1. CDA Overview
2. E&P Data Management
3. The Value of Data and DM
4. Professionalising E&P DM
5. Competency
6. Conclusions
CDA Overview
Well DataStore (1995)
- Largest of its kind
- Global access 24/7
- Participants-only

Seismic DataStore (2009)
- Global access 24/7
- Post-stack & Field Data
- Online/media download
- Available to third parties too

DEAL Website (2000)
- Wells, surveys, licences, infrastructure
- Information on fishing hazards

Well DataStore Metrics
- Items of data: 443,000
- Wells: 11,417
- Users: 1,888
- Downloaded items (11/2012): 764,881

Seismic DataStore Metrics
- Surveys (metadata): 4,923
- Post-stack loaded: 1,165
- User Accounts: 2,134
- Downloaded items (11/2012): 21,000
- TB downloaded (11/2012): 12.9
Participants account for:
98% of all UKCS wells
96% of all proprietary surveys
97% of all UKCS production

Plus:
- DECC (and its agents)
- Universities

- Antrim
- Apache
- Atlantic Petroleum
- ATP Oil & Gas
- BG Group
- BP Exploration
- Bridge Energy
- Britannia Operator
- Cairn Energy
- Centrica
- Chevron
- Cieco
- CNR International
- ConocoPhillips
- Dana Petroleum
- DONG UK
- Endeavour
- ENI
- EnQuest
- EOG Resources
- EON Ruhrgas
- ExxonMobil
- Fairfield Energy
- Faroe Petroleum
- First Oil
- GDF Suez
- Hansa Hydrocarbons
- Hess Limited
- Idemitsu
- Infrastrata
- Iona Energy
- Ithaca
- JX Nippon E&P
- Maersk Oil
- Marathon Oil
- Mitsui
- MPX
- Murphy Petroleum
- Nexen Petroleum
- NORECO
- OMV
- Parkmead Group
- Perenco
- Premier
- RWE Dea
- Shell
- Statoil
- Sterling
- Summit
- Suncor
- Talisman
- TAQA
- Total E&P
- Trap Oil
- Valiant Petroleum
- Wintershall
- Regulatory review and improvement
  - Local
  - Regional
- Professionalisation
- Professional development
  - Annual workshop
  - Seminar series
- Good practice
  - Standards
  - Guidelines
- International NDR* Group

*National E&P Data Repositories and Centres
E&P Data Management
“The development, execution and supervision of plans, policies, programmes and practices that control, protect, store and deliver subsurface E&P information* in all its physical and digital forms and formats”

* Geological, geophysical, petrophysical, production, drilling and reservoir engineering information plus the associated cultural information and metadata.

Source: From DMB0K, DAMA, 2010
The Value of Data & Data Management
Slow cycle times
Regulatory breaches
IPR violations
Poor Data Quality
Bad decisions
Unnecessary reworking
Unnecessary reacquisition
Regulatory sanctions
Reputational damage
Missed opportunities
Legal actions
Lost or delayed production
High operating costs
The Value of Data & Data Management

Good DM Supports Success

Good Practices

- Policies
- Processes
- People
- Technology
- Data

- Fast cycle times
- Regulatory compliance
- IPR compliance
- DQM=Informed Decisions
- No unnecessary data reworking
- No unnecessary acquisition

- Regulatory approval
- Reputational credit
- Agile and responsive
- Legal actions minimized
- Optimised production
- Optimised operating costs

Standards Leadership Council | CDA

26th February 2013
The Business Value of E&P Data

- Overall, understanding the subsurface contributes to 73% of Business Value
- Data contributes 38% to this
- Therefore **28% of business value** (38% of 73%) comes from data

Source:
The Business Value Case for Data Management
CDA/Schlumberger, 2011
http://www.oilandgas.co.uk/datamanagementvaluestudy/
Professionalising E&P
Data Management
Who are the people managing this valuable asset?

Ability and credibility?
  - Academic qualifications?
  - Professional qualifications?
  - Training?
  - Competency?

What can they contribute to the business?

