Functional Excellence depends on Technical Software

NDB Ltd

Contact Ed Evans: edevans@ndbteam.com

www.ndbteam.com

March 12th 2015

new digital business

Some of the topics

- What is Functional Excellence?
- Applied to a Client's Geophysics Group
- Elements of Functional Excellence
- The Software and Data Impact
- Case Study – Active Applications' Management

What is Functional Excellence and why is it important?

Continuous improvement,

Having a team of experts,

Measurably better than peers (Top Quartile Performance),

Knowing who is doing what and when,

Management information about progress

A full staff, working as planned,

Meeting or exceeding business targets,

A current state assessment ?

People being good (excellent!) at their job? The team being good, as part of a good organisation ..?

Is it the same as Operational Excellence?

Operational Excellence Analyst – Overview

Centrica Energy Exploration & Production are looking for an Operational Excellence (OE) Analyst to join their team in Aberdeen.

The OE analyst will report to the OE Manager and provide analytical and project management support to operational and production improvement projects. The OE team performs analysis to identify performance gaps, then in consultation with the Leadership Team and asset teams, develops and helps execute solutions to enable the UK/NL regions to deliver on our promises, safely maximise value from our assets to increase the profitability of the business. The team has visibility at the top level of the E&P organisation and within 2 years you would be expected to have taken up a management position in the OE team

new digital business

Can OE apply across E&P ?

"We intend to combine the best features of a major company – our extensive operational expertise and **functional excellence** – with an independent E&P firm's growth focus and culture of rapid decision-making and drive for performance."

Ryan Lance, Chairman and CEO of ConocoPhillips

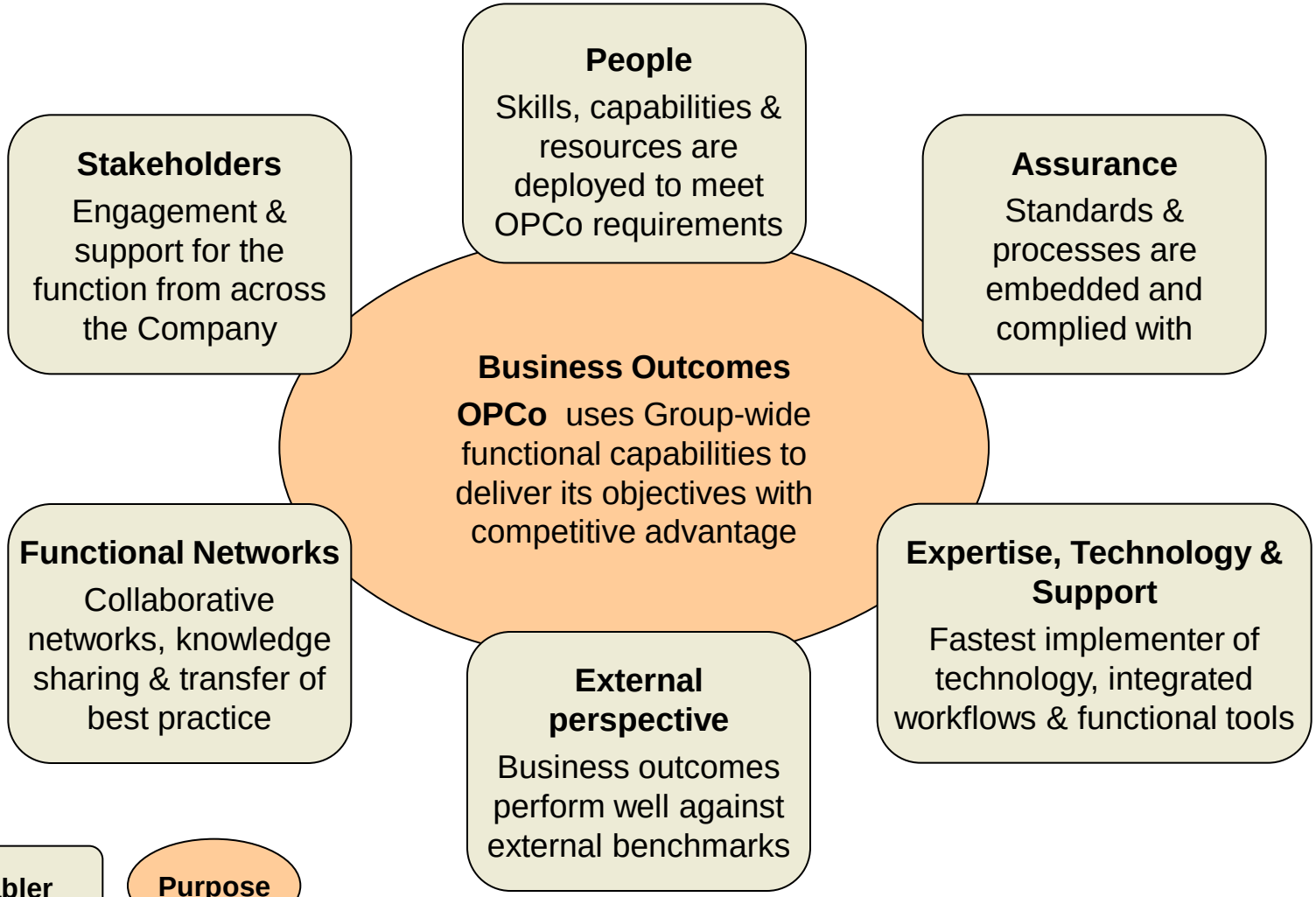
(Houston Chronicle, 2012)

