2015-2017 Outlook for Major Segments of the International Offshore Industry
Geology and Geophysical

Dave Ridyard
SVP Business Development
ION Geophysical

38th ANNUAL MARINE/OFFSHORE INDUSTRY OUTLOOK CONFERENCE
March 26th, 2015
HSE moment

This presentation contains graphic information about the state of the geophysical industry and is not suitable for immature or sensitive audiences.
2015-2017 Outlook
International Geology and Geophysics

- Market supply and demand
- Regulatory problems and trends (international, federal, state and local)
- Technological problems, developments and trends
- Personnel and training issues
- Threats
- Financial trends/summary
Market viewpoint

Seismic Spending is Closely Correlated to Oil Prices

“It's tough to make predictions, especially about the future.”

Yogi Berra
Market viewpoint

Seismic Spending is Closely Correlated to Oil Prices

- Cyclical business – variability is the norm
- Oil companies and service providers are reacting to the oil price
  - As they always do!
- Restructurings/reductions announced by most leading players
- Recovery not likely until 2017
- Some service providers are severely distressed
  - Vessel capacity will drop significantly in 2014-2015
  - Low end 3D vessels (4-6 streamers) hit hardest
  - Opportunity to access vessels at a low cost
Evolving Customer Base – NOCs Growing

Net upstream transaction value by peer group

- Asian NOCs
- Equity firms
- Russian NOCs
- African NOCs
- IOCs
- Eur NOCs

Asset deal value
Corporate deal value
Market segmentation
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- Efficient
- Expensive
- Access to obstructed areas
- Effective for complex geologies
- Highly repeatable

Strategic partnerships
Operates crew(s)
Market segmentation
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Focus areas
- Primary
- Emerging

- Intellectual property intensive
- Capital intensive
- Intellectual property intensive

Frontier Exploration
- Planning
- Acquisition
- Imaging
- Interpretation

Exploration
- Planning
- Acquisition
- Imaging
- Interpretation

Appraisal & Development
- Planning
- Acquisition
- Imaging
- Interpretation

Production
- Planning
- Acquisition
- Imaging
- Interpretation

Abandon
- Planning
- Acquisition
- Imaging
- Interpretation

Risk
- Knowledge

Towed Streamer
- Seabed

Multiclient
- Proprietary

Down cycle exposure

• Intellectual property intensive
• Capital intensive
• Intellectual property intensive
Stock prices
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Seismic Companies
Trailing Twelve Months as of 3/13/15

Asset lite or diversified across E&P
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Regulatory problems and trends

- Lack of consistency for environmental requirements between international jurisdictions
  - Pro-marine mammals & anti-hydrocarbon
  - Conservative interpretation of sparse scientific data
  - Permit application delays

- Lease sale terms and timing
  - Operators
  - Multiclient providers
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Technology developments and trends

- Hard times drive innovation
  - Technology
  - Business models

- Data acquisition
  - Simultaneous sources (Cost reduction)
  - More sensors (Value creation)
    - Long offset
    - Full azimuth
  - Multi-measurement sensors

- Imaging & interpretation
  - Broadband (Hi Fidelity) processing
  - Interpolation & regularization
  - Connecting surface seismic data with borehole logged data
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Personnel & training issues

• Short term
  – Retaining experience
  – Critical mass for 3rd party training

• Long term
  – Ethnic & gender diversity
  – The great crew change
  – Attracting the next generation

“All the really good US students think the Oil business is unpredictable (fancy that !) ... and go into banking.”

Membership distribution with age
Society of Exploration Geophysicists (2013)
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Threats

Access to capital

International geopolitics & security
- Resource nationalism
- Unstable governments
- Sanctions
- Terrorism/piracy

Excessive regulation
Consolidation
- Mergers, acquisitions & failures
- Debt to equity conversions
- Write-offs on non-performing assets

Winners (relatively speaking)
- Large, diversified players
- Niche players … in the right niches!
  - Seabed (Field development & production)
  - Multiclient (Frontier exploration)
  - Imaging (Reprocessing)
- Innovators
  - Technology
  - Business models