Roundtable for Oil and Gas Forum Working Group #6
Date: 30 June 2015
Venue: National Wine Centre of Australia, Botanic Road, Adelaide
Workshop 1 – Innovate in collaboration with research institutes

Key themes

From the workshop feedback, key themes were identified and similar suggestions grouped together

1. How can our current research capabilities and projects be applied to drive innovation and reduce costs of exploration and production?

Project focus and development

- Screening process for research projects to ensure short, medium and long term goals/outcomes are achieved
- Find non-competitive problem, not company specific strategic value, ie safety, environment, weather
- Look at a series of problems first and work back
- Do not make a solution and then look for a problem for it
- Capital optimisation of assets
    - Create IP to correctly model
    - A lot out there but which bits work
- Integrated risk management and identification throughout lifecycle of projects (supply & flow of information)
- Small, agile groups are best

Tendering, funding & fees

- Develop a standard Business Case Proforma for service companies to provide through to industry & vice versa (tender documents)
- Funding sources – how to find them
- How to structure fees for research - funding rules / conditions for universities
- More $ in industry support will accelerate innovation time to market

Community perception

- Bridge the gap between fact & fiction – how can service companies help to improve community perception of the oil & gas industry (early dialogue with the community)
- Environmental & community transparency - knowledge gap between community & industry
- Media bias: is this public sentiment?

Efficiency strategies

- Cost efficiencies for infrastructure development & improvement – options for recycle/reuse and upcycle
- No importance placed on the need to measure contribution & workflows to determine actions needed based on data collected – this supplies visibility & value, & invokes efficiency and cost savings
- Supply chain optimisation research & pilots – proprietary vs open?
- Net Present Value (NVP) of cooperation vs NPV of competing
- Can we work better on 'non-competitive' services to reduce costs
- Create a filter process between educational institutions and industry. What is REAL and beneficial to business?
- Combine resources and grants to put into practice, in live environments
- Where is industry's cost squeeze?

- Mapping / modelling in exploration

Regulation

- Regulatory process improvement
    - Continual improvement
    - Remove burdens
- ICT Roadmap – stock tare – complex/perspective comprehensive. Needs to be exposed (cf NZ example)???
- Should there be a standardised approach to gaining & maintaining a social licence?
- Industry standardisation

Collaboration (Industry/research organisations) & industry engagement

- Concerns re linkages between industry & research – universities competing with industry on R&D, training
- Need a coordinator to connect industry already doing it – additional collaboration and source funding
- How to get competitors to collaborate
- Small number of technology companies developing with universities – why? Large companies can do it (but scaled down) – different agendas
- Industry pooling / collaboration to reduce initiative lead time
- Accelerate solution to market
    - Government as central data owner to guide efficient research
    - Mid-tier companies required a holistic solution to unlock their capital investment
- There is a real need to collaborate now more than ever – but how to drive this?
- Collaborative effort between industry and universities to show (measure & report) benefits of application of new technologies / processes
- Big companies can't do everything
    - Need to engage with smaller organisations / companies
    - How to drive that engagement
- Should it be a whole of industry based response rather than individual companies
- How to select who to engage with – ecosystem map / website

Build industry knowledge / competence

- Need a full understanding of latest technologies – government doesn't know this
- Improving fringe technologies, ie hydraulic hammer drill for hard rock basins (Amadeus, Officer)
- Non-core competence (eg WHS, environmental protection)
- 'Links to industry needs' is in need of further definition

Data / analytics

- Improving collection & availability of geological data
- Provide insights – analytics, share data
- Cooper Basin participants could form a study group to benefit from all well data, rather than subsets – and use this to justify investment
- Predictive analytics technology
    - Industry sort of gets it
    - Who does get it?
    - Which technology works
- Real-time feedback & monitoring systems for exploration and processing – improve optimisation