ConocoPhillips

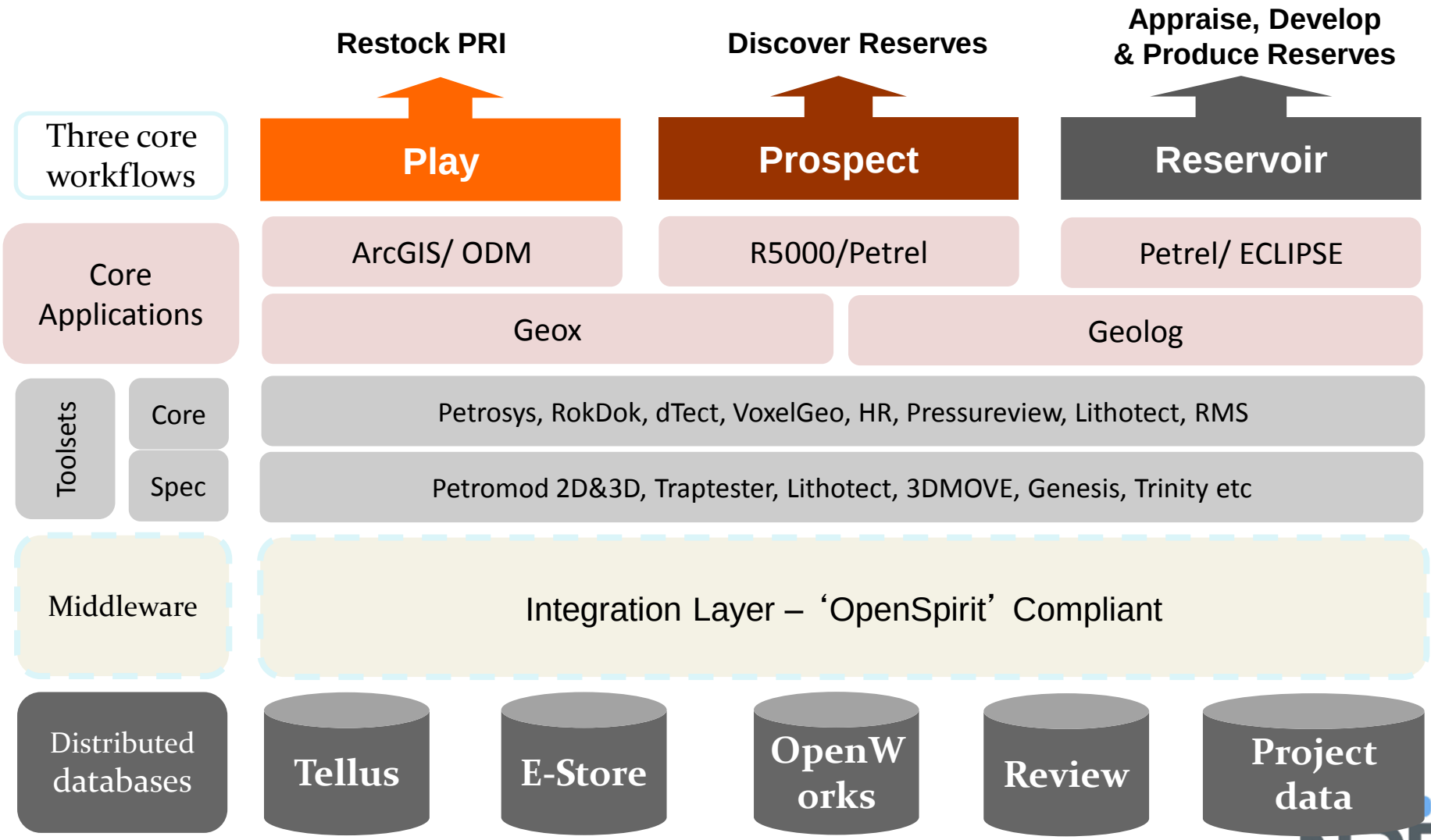
Excellence in Geophysics Benchmark …

Technology	Industry status	Company vs Industry	Comments
High Spec 3D	Mature	At level	High spec should systematically be considered eg Geostreamers etc
Time-Lapse (4D)	Mature	Behind industry	Less impact on Gas fields but growing need in - unproven for carbonates? First operated 4D on Geneisis
VSP (standard)	Mature	At level	Data not always used to the optimum – renewed focus
Gravimetry/Magnetic	Mature	At level	Data not always used to the optimum, possible use in Coal Seam Gas?
Multi-components	Mature & Niche	At level	**Candidates**: Zeppelin, Camel , Nigeria ongoing, Shale gas
3D VSP	Mature & Niche	Not done	**Candidates**: Belgium, Algeria, Libya ongoing
Cross-Well	Mature & Niche	Behind industry	Done on Libya , some other candidates eg CBM?
Multi-Azimuth	Emerging	Not done	Useful for complex reservoirs and areas of complex imaging
CSEM	Emerging	At level	Test: Rainbow, technology needs maturation, geologically restricted?
Permanent Sensor	Emerging	Not done	Few candidates – oil field technique ie Eagles,, Talking Heads? Unconventionals – Shales Gas
Borehole Passive Seismic	Emerging	Behind industry	Tight Gas use in areas requiring Frac Jobs? Shale Gas

