Technical Capability Building in Shell

Roland Gelling

Global Manager Sub-Surface Learning
COMPANY PROFILE

- We are active in more than 70 countries
- Worldwide, we employ 87,000 full-time employees
- Our fuel retail network has around 43,000 service stations
- Each day we produce 3.3 million barrels of oil equivalent
- In 2012, we generated earnings* of $27 billion
- We spent $29.8 billion on net capital investment
- We spent $1.3 billion on R&D
- Royal Dutch Shell plc is a UK company, with its headquarters in The Netherlands
- We are listed on the stock exchanges of Amsterdam, London and New York
- Shell now produce more gas than oil

* on a current cost of supplies basis attributable to Royal Dutch Shell plc shareholders

Source: 2012 Annual Report and Form 20-F
THE ENERGY CHALLENGE

- Two thirds of the 2050 energy mix to be hydrocarbons
TECHNOLOGY UNDERPINS OUR ABILITY TO UNLOCK CHALLENGING HYDROCARBONS
Shell Recruit Globally

- Recruitment in all countries
- University visits for recruitment purposes are targeted in countries of operations
- and in countries where we can find talented educated staff

Shell workforce should reflect customer base, which means we currently see a shift to the East

Speaking sufficiently good English is a pre-requisite to joining Shell

- However, in JV situations where Shell assume operatorship, the main language can be different and training programmes may have to be done in other languages
- Language training is offered locally in all Shell companies
SHELL RECRUITMENT DAY:
This one and a half day includes:
- Briefing
- Dinner with young Shell graduates
- Case Study
- A group discussion
- Technical presentation or technical interview
- Commercial Business scenario interview

INTERNERSHIP
- Variety of projects from minimum 8 weeks - 1 year
- You will be working on real-life projects (business or graduation thesis)
- Daily interaction with Shell managers who will evaluate your efforts and provide you with valuable performance feedback
When entering a country without a (large) oil/gas industry, Shell

- Initially bring in an expat crew to start the operation
- Recruit in country and educate the local staff
- Support local content targets of countries and we support the drive for transfer of knowledge to the local workforce

This requires Shell to have a mobile workforce

- An Expat terms arrangement (salary, housing, schooling)
- Managed Open Resourcing system
  - Web-based job market
  - 3 Rounds per year
  - Managed by Skillpool Managers
  - Priorities set by top leaders on jobs posted and allocation of staff
  - Staff posting window agreed between individual and supervisor
- Placements by exception necessary, in discussion with individuals
# INVESTING IN LEARNING

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Staff</strong></td>
<td>87,000</td>
</tr>
<tr>
<td><strong>Training Days</strong></td>
<td>600,000 to 700,000</td>
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<tr>
<td><strong>Costs</strong></td>
<td>ca $300m</td>
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<td><strong>Learning Staff</strong></td>
<td>580</td>
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<tr>
<td><strong>Satisfaction</strong></td>
<td>4.0+ out of 5.0</td>
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<td><strong>Refresh or new training</strong></td>
<td>10% annually</td>
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<tr>
<td><strong>Learning Centres</strong></td>
<td>30</td>
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<tr>
<td><strong>Local/regional delivery</strong></td>
<td>60-70%</td>
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Growing our Business and Talent

Our License To Operate

Safety
SHELL LEARNING FACULTIES

Technical Learning:
- Production Academy
- Shell Project Academy
- Discipline and Process Engineering Faculty
- Integrated Business Faculty
- Well Engineering Faculty
- Sub-Surface Faculty
- Contracts & Procurement Faculty
- HSSE, SP & SD Faculty
- Design & Development of Learning

Corporate Learning:
- Commercial Academy
- Enterprise Learning Faculty (Leadership, Organisational Effectiveness)
- Finance Learning
- IM/IT Learning
Portfolio Covers: Reservoir Engineering, Petrophysics & Geomechanics, Production Geology, Geophysics, Exploration Evaluation, Geomatics & Data Management

- 11 Full-time Learning Advisers and hundreds of technical lecturers from business
- 100 Global (plus 70 Local/Regional) Shell Courses; 345 class events in 2013
- Large Enhanced Oil Recovery and Unconventionals events
- 16000 Training Person Days in 2009; 35000 TPDs in 2013
- Cost per training-person-day < $500 for courses, including investment recovery
- Limited use of External Providers:
  - Nautilus 2 %
  - PetroSkills 3 %
  - IHRDC IPIMS 3 %
  - Others 2 %
- 10+ courses in development every year; Shell Design Team, Accenture & NIIT
- Currently 89% Blended; e-learning used as part of blended events, in pre-work
Blended Learning:
Integrating formal and informal learning through work-based activities

**Formal learning**
- Objectives set by Learning organization
  - Managed by P&T Design & Development Team

**Informal Learning**
- Objectives set by Learners
  - Managed by Knowledge Sharing Teams

**Work-based activities**
- • Knowledge Sharing networks
- • Peer Interactions
  - Coaching
  - Mentoring
  - Job shadowing
- • Best practices & lessons learned
- • Content on Shell Wiki