Can their opinions be trusted?
1. Promotes trust in a Data Manager’s competency
2. Increases the credibility of Data Managers’ input to decisions
3. Recruiters can specify job requirements in standard terms
4. Recruiters can objectively assess skills and experience
5. Data Managers can assess their own competencies (and those of their subordinates) to plan their careers
6. Enables the development of education and training
7. Elevates the status of E&P DM as a discipline
8. Gives E&P Data Management a distinct identity
9. Clarifies the relationship with IT
10. Allows the DM function to be optimally positioned within an organisation
Principles:

- A single, common system
- An independent, credible and competent authority
- Appropriate governance by key stakeholders
- Not-for-profit model
- Industry recognition and endorsement
- Global relevance
- Sustainability

Preferred Solution is PPDM
Competency

Exploration & Production Data Management Competency Profiling Portal

PILOT IMPLEMENTATION
General Domains of Skills and Knowledge
(Examples: Commercial, Communications, ‘The Business’)

Specific Contextual Domains:
• Earth Sciences
• Information Technology
• Regulatory Framework
• Workflow & Generic Tools

E&P Data Management
- Well DM
- Geophysical DM
- Geospatial DM
- Drilling DM
- Production DM
- Reservoir DM

Application-neutral
All Data Managers

26th February 2013
Standards Leadership Council | CDA
Professionalising E&P Data Management

...more than just data loading

**Data Life Cycle**
- Data Receipt
- Cataloguing/Indexing
- Loading
- Distribute/Share
- User-generated Content/Use
- Publish
- Search and Retrieve
- Data Archiving
- Retention/Deletion/Destruction
- Data Quality Management

**Information Services**
- User/Client Interactions
- Job Requests
- Data Service Management
- Project Support

**Data Quality Management**
- Data Quality Standards
- Business Rules for DQM
- DQ Monitoring, Reporting and Repair
- Geomatics QA and QC

**Information Security**
- Data Confidentiality and Rights
- Data Integrity Management
- Access Control Management

**Reference Data Management**
- Reference and Metadata
- Corporate Data Management

**Data Governance**
- Data Policies
- Data Strategy
- Data Standards
- Data Architecture
- Data Roles
- Data Procedures
Competency Portal Pilot

Functional Objectives

- **Create** a Profile using the generic map
- Submit **evidence** for ‘claimed’ competency
- **Share** a personal Profile with others:
  - to **View** only; or
  - to **Verify** competence
- Independently **verify** another’s Profile
- **Provide** feedback on the generic map
- **Print/Download** a ‘view’ of a Profile
- **Match** a Profile with a Target Profile

---

**Pilot Participation**

**Countries:**

<table>
<thead>
<tr>
<th>Country</th>
<th>Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>1</td>
</tr>
<tr>
<td>Denmark</td>
<td>10</td>
</tr>
<tr>
<td>France</td>
<td>1</td>
</tr>
<tr>
<td>Germany</td>
<td>3</td>
</tr>
<tr>
<td>Malaysia</td>
<td>9</td>
</tr>
<tr>
<td>Netherlands</td>
<td>2</td>
</tr>
<tr>
<td>Norway</td>
<td>6</td>
</tr>
<tr>
<td>USA</td>
<td>1</td>
</tr>
<tr>
<td>Oman</td>
<td>1</td>
</tr>
<tr>
<td><strong>UK</strong></td>
<td>81</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>115</strong></td>
</tr>
</tbody>
</table>

**Org. Types:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>IOC</td>
<td>62</td>
</tr>
<tr>
<td>Gov/NOC</td>
<td>12</td>
</tr>
<tr>
<td>Service</td>
<td>41</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>115</strong></td>
</tr>
</tbody>
</table>
• **Purpose**
  – Test the competency maps
  – Obtain functional feedback

• **Scope and Constraints**
  – Well and Geophysical competencies only
  – Only one Verifier per Data Manager
  – Simple use case only
  – Not possible to post documentary evidence

• **Pilot will run to the end of May**
Competency Portal Pilot

Screenshots

Professionalising E & P Data Management

For the past two years, CDA has been working closely with data managers from oil companies and service contractors in Europe to complete a detailed description of domain competencies as part of a broader programme to professionalise E & P data management. This work has been taken into this site to allow individual data managers to construct their own competency profiles. Users may substantiate the competencies they claim with evidence which they may invite their nominated peers to verify (as an interim measure on the road towards an independent, professional accreditation scheme). The underlying competency maps form the core of career development planning and recruitment. Crucially, through related industry initiatives they are also being closely aligned with education and training curricula for data managers.