Functional Excellence Framework

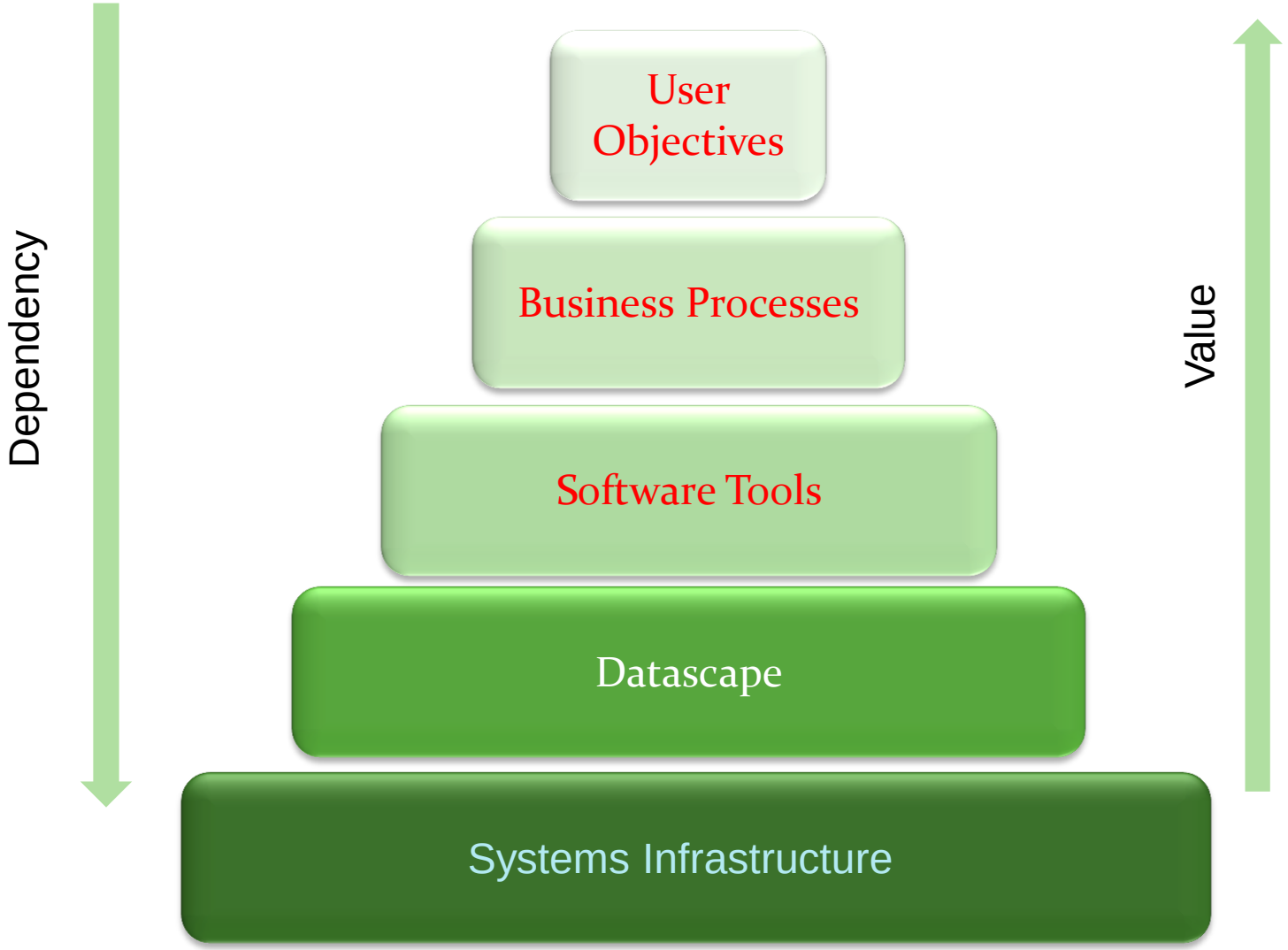


Excellence with standard applications and workflows



new digital business

The NDB technical environment model



new digital business

What are the impacts from Digital Technology on Functional Excellence?

- User works through process without assistance
- Handovers to other disciplines predictable and planned
- Software which fits the key technical workflows
- Users are skilled in the Software Available
- There is a support network for evolving the applications set
- Application training defined
- Data Available in the correct format
- Tools and scripts for common workflows
- Etc.

- Each step requires a reformat of data
- Handovers different each time due to ‘preferences’
- Too much, too little or too many choices of software
- User skilled in the ‘other product’
- Constant evaluations and user discontent
- User choice
- Data re-formatted through the workflow
- Scripts edited for workflows each time
- Etc.

