

# ***The Changing Face of American E&C***

## **A Panel Discussion**

***Keith Clauss, President & CEO, SK E&C***

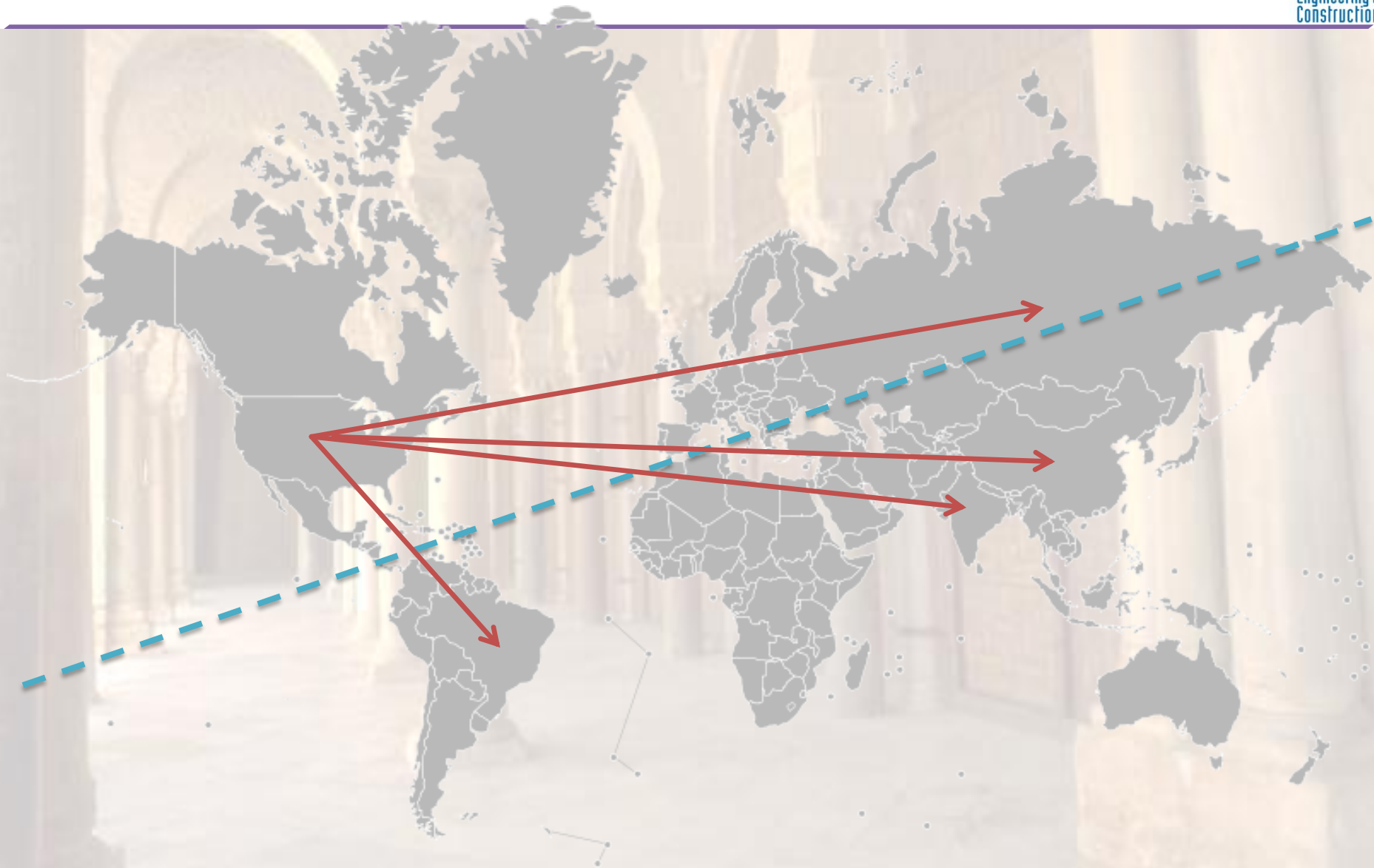
***Mark Mallett, Vice President, Operations & Engineering, Freeport LNG***