Getting involved

This is a pilot system, intended to run from February to May 2013 as part of a managed project aimed at perfecting (1) the content of the competency maps and (2) the functionality of a site that will be made much more widely available, hopefully by the end of 2013.

Participation in the project (and hence access to this site) is limited and is by invitation only. If you would like to get actively involved (and are prepared to give us your considered feedback) then please contact CDA at info@cda.uk

Competencies

This site allows users to construct profiles for the following groups of activities across Well and Geophysical Data Management:

* Data Lifecycle
* Information Services
* Data Quality Management
* Information Security
* Reference Data Management
* Data Governance

NEWSFEED

13th February 2013

Site goes live!

This website is now live as a pilot project and will remain active until the end of May 2013 (but watch this space for news updates). The attached PDF document provides more information concerning the purpose of the portal, the scope and constraints of this implementation, confidentiality matters and how to get started.

The CDA work group which developed the content of this site will meet periodically to review user feedback and will use this section of the portal to keep users up-to-date. The work group will also meet formally at the end of the pilot to consider all feedback received and will post a summary of its findings here once this analysis has been completed.

If you get stuck then please use the Help Desk function (pdesupport@bp.com) and you may of course always contact CDA at info@cda.uk

Latest News Updated 13/02/2013 (Competency Portal Welcome. Information for Participants)
Exploration & Production Data Management Competency Profiling Portal

PILOT IMPLEMENTATION

Competency Skill Manager

Filter By:
ALL

WELL DATA MANAGEMENT
- Data Life Cycle Management
- Information Services
- Data Quality Management
- Information Security Management
- Data confidentiality and rights management (aka Entitlement)
- Data integrity management
- Access control management
- Reference and Master Data Management
- Reference and Metadata Management
- Corporate data management
- Data Governance
- Data Policies
- Data Strategy
- Data Standards
- Data Architecture
- Data Roles
- Data Procedures
- GEOPHY SYLICAL DATA MANAGEMENT

Description of the Activity
Please select a competency from the Competency Map Navigator on the left

Skill Level 1
Skill Level 2
Skill Level 3
Skill Level 4
Skill Level 5

Description of the Skill Level

Awareness

Proof Points

Evidence
- Claim Skill - By ticking this box you are claiming this competency, optionally provide Evidence below

Submit Evidence
## Exploration & Production Data Management

### Competency Profiling Portal

**PILOT IMPLEMENTATION**

### Competency Skill Manager

#### Competency Map Navigator

1. **Filter By:**
   - ALL

#### WELL DATA MANAGEMENT

- Data Life Cycle Management
- Information Services
- Data Quality Management
- Information Security Management
- Data confidentiality and rights management (aka ‘Entitlement’)
- Data integrity management
- Access control management
- Reference and Master Data Management
- Reference and Metadata Management
- Corporate data management
- Data Governance
  - Data Policies
  - Data Strategy
  - Data Standards
  - Data Architecture
  - Data Roles
  - Data Procedures
- GEOGRAPHICAL DATA MANAGEMENT

#### WELL DATA MANAGEMENT > Information Security Management

- **Data confidentiality and rights management (aka ‘Entitlement’)**
  - **Description of the Activity**
    - Policies, systems and behaviour which recognise and manage legal and commercial rights and sensitivities attached explicitly or implicitly to well data.

  - **Skill Level 1**
    - **Description of the Skill Level**
      - Does not necessarily actively perform the specified function. Aware of the key features in this domain and their relevance to the business. Undertaken or has recently completed initial training in this domain.
    - **Awareness**
      - Awareness that all well data has rights, entitlements and obligations attached and of the general need for confidentiality in its management.
    - **Proof Points**
      - Can give three examples of significant rights/obligations attached to well data.

  - **Skill Level 2**
  - **Skill Level 3**
  - **Skill Level 4**
  - **Skill Level 5**

#### Evidence

- Claim Skill - By ticking this box you are claiming this competency, optionally provide Evidence below

### Feedback
Conclusions
Conclusions (2)

• Cooperation is crucial if we are to avoid fragmented, competing and inconsistent solutions
  • CDA, ECIM and PPDM
  • Oil Companies and Service Providers
  • Geographical Regions

• Competency has substantial and independent value

• Accreditation will take time and patience

• **Industry standards will be important**
• Is there scope for standards here?
• Is there a role for the standards organisations?
Thank You
mfleming@cdal.com