new digital business

Case Study - Applications Management

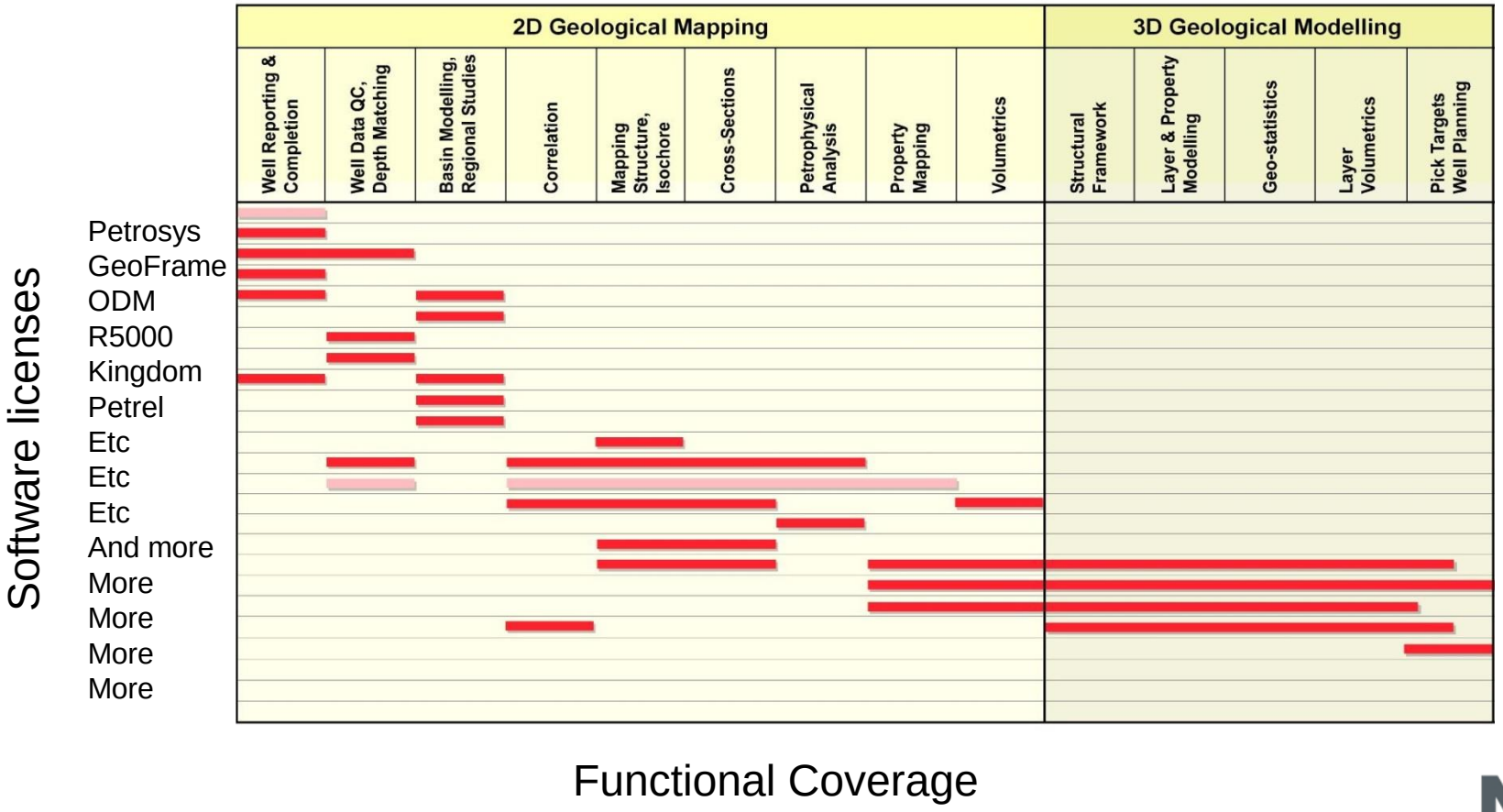
- A client has no policy over applications used,
- There are multiple tools which do the same job,
- There is no formal training plan,
- Software vendors are knocking on doors in each location,
- There are constant evaluations and re-evaluations of tools,
- There are few corporate license agreement,
- Asset users put pressure on local IT to buy licenses,
- Head of Geophysics wants to improve quality of technical work

- Starting point is to catalogue what is in place