• Face to Face events
  - classrooms
  - workshops
  - conferences
• Virtual classes
• eLearning modules
DEMOGRAPHIC CHALLENGE: Petroleum Engs and Geoscientists

Note: From Schlumberger HR Benchmark
TIME TO AUTONOMY IS MAJOR FOCUS AREA

Shell is implementing Graduate Recruit and Mature Hire competency building to shorten the Time to Autonomy from 9-10 years to less than 6 years:

- Shell Graduate Programme was implemented 2 years ago and is delivering new technical professionals (graduates) to “JG5” competencies in 2-3 years.
- Shell Advanced Technical Programme will be launched this year and will bring both NTPs and Experienced Hires to “JG4” competency (autonomous operating engineers & geoscientists) within the next 2-3 years.
As we recruit from a mix of countries, universities and subjects, we do insist all Graduate Recruits follow the full curriculum of their discipline. By exception it is agreed to skip certain courses. Experienced Hires get assessed and a fit-for-purpose learning programme is agreed.
THE PENTAGON FOR COMPETENCE DEVELOPMENT

**Growing staff competence in the right job**

**Consistent use of processes & standards**

**Community with sharing experience culture**

**Assurance Recognition**

**Guidance from leaders in the company**

**EXPERIENCE**

**LEARNING**

**EDUCATE**

**ACCREDIT**

**ASSESSMENT & ACCREDITATION**

**MENTOR**

**MENTORING & COACHING**

**GROW**

**SUPPORT**

**NETWORKING & COMMUNITY**

**COMPETENCE DEVELOPMENT AND APPLICATION**
Shell had Discipline Competency Frameworks since 10+ years:

- 2 simplification rounds reduced from some 100 to some 55 competences per framework, including HSSE and Leadership competencies
- Individual staff competency profiles are in the central HR system. But only limited ability to do statistics on global skillpool competences database
- But largely based on self-assessment with sign-off by supervisor ... how reliable is that?

Recent Drive to change the competency management system:

**Externally**: Recent industry tragedies have placed greater importance on our ability to prove our people are competent in key ‘license to operate’ areas

**Texas City refinery in 2005**

**Macondo incident in 2010**

**Internally**: Relatively large effort as we manage whole competency area in same manner
WHAT DOES THE NEW SOLUTION LOOK LIKE?

Increase **Rigorous assurance** and detailed tracking on:
- Operational
- HSSE
- Technical Authorities 1/2

**Robust development** using:
- A simplified approach for all staff in support of a strong ‘Employee Value Proposition’
- Individual Development Conversations and Plans
- In role Development
- Simplified competence frameworks
- Structured capability building tools
- Targeted Learning Interventions
- Recording of **professional certifications (external)** where there is business need / value

*This new solution provides Focus and Simplicity*

Subject to staff consultation
Competency Development:

- Unique to Shell and recognized across the industry
- Established **1973** start of Shell “Drilling” assessment round 1 and round 2, revised 2005 to include Well Intervention.
- **Post Graduate** development managed globally
- Implemented globally for all **Shell Wells staff**
- Syllabus includes practical **field and office** elements
- Panel audit

- Individuals have to pass round 1 and round 2 examinations - **“Certified Engineer”** after passing round 2 and global

- Wells Distance Learning Package is accredited to academic **Masters of Science Degree** level by 2 universities
CLASSROOM RECORDING TO GLOBAL ON-DEMAND DELIVERY

Record live courses & lectures
- Portable equipment (7 sets)
- Easy to set-up and use
- Export to streaming server
- Access through Websites links and database

Enables Better Global Learning
- Offer courses 100% virtual as alternative to face-2-face
  - On-demand to desk or iPad
  - Just-in-time delivery
- Efficient export f2f courses
- Coaching of lecturers
- Knowledge management
  - Retain Expertise
  - Searchable global sharing
From Outcrop to Reservoir Simulation Model, using the i-Scope

- Further integration of work of all Disciplines into Static Reservoir and Simulation Models
- Using state-of-the-art 3-D Visualisation Technology in Learning Programmes.
Virtual Classroom using network of Collaboration Rooms

Virtual Classroom Events:

- Up to 16 staff per location
- High intimacy environment
- Picture-in-picture
- Interactive whiteboard
- Content/speaker/participants
- 2-5 locations in 1 class
We are building 6 dedicated Learning TelePresence Rooms in learning hubs

That can be used in conjunction with existing TelePresence Rooms in locations
VIRTUAL COURSES OVER TIME-ZONES: EXAMPLE PROGRAM

Monday

Break-out

Combined Start Session

Break-out

Combined Session

Break-out

Combined Session

Break-out

Combined Session

Break-out

Combined End Session

Tuesday

Break-out

Wednesday

Break-out

Thursday

Break-out

Friday

Break-out

Day-time @

Morning

Europe

Middle East

Africa

Afternoon

Canada

USA

South America

Afternoon
The well intervention Simulator provides Shell with robust designs, thorough training and state-of-the-art detection.”

“Shell introduces first well Intervention Simulator”

“The drilling and well intervention simulators in use during W320 Advanced Well Control training”