Oman and potentially India</li> </ul>
Oman Plasterboard JV	<ul> <li>50% owned in JV with Zawawi</li> <li>Construction of 8m m² world class plant funded by USG and Zawawi</li> <li>Expected to commence production Q1 CY2015</li> <li>Primarily for export to India and greater Middle East; and Oman domestic</li> </ul>
Saudi Arabia JV	<ul> <li>45% owned in JV with local Saudi partner, who has operational control</li> <li>JV established 1994</li> <li>Manufacturers MF ceiling tile, metal grid, joint compound, metal products</li> <li>#1 joint compound position in Middle East</li> <li>Largely supplies domestic Saudi Arabia market         <ul> <li>Also exports to Gulf States, Turkey, Greece, Lebanon</li> </ul> </li> </ul>

### **Priorities**



- Revenue Growth: Continuous penetration drive
  - Through sales excellence and creative product /system solutions
  - Deliver USG technology rollouts (NextGen and joint compound) and develop adjacent product businesses
- Cost improvement: Lower the break-even for all businesses
  - Specific restructuring of China, Vietnam and India to meet current market positions
- By country
  - Korea: NextGen roll-out and expand product portfolio MF ceiling tile and joint compound
  - Thailand: Next Gen roll-out and develop new territories; up market (outside Bangkok) and adjacent countries
  - Vietnam: Strengthen market position, leveraging increased plant capacity and capability
  - India: Build plasterboard market position through exports from Vietnam and Oman; achieve targets for new wall putty business
  - Middle East: Build integrated approach with USG Boral, Oman and Saudi Arabia JV
- Safety: Deliver continuous improvement leading to zero-harm environment

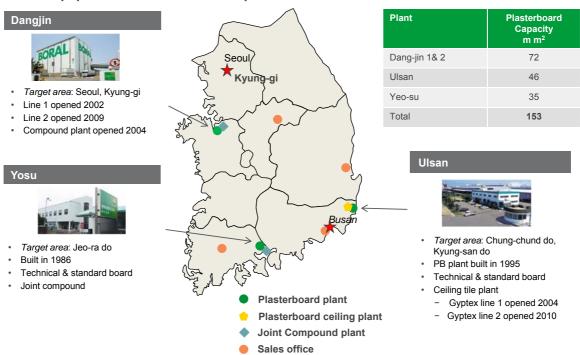
Supplementary Information

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## Korea manufacturing footprint

~45% of population live in Seoul metropolitan area which accounts for ~45% of PB sales



Asia / Middle East



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## Thailand manufacturing footprint

Jon	Location	Operation
	Boonya - Pichit 240km from Bangkok	Gypsum mine Opened in 2006
Boonya	Saraburi plant Saraburi, 90km from Bangkok	Board plant line 1 capacity: 50m m <sup>2</sup> line 2 capacity: 35m m <sup>2</sup> Commenced 1997, upgraded 2010
MCT Pakin	Metal & ceiling tile Saraburi, 90km from Bangkok	Metal products, ceiling tiles, fabrication Commenced in 2009
Prestia	- Pakin – Bangkok	Thailand Head office (Thailand Team, Export Team, USG Boral Support)
	Boral Prestia Thailand Chonburi, 120km from Bangkok	Plaster plant Building Compounds & Industrial Plasters Commenced in 1993
Songkhla	Songkhla 900km from Bangkok	Board plant 20m m <sup>2</sup> capacity Commenced in 1998

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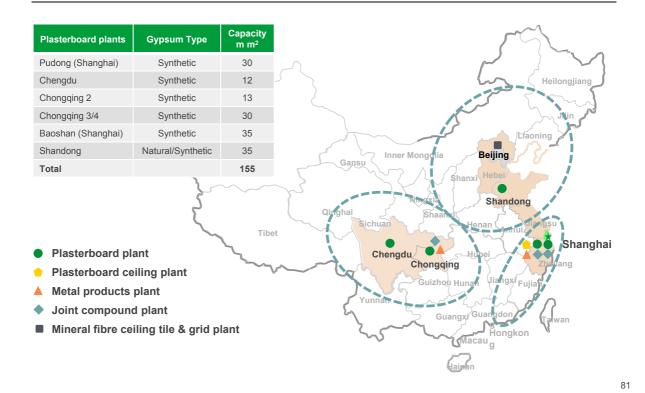
- 6. Technology & Manufacturing
- 7. Asia / Middle East
- 8. CHINA GAVIN BURTON
- 9. Star-USG JV & Ceiling Tile Plant







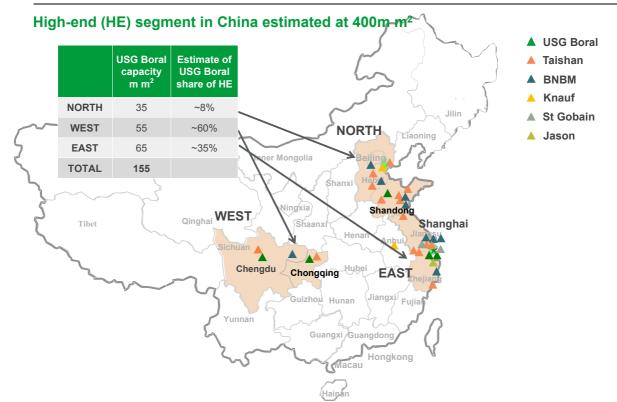
## **USG Boral manufacturing footprint**



