



CONQUERING

★ THE SUMMIT ★

ASPIRING TO FLAWLESS PROJECT DELIVERY

45TH

ECC CONFERENCE

2013



engineering and construction contracting association

Globalization in The Americas, A Growing International Presence



Ron Paez

Executive Vice President,
Y&V Engineering and Construction

Globalization in The Americas, A Growing International Presence

Good Afternoon

Buenas Tardes

Bonjour

Buonasera

A faint, historical-style map of the Americas is visible in the background, showing the outlines of North and South America with various geographical labels in Latin and English.

AGENDA

- 1 Introduction Plenary Session # 2: Globalization in The Americas, a Growing International Presence** **Ronald Paez**
- 2 Introduction to Cameron Mason, CEO – President Air Liquide and Overview of AIR LIQUIDE** **Ronald Paez**
- 3 AIR LIQUIDE's presentation** **Cameron Mason**
- 4 Introduction to Dr. Daslav Brkic, VP E&C BBDD Saipem S.p.A. and Overview of SAIPEM** **Ronald Paez**
- 5 SAIPEM's presentation** **Dr. Daslav Brkic**
- 6 Questions and Answers**

A faint, stylized map of the Americas, showing North and South America, serves as the background for the slide. The map is rendered in a light blue/grey tone against the dark blue background.

PLENARY SESSION # 2

Globalization in The Americas, A Growing International Presence

- One of the biggest American oil and gas booms in decades is changing the dynamics of the global energy business.
- International (foreign-owned) oil and gas companies, owners and contractors, are working in domestic shale gas and oil production, petrochemicals and refining projects, helping the USA to move closer to the goal of energy independence.
- This session will discuss lessons learned from recent experiences executing complex domestic capital projects.

Where is the Headquarter of your Company located?

1. USA/Canada
2. Latin America
3. Europe
4. Asia
5. Other

A dark blue background featuring a faint, historical-style map of North America. The map shows the outlines of the continents and various geographical features, with some text labels like 'NEW AMERICA' and 'MEXICO' visible. The map is oriented with North at the top.

Why in America?

Low US energy prices bring flood of foreign investment.

Foreign companies have a chance to operate in a stable market with a sound legal system and low political risk.

Since 2008, foreign companies have entered into 21 JV with US acreage holders and operators, and have invested more than US\$ 26 billions in tight oil and shale gas development.

A dark blue background featuring a faint, historical-style map of North America. The map shows the outlines of the continents and various geographical features, with some text labels like 'NEW NAVARRA' and 'NEW ALBANY' visible. The title 'Why in America?' is overlaid on the top portion of the map.

Why in America?

Energy giants from China, France and Spain have snapped up stakes in fields in Ohio, Mississippi, Colorado and Michigan.

The EIA stated that both USA and foreign companies benefit from the deals, with USA operators getting support and foreign companies gaining experiences in horizontal drilling and hydraulic fracturing that they may be able to use in other countries.

A dark blue background featuring a faint, historical-style map of North America. The map shows the outlines of the continents and various geographical features, with some text labels like 'NEW NAVARRA' and 'SONORA' visible. The title 'Why in America?' is overlaid on the top part of the map in a large, bold, orange font.

Why in America?

Crude oil production in USA has increased since 2008 from 5 millions barrels per day to 6,5 millions barrels per day.

Globalization in the Americas



Cameron Mason

President and CEO Air Liquide Process and
Construction, Inc.



The Air Liquide Group

50,000
employees

**Present in
80 countries**

Revenue

€15,3 billion

Global E&C Solutions: Key Figures 2012

- Around 4,400 employees
- 15 engineering centers
- 3 manufacturing workshops
- 1,600 + patents
- €785 million revenue
- €1.7 billion order intake
- €4 billion orders-in-hand

A faint, stylized map of North America is visible in the background, showing the outlines of the continents and some major water bodies. The map is rendered in a light blue/grey tone against the dark blue background.

Key Driver – Energy

The View As an Owner / Contractor

- Energy at the heart of the change
- Dependence – Independence – Renaissance
- Demonstrated across all our markets
- Lower energy/electricity costs are triggering a revival in North American manufacturing

The Growing International Presence

- Entry or renewed investment
- Access to large markets and export potential
- Stable and efficient capital markets
- Investor protection
- Skilled workforce
- Developed infrastructure

A faint, stylized map of the Americas, showing North and South America, serves as the background for the slide. The map is rendered in a light blue tone, matching the overall color scheme.

