

Where is Geophysics going?

David Bamford
Petromall Ltd

What is going on?

To summarise:

In response to:

- *Questions on “Sustainability” => let’s not be in a ‘fossil industry’*
- *Growth in electric vehicles => increased electricity demand*

Majors and mini-Majors are rebranding:

- *As Energy Providers, especially electricity*
- *With > 50% Gas in Portfolios and*
- *Returning to ‘Mature Provinces’; pursuing Unconventionals.*

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How should geophysical
contractors respond?

Option 1 = Status Quo:

- *Hang in there! Wait for the oil price to go up more and do what they've been doing.*
- *Risky!*

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Probably less risky if taken a 'seismic' step further.....

Option2 = Enhanced Status Quo:

- *Accept the Mature Provinces & Unconventionals challenge, dig deeper in seismic technology:*
 - a) Market broadband 3D more assertively.....*
 - b) Offer 4C Seabed acquisition.....*
 - c) Apply AI/Machine Learning to Processing.....*

What I have just described is an agenda for a marine seismic company.....

And obviously some 'Mature Provinces' are indeed offshore:

- *Gulf Of Mexico, North Sea, West of Shetlands, Nile Delta, Angola (West Africa in general), Brasil etc*

Equally obviously many are not:

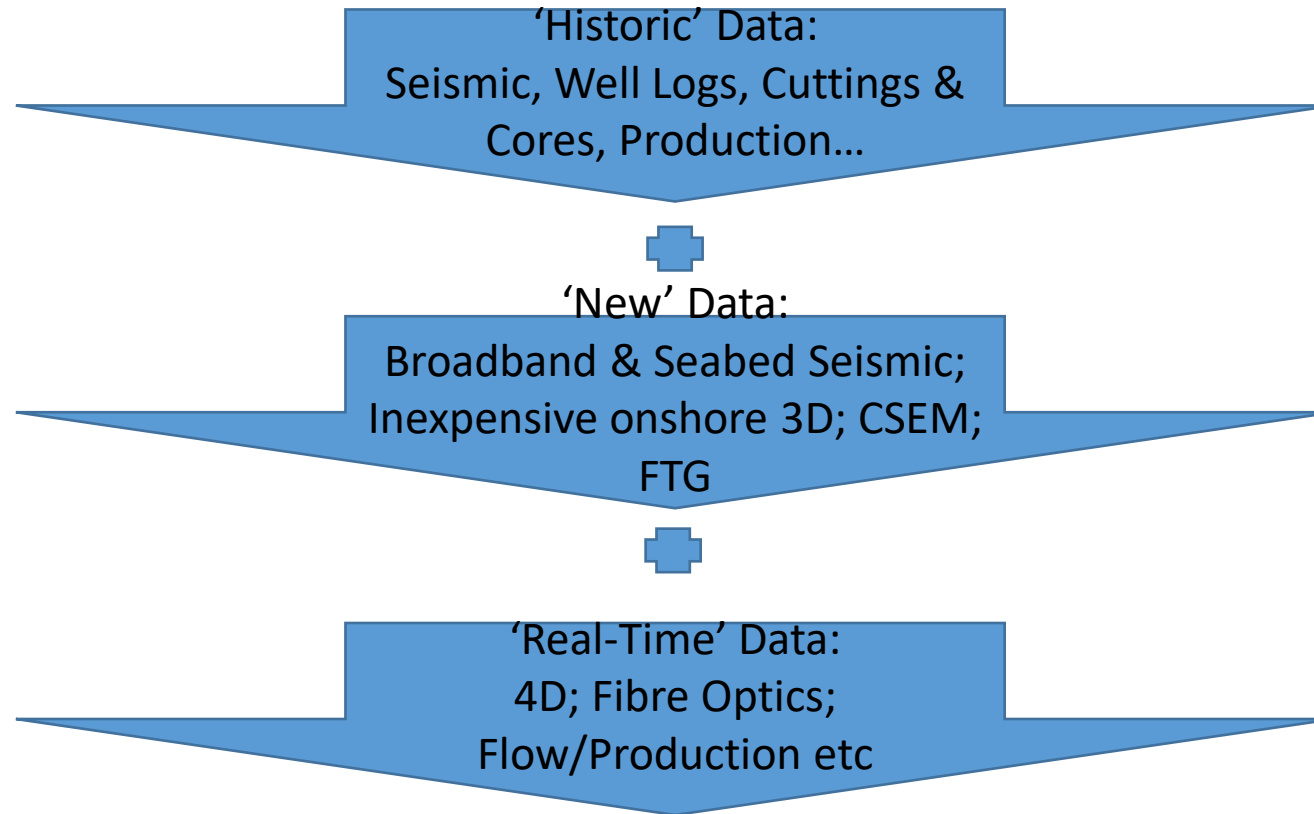
- *Onshore US unconventional, Canada; West Siberia; Kurdistan, Iraq, Kuwait, Saudi Arabia, Oman; North Africa; Mexico & Argentina unconventional*