- To define duplications, gaps and weaknesses
- Build a roadmap for addressing the issues

NDB
new digital business

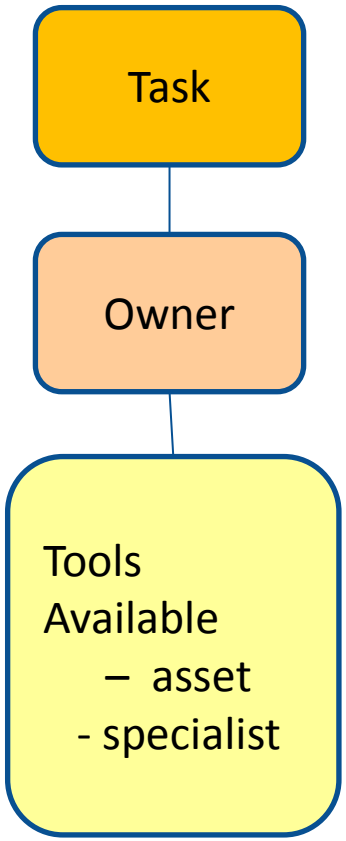
Crude Analysis

Simple models looking for functionality overlap don't capture the ways different teams use the tools for specific tasks



NDB
new digital business

‘NDB Dog -Tag’ model can overcome business process modelling challenge – by breaking into components



Breakdown of workflows into discrete ‘Tasks’
e.g. 1D Basin Modeling
Tag colour coded according to discipline

