

## Roundtable for Oil and Gas Forum Working Group #6

Date: 30 June 2015

Venue: National Wine Centre of Australia, Botanic Road, Adelaide

Workshop 2 – ICT in the Oil and Gas industry

### Key themes

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

#### 1. *What other applications for ICT could help drive down costs in the oil and gas industry?*

##### Challenges

- Records management – accessibility & efficiency
- More data & information
  - Maximising availability of free useful data & information for oil & gas industry and stakeholders
    - Improved & faster decision-making
    - Fosters trust in sector (including government) – land access key issue
- Acreage turnover
- Cost of water availability & treatment

##### Priorities

- Driving down drilling & companies costs – US model not necessarily appropriate model in Australia
- Optimise revenue / productivity

##### Opportunities

- CO2 fracking
- Enhanced Oil Recovery (EOR)
- Permeability mapping and using Australian stress map as a starting point – integration of 3D & 4D geo data
- Use temperature and pressure to our advantage (need to be leaders rather than followers – DET CRC?)
- Improve safety
  - Use of robotics
  - Learn from other industries – mining
- Reduce traditional transport
  - Less people travelling
  - Less wear & tear on assets
- Advanced manufacturing applications
- Reserve booking ahead of the drill bit

##### Role of government

- Providing more data & information is a central role of government (government needs to keep up with industry ICT)
  - More informed regulator - example: PEPS online (current project)

##### Research

- Collaboration
  - Research, industry, education
  - Regular updates on research progress (CoE)

- Continuity: student – research – industry & allied
- Regional focus (environment) – monitoring, collaboration, cumulative impact

### **Communications**

- Critical for safety & operational efficiency
- Reliable networks – a fundamental platform
- Open book supply chains
- Transparency
- Social channel in enterprise to help culture change
- Network to enable big data collection explosion to drive better analysis and control – proper 3G/4G in Cooper Basin
- Smart use of communications deployment - with road creation

### **Data**

- Utilise data to which organisations already have access
  - Software to create / advance predictive scenarios
- Telemetry in fields
- Direct dissemination of data rather than to a database
- User sees and can handle only the data they need to – ICT user feels ICT solution is helping their work
- Computer maintenance (aided maintenance monitoring) for O & G with real time or regular downloads – cloud
- Realtime monitoring and response
- Predictive analytics

### **Gaps**

- Independent audit of hydrocarbon resources (nationally) - adhoc and incomplete

## **2. *Identify potential projects and partners***

### **Problem: efficient & cost effective fracture stimulation**

- Initial Modelling: indicates fracture stimulation may be imaged by magnetics using Archimedes proprietary technology
- Propose: joint venture with government and/or industry to test hypothesis
- Advantage: use Cooper Basin as laboratory as many fraccs are likely to take place

### **Problem: communications challenge**

- Propose: potential partners - Telco partner; communications partner; sensor partner
- Advantage: will solve many problems:
  - Sensor data – big data
  - Monitoring of movement
  - Autonomous operations
  - Voice
  - Routine data communications within the remote area
  - Safety system improvement

### **Problem: staff management solution – workflow controlled**

- Propose: use / investigate technologies that commoditises manual procedures