***Keith Manning, Executive Vice President, Zachry***

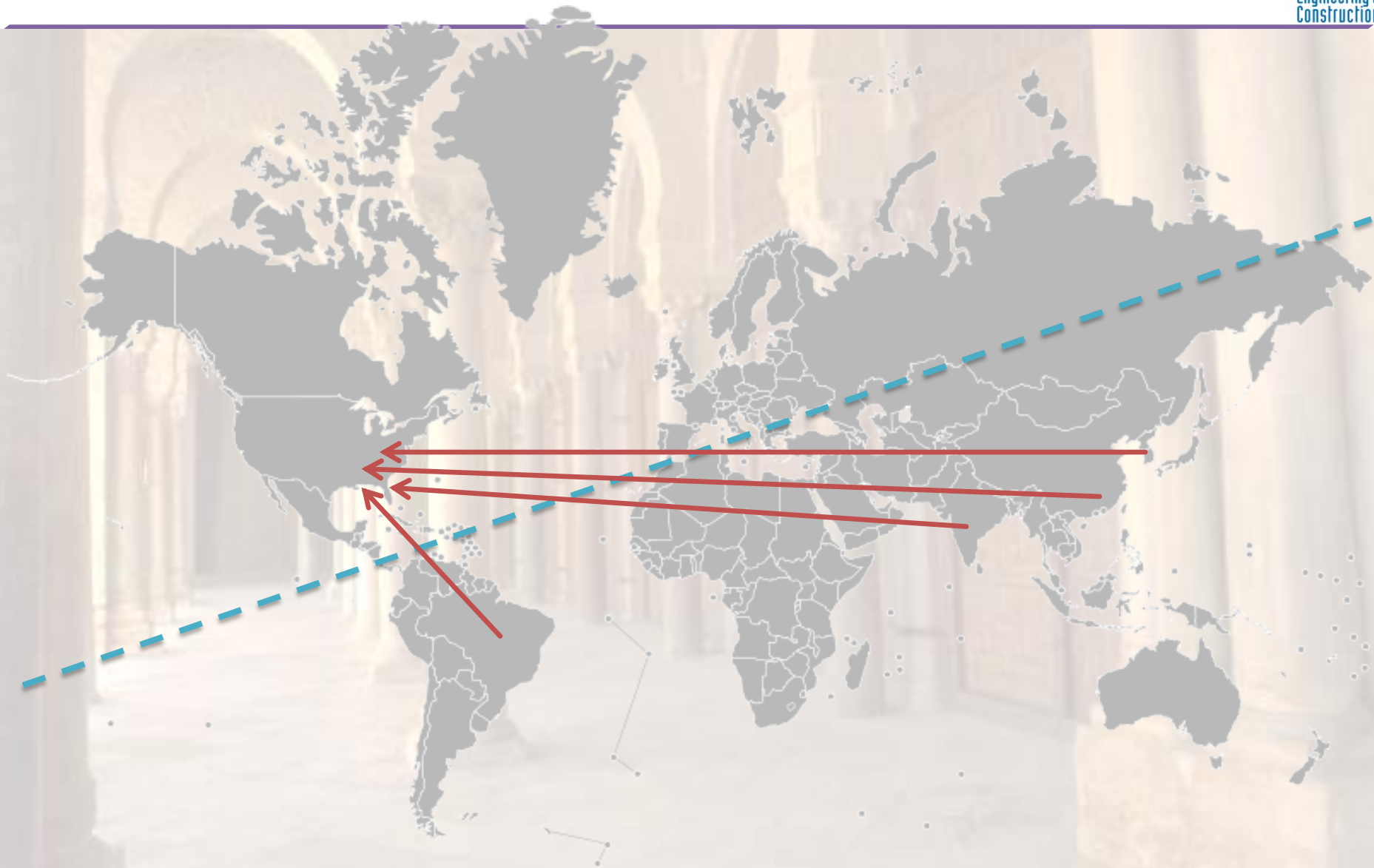
***Mike McAtee, Senior Vice President, Engineering & Maintenance, BASF***

**Moderator: *Richard Westney, Westney Consulting Group***

# Used to be: US EPC firms moved overseas to capture opportunities



# Now: Overseas firms are aggressively capturing opportunities in North America



# New projects illustrate the new players

Sasol eyes diversified product slate for Louisiana GTL plant

Technip, in consortium with Samsung and Huanqiu, awarded contract for LNG project in Canada

Leucadia and SK E&C team on Louisiana Pet Coke to Methanol Project

Samsung Engineering breaks into the US plant market with historic contract

Sasol, INEOS to develop new US plant for high-density polyethylene

M&G signs a US\$1 billion EPC Contract with Sinopec Engineering for its Corpus Christi PET/PTA plants