Headwinds for Globalization

- Political gridlock
- Government bureaucracy
- Tax code, rates and regulations
- Legal complexity
- Educational system

A faint, stylized map of the Americas is visible in the background, showing the outlines of North and South America with some geographical labels like 'NORTH AMERICA' and 'SOUTH AMERICA'.

Setting the Stage

- Maturity of Operations 0-10, 10-25, 25+
- Maturity impacts growth and development
- Lessons learned are institutionalized
- Become local
- Bring your “A” game and build your “A” team

Project – Gulf Coast SMR

- Capacity: 120 MM scfd hydrogen
- Location: La Porte, TX
- Start up: 2012
- Owner / Contractor



Innovation

- Proven AL/Lurgi Technology in Steam Methane Reformer (SMR)
- High level of safety and reliability
- Simple operation and maintenance
- Standardized plant concepts using pre-engineering and prefabricated components
- Design-to-Cost (DTC) methodology



Resources

- Highly qualified project team
- Resources pulled from three execution centers
- Flexibility and mobility were key to the success of the project
- Proper craft and field supervision pulled from other recent projects



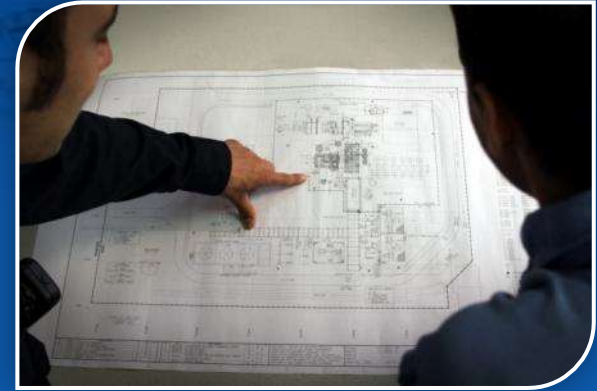
Cultural Gaps

- Definition of roles early in the project
- Resources availability
- Solution development vs execution
- U.S. - China – Germany - Poland



Barriers, Challenges & Opportunities

- Highly qualified project team
- Resources pulled from three execution centers
- Integration process between design offices and construction site
- Common reference systems for safety and risk management

