



# Technology Enabled “Sweet Spots” for the O&G Enterprise

Presented by Jim Green, CIO Downstream and Chemicals



# Agenda



- About Chevron
- The PI System at Chevron
- Technology Enabled “Sweet Spots” for O&G Enterprise:
  - Process Safety Management
  - Real-time Process Optimization
  - Critical Decision Making – Operations & Maintenance
  - Adopting Emerging Technologies
  - Protection from Cyber Threats
- Q&A



# About Chevron - Delivering the World's Energy

## Safely and Reliably



4<sup>th</sup> largest  
international  
oil company

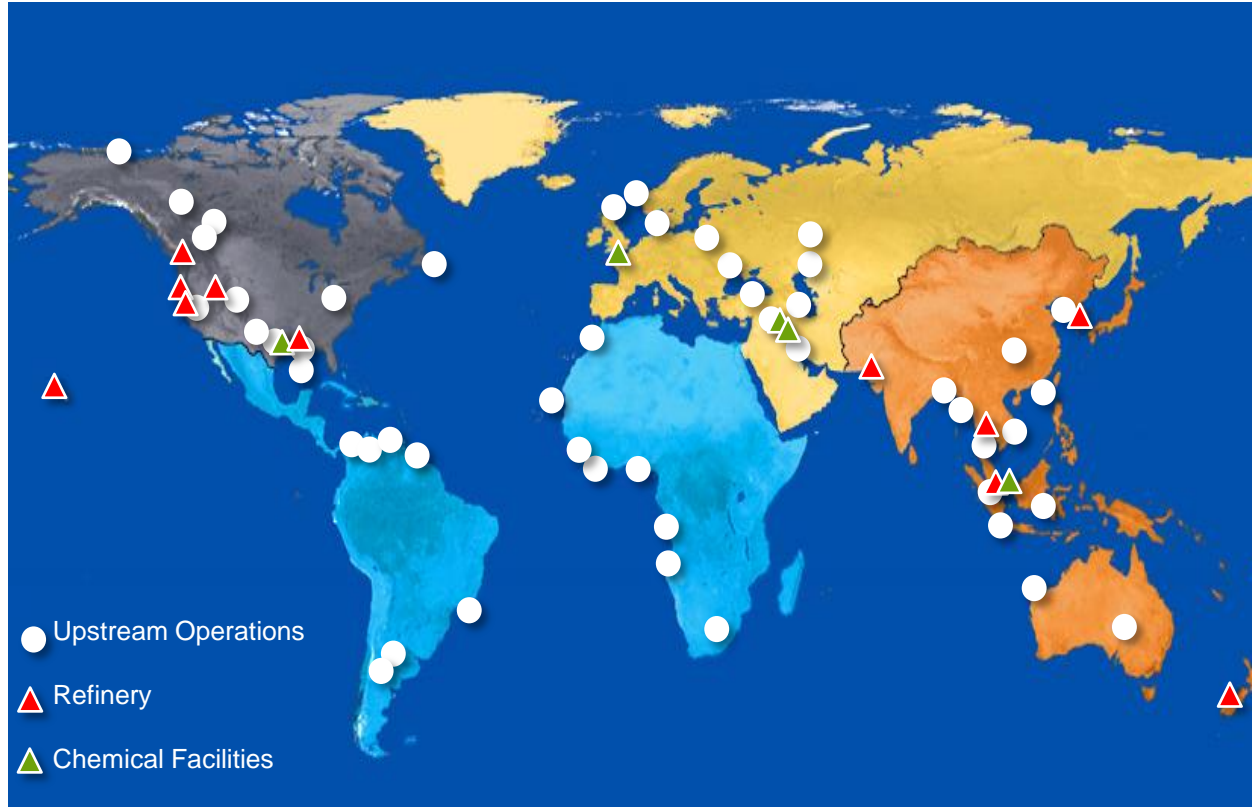
61,000 +  
employees  
worldwide

2.6 million  
barrels of oil-  
equivalent  
production  
per day

Global  
around 75% of  
production from  
outside U.S.



# About Chevron – At a Glance



- Headquartered in California for 135 years.
- We are the state's top oil producer and one of the largest producers of natural gas.
- Our Richmond Refinery and El Segundo Refinery in California have been in continuous operation for more than a century.
- We partner with non-profit organizations in STEM education and economic development in the communities we operate