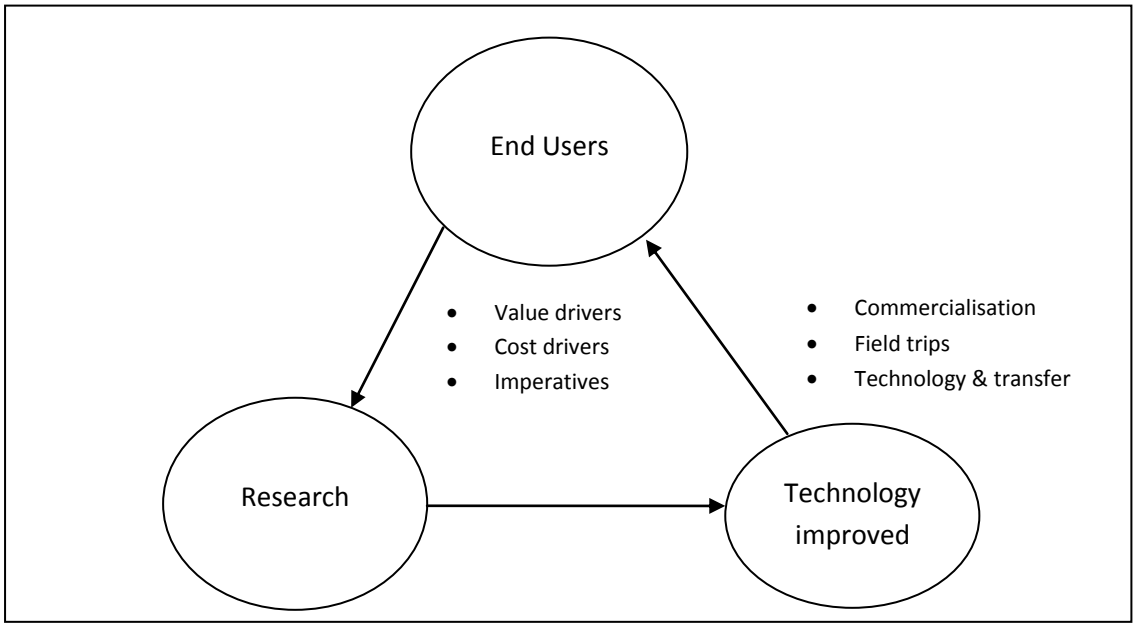
- Production
    - Shared infrastructure
    - ICT
    - Telemetry

Globalisation

- International linkage / network
- Specialist / global knowledge base links to industry
- Asian / regional focus – tax and regulation

Research

- Foster collaboration – CoE, Universities, Government
- Manage rollout
- Commercial metrics – how is research measured?
    - Transparency
    - Credibility
    - Return on Investment (ROI)
- Uncertainties:
    - Above ground
    - Below ground
- Cooperative research



- Sharing of information and discovery by institutions with relevant companies in the sector
- Knowing what research is done
    - Are they local issues
    - Better alignment with industry
    - Collaboration between research / industry
- How can local MET suppliers connect / integrate into world leading research by local universities – who leads the research

- Difference between pure research / applied research
- Articulation of business case of research
- Collaboration with major inter-nation centres of R & D
- Where is industry telling universities what they need
- Catalogue research silos & centres before industry engaged

Communication / information sharing

- Method to create the dynamic conversation – problem to solution
- Drive a culture of communication (can be driven by industry – solves the problem of getting universities together)
- Collaboration in research
- Sharing IP and research
- How can oil and gas resources main players let the local industry in on issues that are potential game changers – revealing competitive advantage
- Not operating in silos
- Greater transparency of key contacts in client organisations

One-stop shop

- How to 'hub' SA & Australia's supply chain without breaking laws – creating efficiencies
- One organisation that maps research to inform companies who to contact / where to look
- One-stop-shop – coordination role, who is best placed?
- Role of facilitation by growth centres (a broker between industry and government)

Current Company practices / processes

- Utilise existing technology in new ways – not heavy research
- Business processes remapping to fit new technology
- How to operationalise the research into existing business operations
- SMEs must be more nimble in getting their innovations to market
- Big companies are now S1s (services companies) rather than manufacturers. What does this mean / what needs to happen?

People and STEM skills

- Greater engagement / awareness of STEM skill development
- Need to develop / expose science base in Adelaide
- STEM skills shortage needs to be resolved
- People – inflow of graduates managing times like this

General

- Data2Decisions, Simulation Australia, virtual reality, etc (despite industry need, government couldn't fund)
- SA has rich deposits of Cu, Au, REE, U_3O_8, Fe_2O_3 in Olympic Dam & Carrapateena but only Cu + Au + U_3O_8 are being recovered – what work is being done to recover REE?
- The UN and G7 say that carbon fuels must stop by 2100. What research is being done?

2. *Identify potential projects and partners*

- National Water Initiative
    - how do we gain & maintain funding for research projects
    - should all water research be aggregated to give a holistic picture to increase visibility (currently fragmented)
    - water monitoring collaboration between industry and government – an agreed modelling framework
- Investigate a 'SARIG' site for the petroleum sector (expanding capability)
- Formation of a water solution – Santos / Cooper Basin
- Dewatering wastewaters
- Production, supply & improvement of drilling and fracturing fluids locally in Australia
- Optimisation project
- Remote Exploration
    - Great Australian Bight remoteness R&D
        - How can it be serviced economically
        - Environmental data in deep exploration – new/complexity of issues
- Current Projects
    - Microbial enhancement of CSG
    - Produced Water Treatment
    - Methane Emission Monitoring
    - Sweet Spot identification shale gas
    - Automation & monitoring of critical areas