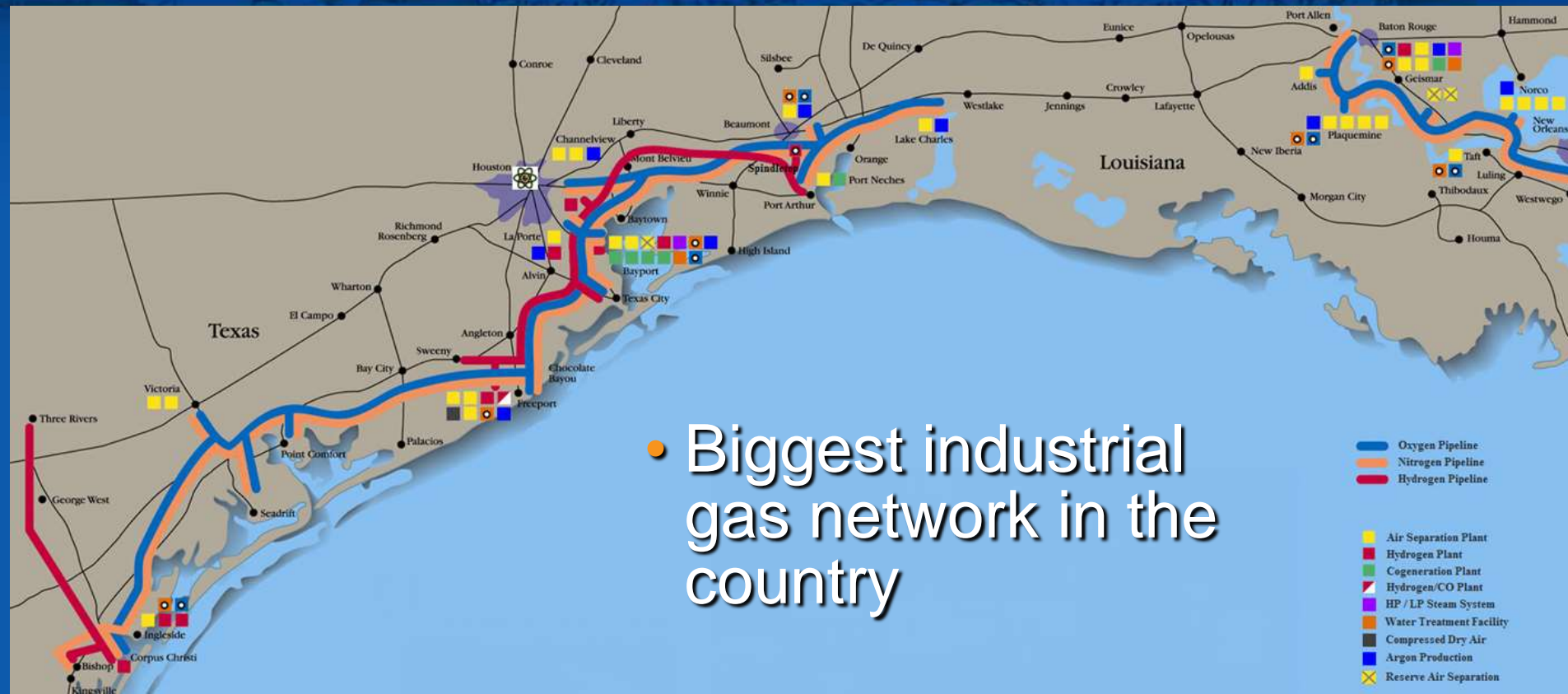


A faint, historical-style map of the Americas is visible in the background, showing coastlines and some place names like 'SONORA' and 'HAWAII'.

Take Aways

- ‘Owner Contractor’ view challenges the conventional project methods
- Low cost energy makes the US an attractive market, with it’s own challenges that forces localization and optimization
- Flawless execution is still a peak we are climbing towards

Today in the Gulf Coast



A historical map of North America, showing regions like NEW NAVARRA, SONORA, and YUCATAN. The map is rendered in a dark blue color scheme with white text for place names and geographical features.

Air Liquide

Thank you very much !

What Can a Large, Global E&C Contractor Bring to the North American Market?



Daslav Brkic

**Senior Vice President,
Business & Technology Development
Saipem S.p.A.**



saipem

Saipem Today

- 2012 Revenues: ~ 18 B\$ (13.4 B€)
- Backlog: ~ 29 B\$ (21.7 B€)
(June 30, 2013)
- 48,000 employees from 125 nationalities
- Operating in 60 countries
- 29 engineering and project execution offices worldwide
- 11 fabrication yards



What Can a Large, Global E&C Contractor Bring to the North American Market?



What Can a Large, Global E&C Contractor Bring to the North American Market?

Kazakhstan



What Can a Large, Global E&C Contractor Bring to the North American Market?

Black Sea



What Can a Large, Global E&C Contractor Bring to the North American Market?

Libya



What Can a Large, Global E&C Contractor Bring to the North American Market?

Brazil



What Can a Large, Global E&C Contractor Bring to the North American Market?

Russia



What Can a Large, Global E&C Contractor Bring to the North American Market?

Nigeria



What Can a Large, Global E&C Contractor Bring to the North American Market?

Pakistan



Why in North America?

- **New opportunities** in rapidly growing markets

Deep water offshore

Oil sands

LNG

Petrochemicals

- Worldwide **balancing of project portfolio**
- Strengthen **relationships** with major global clients