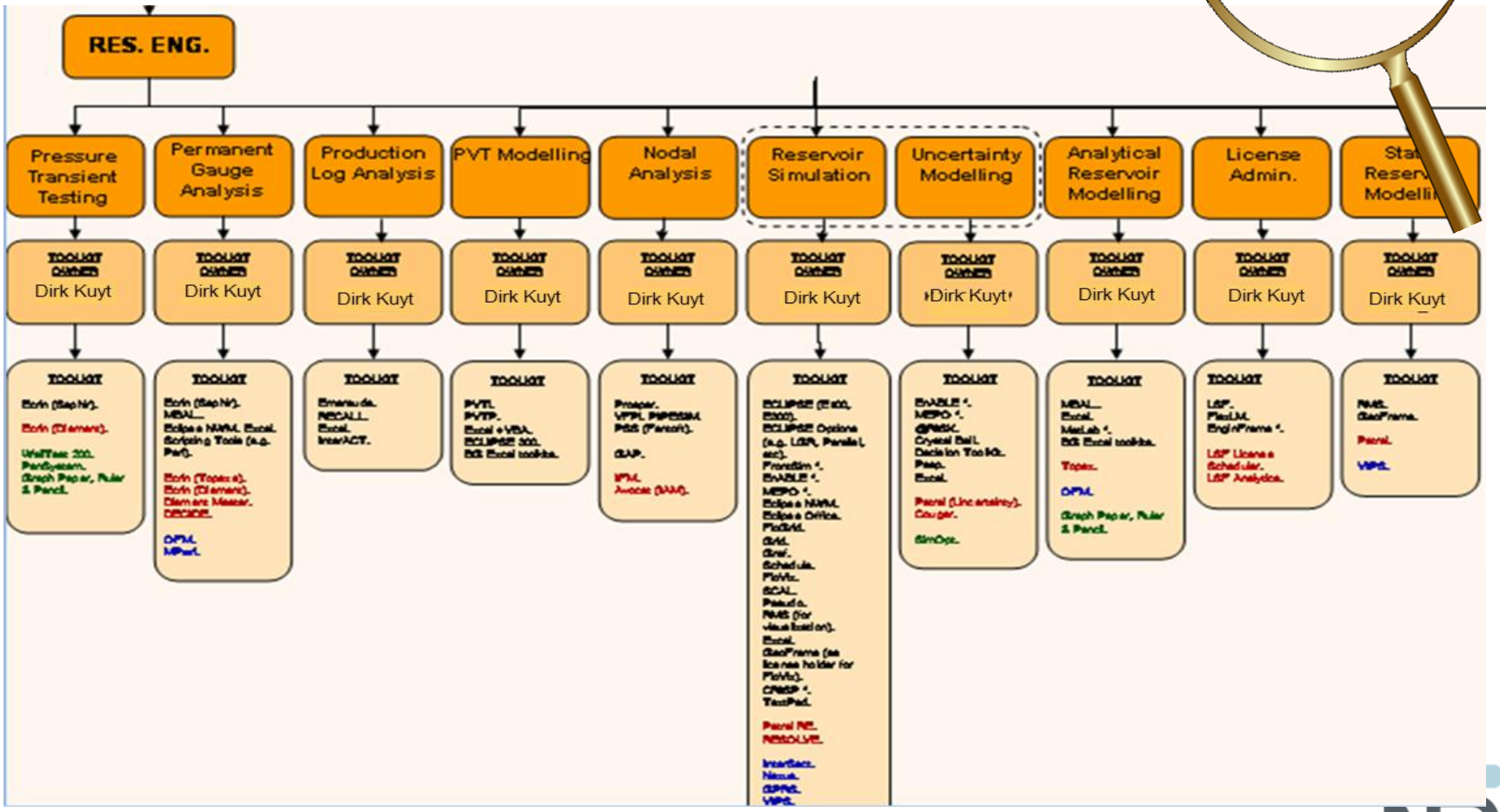
Nominated ‘expert’ from the discipline who leads decision making for how the task is done most effectively

List of the software tools available which can be use for this task.