# Major Business Areas

We are involved in every facet of the energy industry



**Explore  
Develop**

**Produce**

**Ship**

**Refine**

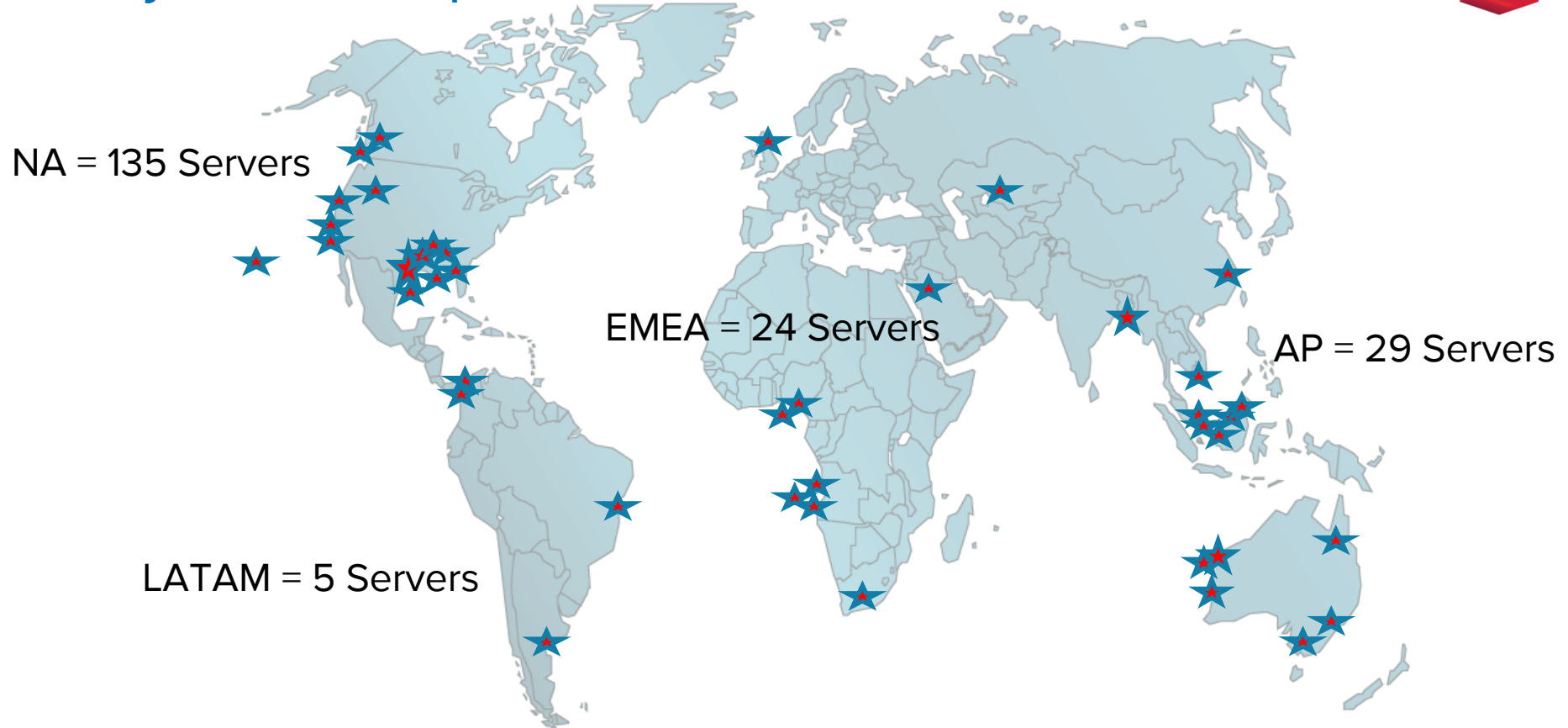
**Distribute**

**Deliver**

**Market**

- Upstream: grow profitably in core areas and build new legacy positions
- Gas and Midstream: apply commercial and functional excellence to enable the success of Upstream and Downstream & Chemicals
- Downstream and Chemicals: improve returns and grow earnings across the value chain
- Technology: differentiate performance through technology
- Renewable Energy and Energy Efficiency: invest in profitable renewable energy and energy efficiency solutions

# PI System Footprint at Chevron – Global View



# Technology Enabled “Sweet Spots”

- Process Safety Management
- Real-time Process Optimization
- Critical Decision Making – Operations & Maintenance
- Adopting Emerging Technologies
- Protection from Cyber Threats



# Sweet Spot – Process Safety Management



- ‘License to operate’
  - Safe Operations
  - Run reliable and incident free
  - Meet Environmental Requirements
  - Partners in the Community
- Reliable data to identify and mitigate process risk and meet regulatory requirements
- Integrated with other relevant information at the worksite





# Sweet Spot – Real-time Process Optimization



- View and control of operating components and unit performance
- Visibility of historical and planned performance operating windows
- Ability to tune for yield and product spec
- Access for remote engineering expertise
- Integrated reporting and value chain optimization

# Sweet Spot – Critical Decision Making – O&M



- Component operating performance and maintenance history
- Manufacturer's recommended service intervals
- System wide performance analogs for like components
- Alignment with planned turn around activities
- Application of accurate data can differentiate utilization and cost performance

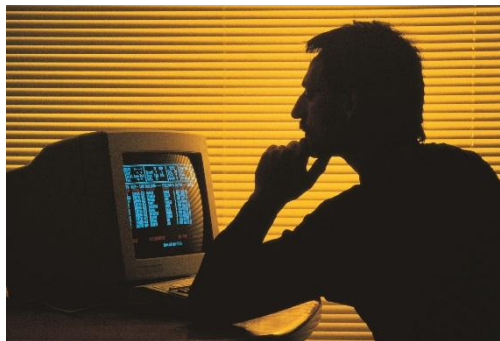
# Sweet Spot – Adopting Emerging Technologies



- IT “License to Operate”
  - Run reliably
  - Agile project delivery – on time, budget
  - Relevant business, technology expertise
  - Strong business relationships, IT/OT
  - Know where, why and which emerging technologies are needle movers
- There are wins out there
  - Cloud, mobility, analytics, social
- Adopting emerging technologies will always be a focus for Chevron Downstream and Chemicals to improve our competitive advantage



# Sweet Spot – Protection from Cyber Threats



## *Risk based Cyber Security Framework*

- *Identify*
- *Protect*
- *Detect*
- *Respond*
- *Recover*



Adobe Acrobat  
Document



*We must keep our critical infrastructure secure from cyber threats*



Is your organization focused on these critical questions?

and

What can this community do to differentiate the performance of the O&G Industry?

# Jim Green



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Chevron

# Questions

Please wait for the **microphone**  
before asking your questions

State your  
**name & company**







THANK  
YOU