A Gradual Market Entrance From the 'Seventies

Project office and fabrication yard
Houston, USA



New engineering and project execution
centre Calgary, Canada



Edmonton & Nisku fabrication yards , Canada



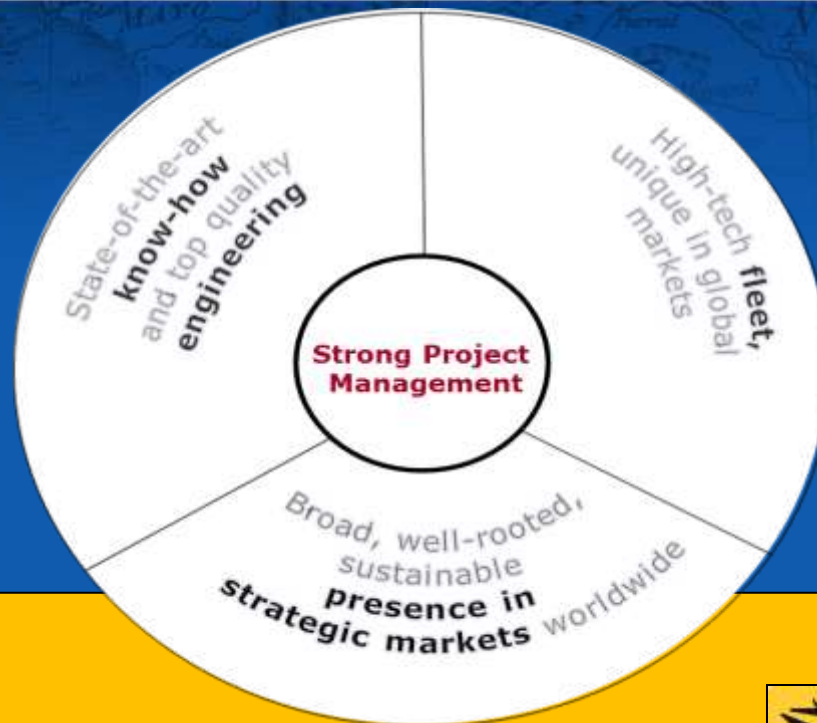
~ 2000 employees today

(excluding crews on offshore vessels and subcontractors)



Saipem Business Model

Supply of complex solutions for even the largest and most challenging projects on an EP(I)C basis



Major emphasis on HSE and Q cultures



Main Challenges



"Truckable" modules for
Fort Mc. Murray, Alberta

- Overall, a very positive experience
 - Open and fair markets
- Technical, labor, constructability and legal requirements
 - All learned
- Key issues:
 - Increasing "Brand Awareness"
 - Entering established relationships
 - Today's contractual forms^(*) tend to favor incumbent suppliers
 - Developing a local supply chain consistent with our value proposition

(*) EP(I)C LSTK vs. 'cost -plus'

Saipem's Value Propositions for North American Markets

1. **EP(I)C LSTK** and 'convertible' **contracts**

Even for 5 B \$ plus projects

2. Most technologically advanced and highest productivity **assets**

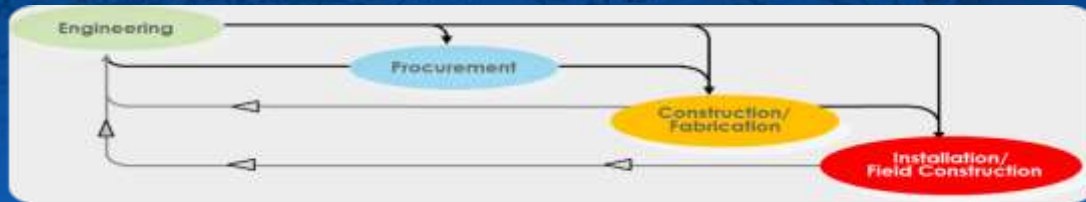
Castorone, the newest and largest pipelayer in the world, for deep water projects in the Gulf of Mexico

3. Leading proprietary **process technology**

Snamprogetti™ Urea Synthesis for the new petrochemicals revival

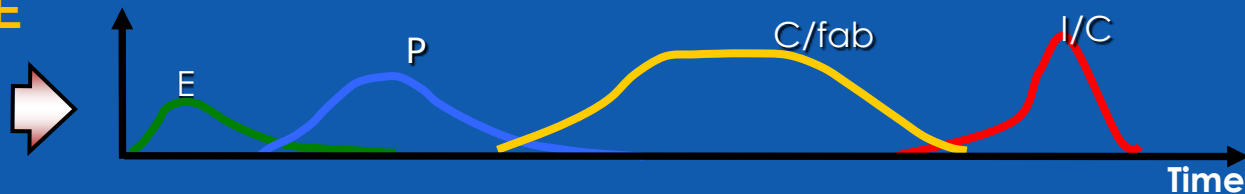
1. The EPC/EPIC approach can offer superior performance in large projects execution