- Asset – for everyone
- Specialist use e.g. Skills Centre

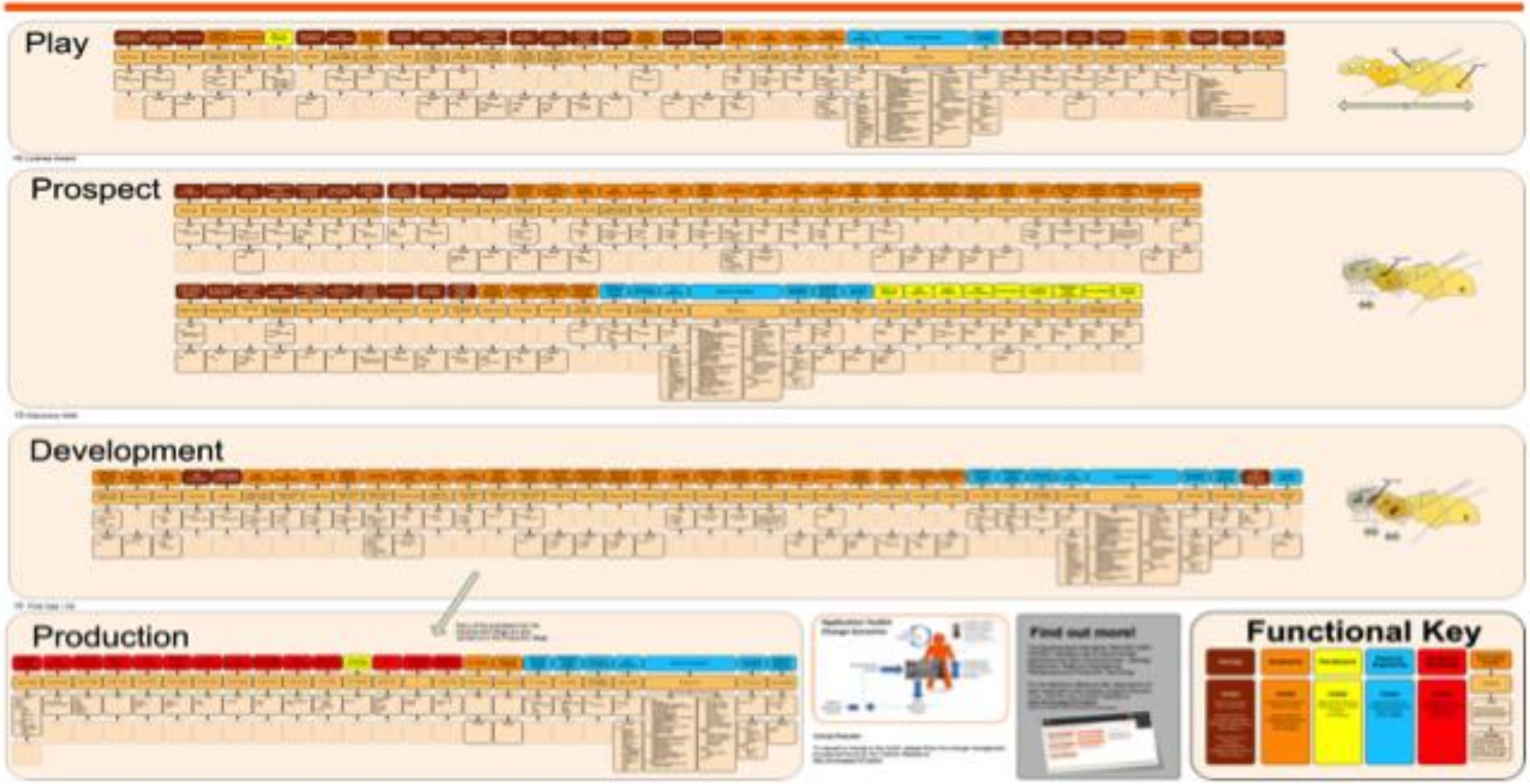
new digital business

Discipline ‘Dog-Tag’ components - example



new digital business

NDB Toolkit Map Built from Dog-Tags



new digital business

Outcomes of ‘Dog-Tag’ method

- Defines the Toolkits per discipline
- Shows detail of where tools are used and not used
- Recognises specialist team needs are different from asset teams
- Justification of tool reduction or withdrawal is in agreement with users
- Sharper understanding of component gaps
- Better understanding of complex modules and licensing , e.g. Petrel
- Toolkit method is updated more easily with owners
- Clear visual model for users /IT and managers