China

# Leading positions in key regional areas focused on high-end

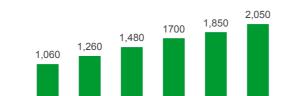






### High plasterboard market growth

### Total China PB market size, m m<sup>2</sup> 2008 - 2013: CAGR of 14%



2011

2012

2013

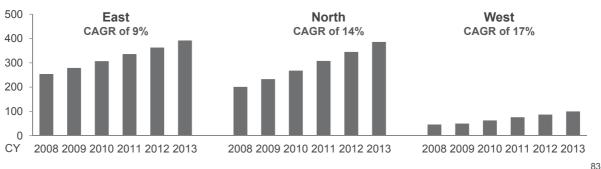
2010

- Plasterboard penetration
  - for China is 1.4m<sup>2</sup> p.a./capita
  - for Shanghai is 3.2m<sup>2</sup> p.a./capita
  - Beijing is 2.8m<sup>2</sup> p.a./capita
- Overall penetration remains well below developed countries
  - Korea penetration is 4.2 m<sup>2</sup> p.a./capita

### Key regions, m m<sup>2</sup>

2009

2008



### China

# Significant opportunity for plasterboard penetration in residential segment



## Current building practices adopt heavy construction techniques

Region	Major Materials		
East & South	Sand aerated concrete blocks	4.5	
West	Shale hollow bricks		
North	Concrete hollow blocks		

## Leading residential developers are starting to trial drywall partitions

- Residential construction lags commercial in adoption of drywall
  - Less need for technical solutions
  - Need for heavy load hanging
  - Security concerns
- Joint research study with Vanke
- Awarded 4 Vanke Shenzhen projects
- · Leverage Tongji University study
- The prize is big

The challenge - keep providing unique differentiated offers

Vanke Shenzhen

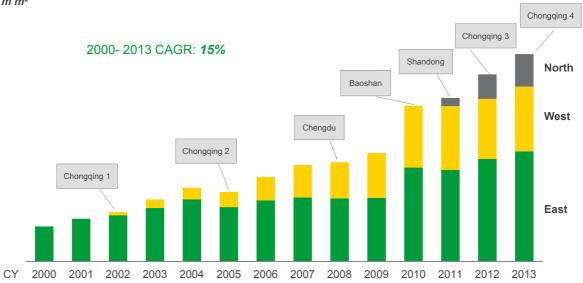




### Capacity available to meet growth

Current capacity utilisation at ~65%

USG Boral plasterboard sales volume in China



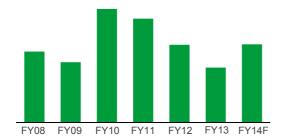
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### China

# Profitability suffered from fast expansion but now recovering



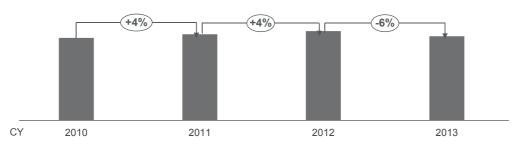




- **FY10**: 2009 stimulus & Baoshan capacity improved profit
- FY11-FY13: capacity added combined with market slowdown negatively impacted profit
- FY14: capacity absorbed & cost reduction activities to deliver

### **Pricing remains highly competitive**

Example: East China price movements (9.5mm board)



1. Excludes Star-USG JV earnings 86

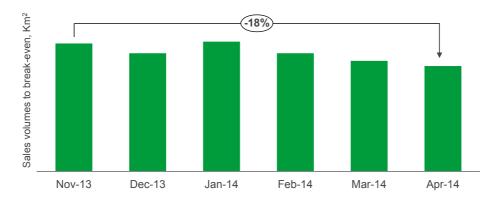




### Managing costs – Reducing breakeven

#### Break-even volume for USG Boral China

We have reduced break-even point by 18% since Nov-13



- Continuous process improvement (energy, paper weight, board weight, lean (OEE))
- Headcount optimisation (plant 'One Team' and SG&A)
- Logistics (network optimisation)