Sasol taps Emerson to automate planned Louisiana cracker, GTL complex

Korea Gas eyes US shale plays, targets LNG project

PetroChina joins Encana in Canada gas, liquids play

## So you think you know the E&C players

### ARS Question:

*What percentage of revenue in the ENR Global Top 10 is attributable to US companies?*

- A. 5%
- B. 30%
- C. 55%
- D. 80%



## So you think you know the E&C players

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## So you think you know the E&C players

### ARS Question:

*What percentage of revenue in the ENR Global Top 10 is attributable to **Chinese** companies?*

- A. 20%
- B. 40%
- C. 60%
- D. 80%



## So you think you know the E&C players

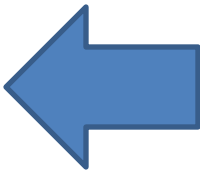
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## So you think you know the E&C players

### ARS Question:

*How does China Railway Group's revenue compare with Bechtel's:*

- A. CRG's revenue is half Bechtel's
- B. Both are about the same
- C. CRG's revenue is twice that of Bechtel
- D. CRG's revenue is three times that of Bechtel

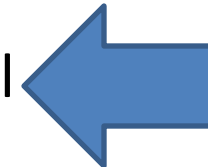


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# 5 easy steps to becoming a global E&C competitor



- **Step 1:** Have your **local government invest heavily in infrastructure** - but only allow local bidders!
- **Step 2:** **Practice execution** in ‘low regulatory environment’ countries by going abroad! Find resource-rich, but cash poor, states to work in – gain valuable experience while building international ties!
- **Step 3:** **Develop an international procurement capability.** Be sure to experiment with new technologies and delivery methodologies in developing countries – it never hurts to use aid dollars!
- **Step 4:** **Enter developed markets through infrastructure JVs** with local firms. Deliver cost-effective engineering while learning about developed markets. Build your developed country reputation!
- **Step 5:** **Move to process industries** by leveraging your high value engineering and construction capabilities through LSTK contracts. Market share matters – **don’t be afraid to lowball!**

***Congratulations – you’re now a world-class EPC firm!***

# It's a big pie, and getting bigger!

Heavy Civil  
Infrastructure



Power



Energy  
Infrastructure



Chem.  
Manufacturing

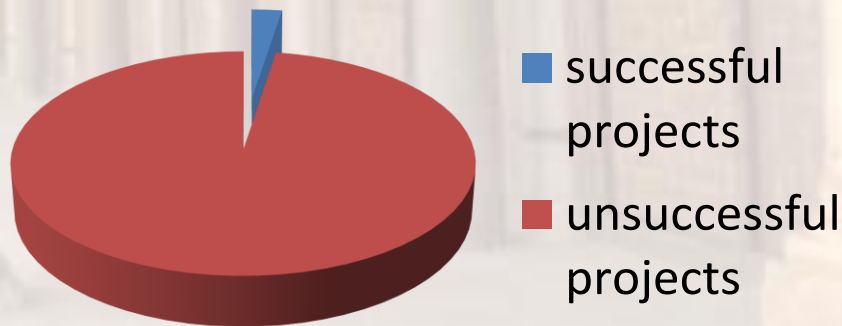


LNG

# Predictability and performance are still a concern

- **65%** of industrial projects with budgets larger than \$1 billion (in 2010 \$) failed to meet business objectives. In some industrial sectors the failure rate was as high as 75%. <sup>1</sup>
- **over 80%** of (benchmarked) companies have unpredictable and/or poor performing projects. <sup>2</sup>

**Only 2.5% of projects could be defined as successful** when assessed across the four critical dimensions of scope, cost, schedule, and business benefits. <sup>3</sup>



Sources:

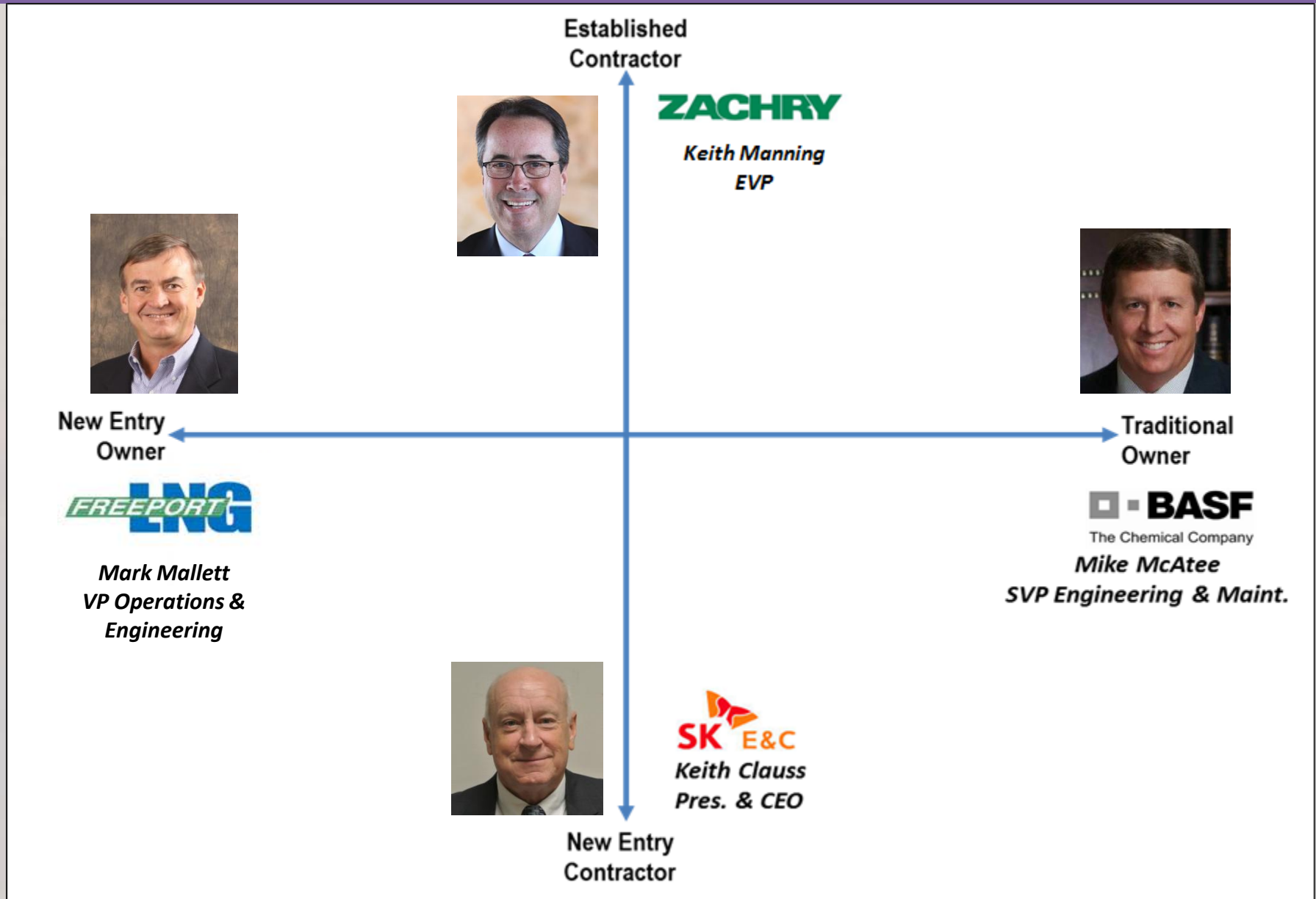
1. *Industrial Megaprojects*, Edward W. Merrow
2. Independent Project Analysis Newsletter: Volume 3, Issue 3, October 2011
3. *Need to know: Delivering capital project value in the downturn*, PriceWaterhouseCoopers 2009



## Some Key Questions

- Will new entrants to the US market be able to apply their lessons learned elsewhere – or is the US regulatory and economic environment too tough?
- How will increasing owner demand and contractor competition change bidding and contracting practices?
- Will joint venture strategies be the preferred entry point for new contractors?
- How will new owners develop North American project management expertise?
- Is there enough activity in the USA to provide opportunities for all contractors, or will more firms be competing for a smaller pie?
- Will new entry contractors make a major push to US market, or are they entering cautiously with one-off projects?
- Will the US materials market be impacted by global procurement processes from new contractors?