NDB
new digital business

Putting the Business in the driving seat

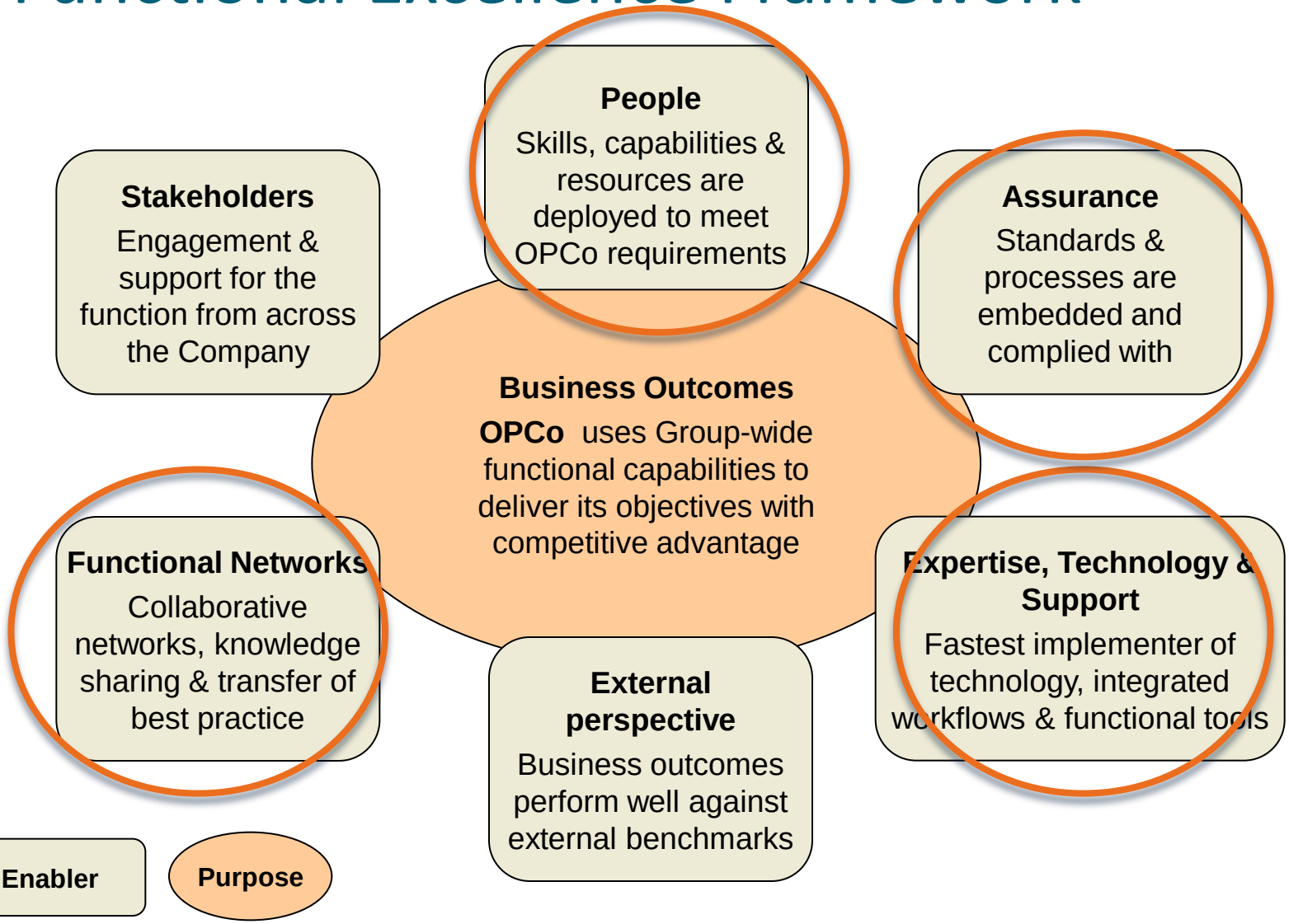
Typically users will get more engaged in application discussions than data discussions ….

- Applications are more interesting than data
- Recognition that the tools can dictate the practice
- Functional chiefs want to better control how that function is carried out
- Provide a focal point for user comments
- Drive the software development for the business

Business-led solutions have a higher chance of success

new digital business

Functional Excellence Framework



Functional Excellence – when it is most needed

- The Software Tools and Data available have an impact on business performance
- Too many Software tools can hamper just as much as too few
- To be ‘Excellent’ the discipline needs to consistently the same tools to the same task
- The exercise (of Active Apps Management) will pay for itself, reduce costs and increase productivity