And in the main, onshore seismic remains forbiddingly expensive

Where is Geophysics going?

Geophysics isn't just Seismic!

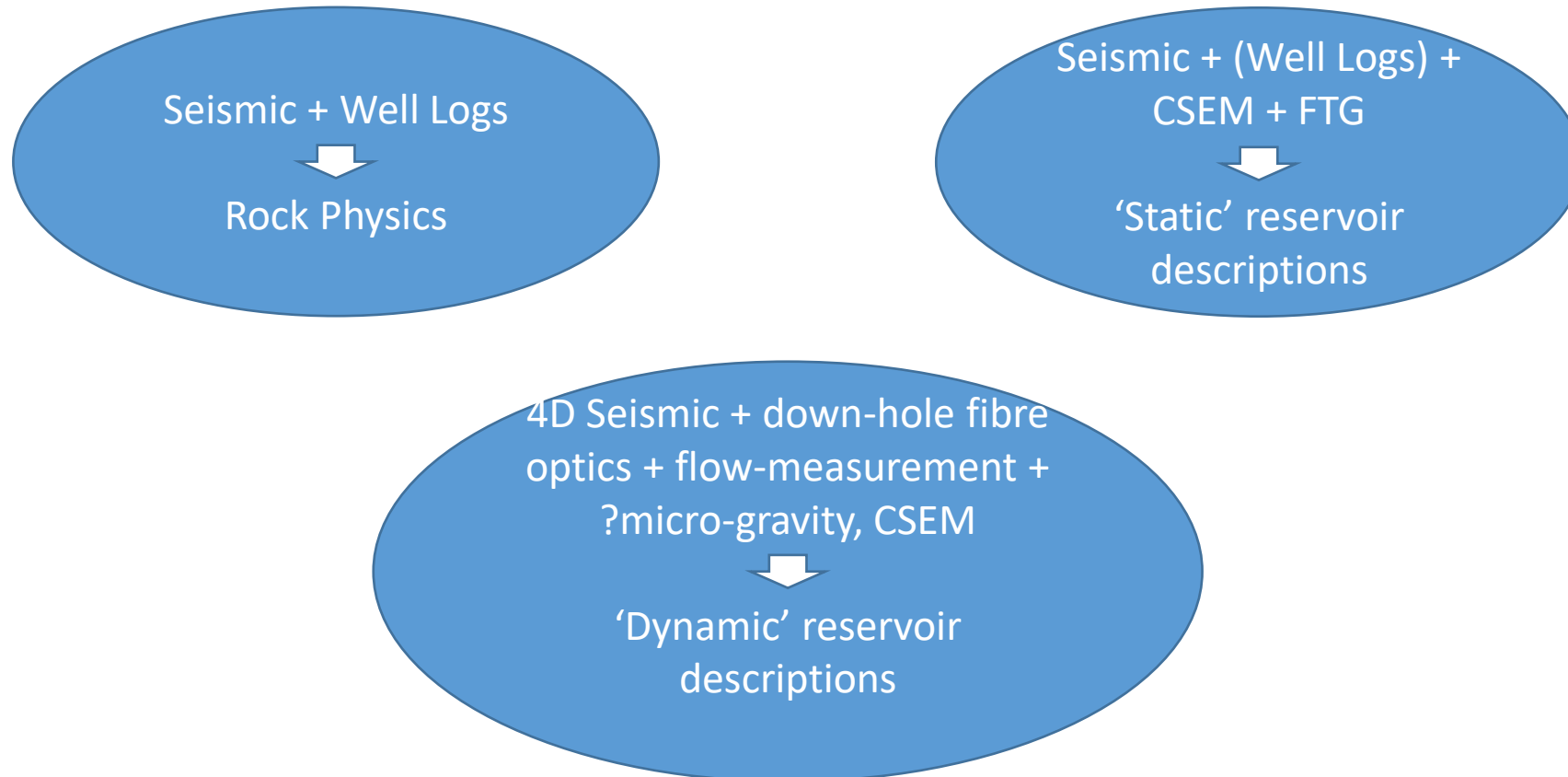
Mature & Unconventional Provinces are “Data Driven”:



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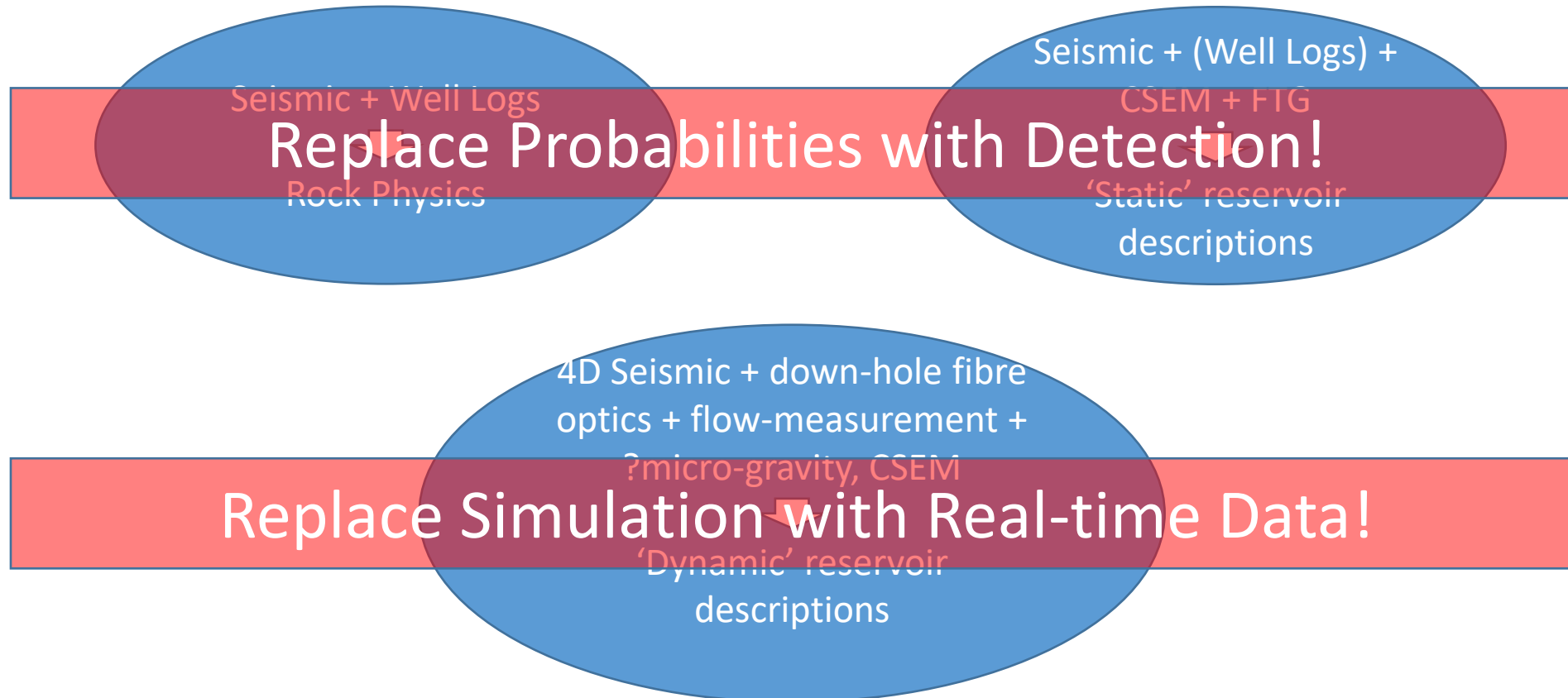
Move into 'static' and 'dynamic' Multi-Physics:



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Move into 'static' and 'dynamic' Multi-Physics:



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What about Onshore?

At this point I am going to hand over to Bob Heath who is going to spend 10 minutes thinking through how Onshore seismic might (have to) change!