1. OEM - Overall Equipment Manufacture

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China





### Revenue growth

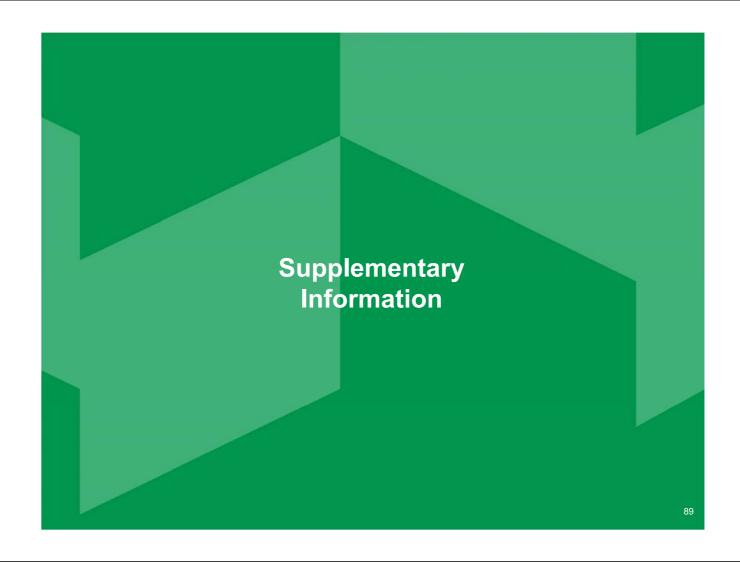
- Leverage NextGen fill up our capacity with premium price board
- · Adjacent / Star-USG products
- Project / architectural sales excellence
- "Conquer the North" grow Boral share and high-end market
- Build the brand and increase partition penetration
- Leverage compounds, metals capacity & market leadership

### Lower the breakeven – 'Earn the Right to Grow'

- Manufacturing excellence
- Overhead reduction (Plant and SG&A)
- Price management

### **Engage our People**

- Keep them safe
- Compelling vision
- Develop and provide opportunities



China



## **Overview of manufacturing plants**

		Key fact	Core markets	Served population
EAST	PUDONG SHANGHAI	<ul> <li>Opened in 1998</li> <li>30m m² capacity</li> </ul>	<ul><li>Shanghai</li><li>Zhejiang</li><li>Jiangsu</li></ul>	150m
	BAOSHAN SHANGHAI	<ul> <li>Opened in 2010</li> <li>35m m² capacity</li> </ul>	<ul><li>Shanghai</li><li>Zhejiang</li><li>Jiangsu</li></ul>	150m
C&W	CHONGQING	<ul> <li>Opened in 2001</li> <li>43m m<sup>2</sup> capacity after expansion</li> </ul>	<ul><li>Chongqing/Hubei</li><li>Guizhou/Yunnan</li></ul>	170m
	CHENGDU	<ul> <li>Opened in 2008</li> <li>12m m<sup>2</sup> capacity</li> </ul>	• Sichuan	72m
NORTH	TAI'AN SHANDONG	<ul> <li>Acquired in 2011</li> <li>35m m² capacity</li> </ul>	<ul><li>Beijing/Tianjin</li><li>Shandong</li><li>Hebei/Henan</li></ul>	250m



## Selling systems and solutions delivering high growth in metal business

### Metal contribution growth





#### **Market characteristics**

- Highly fragmented (BNBM is the market leader with 7% share)
- Short delivery lead time requirement

### **Strategy**

- Production close to market: 2 USG Boral plants + 3 OEMs<sup>1</sup>
- Sell full system (Quality guarantee )
- Residential penetration switch from timber to metal

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## **Agenda**

### DAY 1 - Indonesia

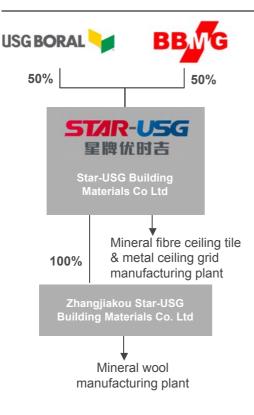
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### Star-USG JV Overview



- Star-USG JV established Nov-07
- BBMG Group (Global Fortune 500 in China) has operational control

#### Star-USG JV

- Large mineral fibre ceiling tile manufacturing base in China
  - Plus 5 lines manufacturing metal grid
  - Plant commissioned Mar-2010
  - ~400 employees

### Zhangjiakou Star-USG

- Mineral wool manufacturing plant
  - Plant built 2003
  - Incorporated into JV in Jan-10
  - ~45 employees

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### Star-USG JV

## Mineral fibre ceiling tile and metal grid plant



- Plant located near Dachang (Hebei province)
- Plant area covers 50,000 m<sup>2</sup>
- One of the largest and most modern mineral fibre ceiling tile plants in the world
- Built to deliver the highest quality commercial ceilings products to Asian customers





# Full product range, focusing on innovation for high-end specifications

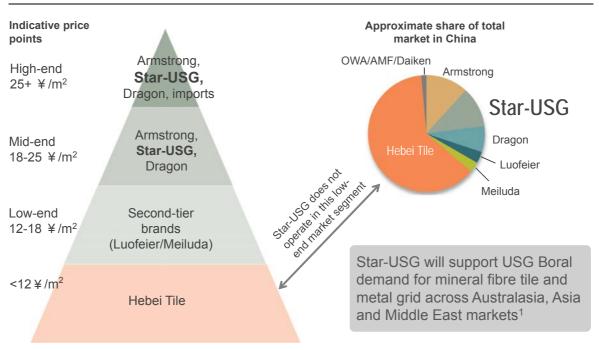


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### Star-USG JV

# #2 ceiling tile position in high- & mid-end of China ceiling tile market





<sup>1.</sup> USG Boral will also supply mineral fibre tile and metal grid to Australasia, Asia and Middle East markets from its Saudi Arabia JV and the US