TYPICAL EPC/EPIC PROCESS



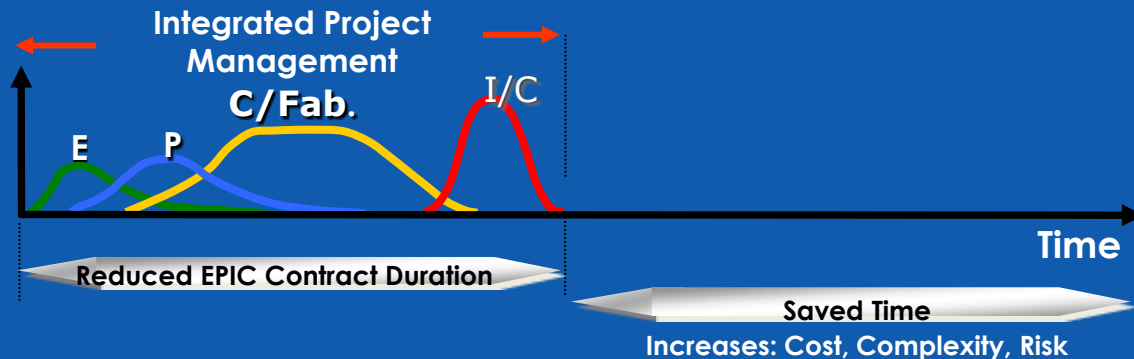
MOST COST-EFFECTIVE PROCESS

LOW RISK, OWNER'S



TIME-IS-OF-THE-ESSENCE PROCESS

HIGH RISK, CONTRACTOR'S



Some 'Lessons Learned' in Canada

- In the pre-2008 ebullient market in Alberta, the delays and cost overruns with LS contracts were more limited
- Fixed price & completion contracts viewed very favorably by the financial community

Some 'Lessons Learned' in Canada

- Need to adapt entire supply chain to operate on LS basis
 - Utilize Partners/Subcontractors experienced/adaptable to LS contracts
- Invest in direct involvement in execution
 - Max modularization, own fabrication yards
 - Direct hiring
 - (Re) training of (scarce) labor
- LS construction still an issue in some circumstances - climate, labor scarcity, remote locations, ...
 - Partial or blended LS contracts a possibility

"Convertible" Contracts: A Compromise Scheme

Reimbursable

- Flexibility, adaptability
- Little guarantee on final cost/schedule



Lump Sum Turn Key

- Guarantees defined budget and completion time
- Requires excellent project definition

'Convertible'

Project definition, execution plan,
cost estimate

F E E D

E

P

C

**CONVERSION
to LSTK**

PROJECT EXECUTION

Project implementation

High productivity
welding under way

3 x market average

2. The New Castorone

The Newest and Largest Pipelayer in the World

- Over 1000 ft (>300m) long
- J-Lay or high productivity S-Lay even in water depths > 6000 ft



Some Current Challenges

Initial contracts:



3 assignments in GoM,
w.d. >7000 ft



Tupi NE - Cabiunas Trunkline for Petrobras
Max w.d. 7350 ft



Ichthys LNG Gas Export Pipeline for INPEX
889 km (555 miles) 42"

- Optimize project execution (cost, schedule, methodologies) by **involving** the **T&I contractor early**, also during FEED/Project Definition
- With ever more complex and exacting deep water project requirements, **suggest** to move towards **EPIC contract structures**

3. Snamprogetti™ Urea Technology

Qafco 5 and 6, Qatar
Largest fertilizer complex in the world



- 130 licenses world-wide
- 25 Ammonia/Urea complexes (7 in N. America)

In the quest for economies of scale:

- World largest single train complexes: 3850 T/D
 - 3 on stream
 - 2 in design and construction
 - 3 in design preparation
- 'Jumbo' single train - ready! >5000 T/D

US project applications under definition with lead Clients

*Technology and
proven experience
- key factors of
success*

Project Implementation Ideas

- Striving towards application of EPC LSTK model
- Creating a US supply chain, consistent with
 - Client needs
 - Contract requirements
 - Our business model
- Developing construction execution plan
 - Direct hiring, subcontracts
- US and global sourcing of materials and equipment

Conclusions: Application of Saipem's Business Model in North America

Acquired knowledge
Of market needs
and regulations

New
investments

But also:

Technology development
R&D with N.A. universities

Adapt,
adapt,
adapt!



Employment of
most modern
assets

Supply chain
development and
alignment with business
model

Local engineering
Sourcing
Fabrication
Direct hiring training
Subcontracts

JUST DO IT...



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