# Scenarios: The Changing Face of North American E&C



# Our agenda for today

**THEME 1:  
The New  
Players**



**THEME 2:  
Welcome to  
the USA**



**THEME 3:  
New  
Challenges &  
Opportunities**



**THEME 4:  
A View to  
2020**





# **THEME 1: THE NEW PLAYERS**

### ARS Question:

*What is the primary driver behind **new entry owners** investing in projects in the USA?*

- A. Low cost of feedstock & energy
- B. Easy access to domestic and international markets
- C. Business – friendly regulatory environment
- D. Low cost of doing business
- E. None of the above



### ARS Question:

*What is the primary driver behind **new entry E&C firms** seeking to build their business in USA?*

- A. Low cost of engineering and construction
- B. Business-friendly regulatory environment
- C. High level of project activity
- D. Easy access to skilled construction labor
- E. Opportunity to leverage competitive advantages



## The new players

### ARS Question:

What ***type of project*** is most attractive to new entry E&C firms?

- A. Heavy civil
- B. Process plants
- C. Power
- D. Energy infrastructure
- E. All of the above



### ARS Question:

What is the **primary competitive advantage** new entry E&C firms often bring?

- A. Deep pockets of the parent
- B. Deep knowledge of global procurement
- C. High value engineering centers
- D. Willingness to take losses in order to gain market share
- E. All of the above



## PANEL DISCUSSION



*What are the challenges and opportunities for new owners constructing new facilities in US?*

## PANEL DISCUSSION



*How are the roles of developers, lenders, and investors changing?*

# **THEME 2: WELCOME TO THE USA**



# Welcome to the USA

## ARS Question:

*Compared with other global locations with high levels of construction activity, how would you rate the **ease of doing projects** in the USA?*

- A. Easiest location of all
- B. Easiest of all the developed countries
- C. About the same as Europe
- D. More difficult than average
- E. Very difficult



## ARS Question:

*Compared with other global locations with high levels of construction activity, how would you rate the **non-technical risks** of doing projects in USA?*

- A. Lowest anywhere
- B. Relatively low
- C. About the same as Europe
- D. Higher than average
- E. Very high



*Non-technical risks are those associated with external, non-financial stakeholders including NGOs; local, state and federal governments etc.*

## PANEL DISCUSSION



*What are the particular challenges associated with construction in the US and what are the players doing to address them?*

## PANEL DISCUSSION



*How do the politics of job creation – both construction and manufacturing – impact the current and expected scenario in the USA?*

# **THEME 3: NEW CHALLENGES AND OPPORTUNITIES**

## New challenges and opportunities

### ARS Question:

*As projects continue to become more “mega”, both owners and contractors must **form JVs** to share risk and combine capabilities. This:*



- A. Is a major challenge and a big source of risk
- B. Is something we have learned to do and are comfortable with
- C. Is something our firm does not do

## New challenges and opportunities

### ARS Question:

*Any owner or contractor (or person) that seeks to work in another country must deal with explicit and implicit cultural differences. This:*



- A. Is less of a problem in the US than in most other locations
- B. Can be as significant a challenge in the US as in other places
- C. Is a major challenge in the US

## New challenges and opportunities

### ARS Question:

*Mega-projects require large numbers of skilled engineering and construction **resources**. This:*



- A. Is less of a problem in the US than in most other locations
- B. Can be as significant a challenge in the US as in other places
- C. Is a major challenge in the US



## PANEL DISCUSSION



*What are the specific challenges associated with mega-projects? How are the various players addressing these, and is there any difference between traditional and new entry players?*

## PANEL DISCUSSION



*Let's talk about specific sectors. What are the challenges and opportunities for owners and contractors in:*

- *LNG?*
- *Power (including renewables)?*
- *Unconventional oil & gas?*
- *Chemical manufacturing?*

# **THEME 4: A VIEW TO 2020**

### ARS Question:

*Where do you see the level of US E&C activity in 2020 compared with today?*



- A. This high level of activity is the “new normal”
- B. Things will “revert to mean” ... high costs will cause a correction to more traditional levels of activity
- C. We are heading for another “great recession” and the E&C business will suffer
- D. Who the heck knows?????

### ARS Question:

*To what extent do you think today's "new entry" owners and contractors will become fully established players in the US?*



- A. Limited extent; once the US demand drops, they will find more attractive locations to operate
- B. Great extent: just as with the auto industry, continued demand and the beneficial effects of competition will keep the market healthy and the new entrants well established
- C. There will be winners and losers

### PANEL DISCUSSION



*Considering all that has been discussed, what is your view of the E&C business in the USA in 2020?*

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