Technical Capability Building in Shell

Roland Gelling

Global Manager Sub-Surface Learning

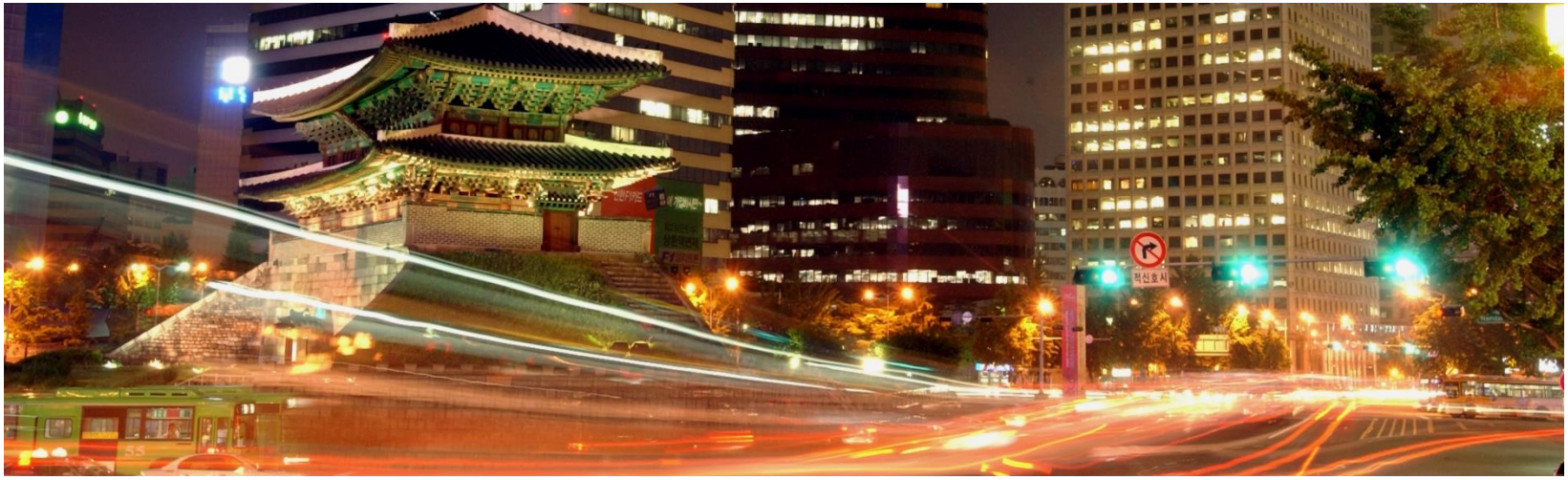
COMPANY PROFILE

- 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

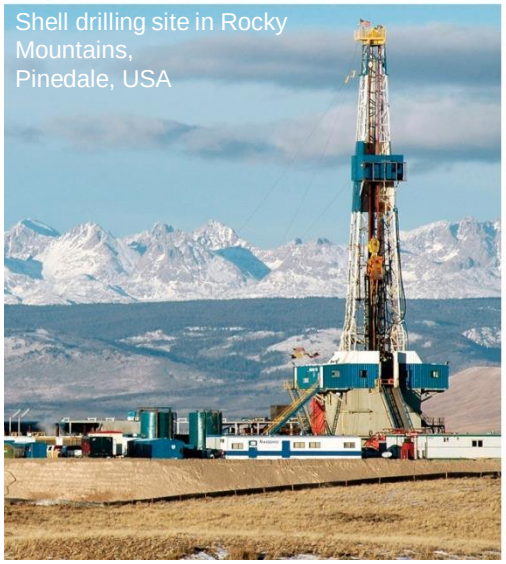
THE ENERGY CHALLENGE



TECHNOLOGY UNDERPINS OUR ABILITY TO UNLOCK CHALLENGING HYDROCARBONS


EOR - 3D Seismic testing, Oman

Floating LNG


Shell drilling site in Rocky Mountains, Pinedale, USA


Perdido spar lying horizontal in Gulf of Mexico


LNG site Sakhalin, Russia

RECRUITMENT GLOBALLY, LANGUAGE POLICY

- 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

JOINING SHELL – ROUTES INTO SHELL

- Apply online
- Interview
- **Routes into Shell (Assessment)**
- Job offer

- 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

- INTERNSHIP
  - 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

ENTRY INTO COUNTRIES, MOBILITY & DEPLOYMENT

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

Staff	87,000
Training Days	600,000 to 700,000
Costs	ca $300m
Learning Staff	580
Satisfaction	4.0+ out of 5.0
Refresh or new training	10% annually
Learning Centres	30
Local/regional delivery	60-70%

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

DIMENSIONS SUB-SURFACE LEARNING PORTFOLIO:

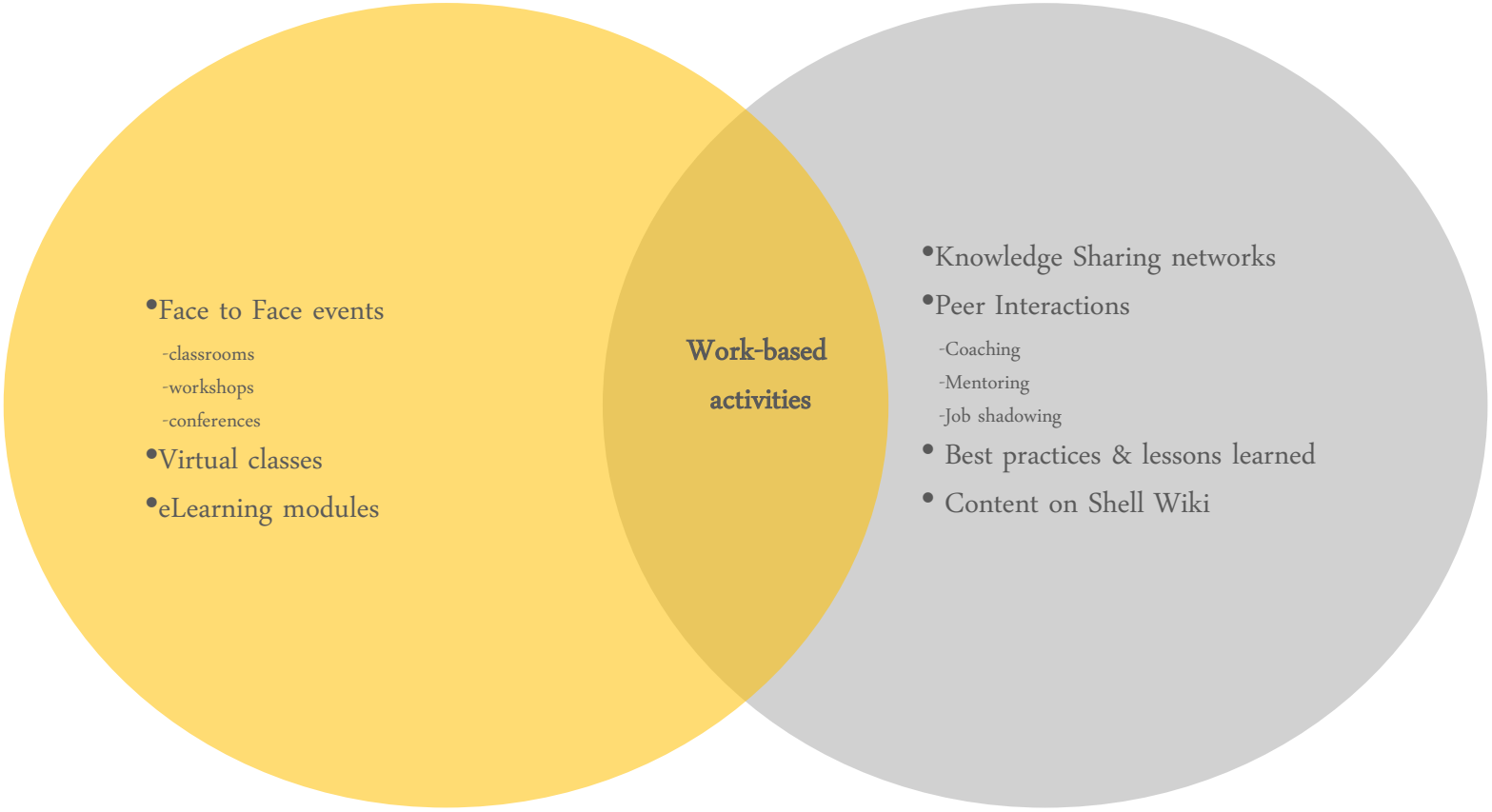
Portfolio Covers: Reservoir Engineering, Petrophysics & Geomechanics, Production Geology, Geophysics, Exploration Evaluation, Geomatics & Data Management

- 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 APPROACH

Blended Learning:

Integrating formal and informal learning through work-based activities



Formal learning

Objectives set by Learning organization

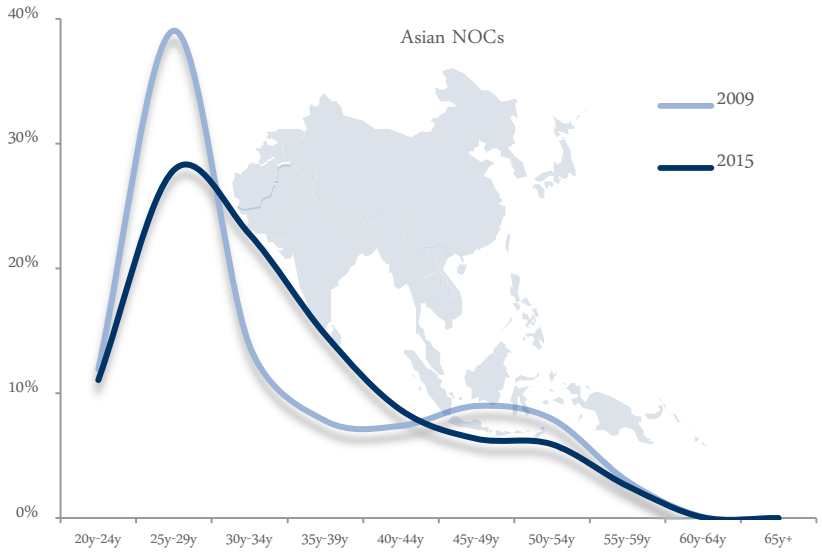
Managed by P&T Design & Development Team

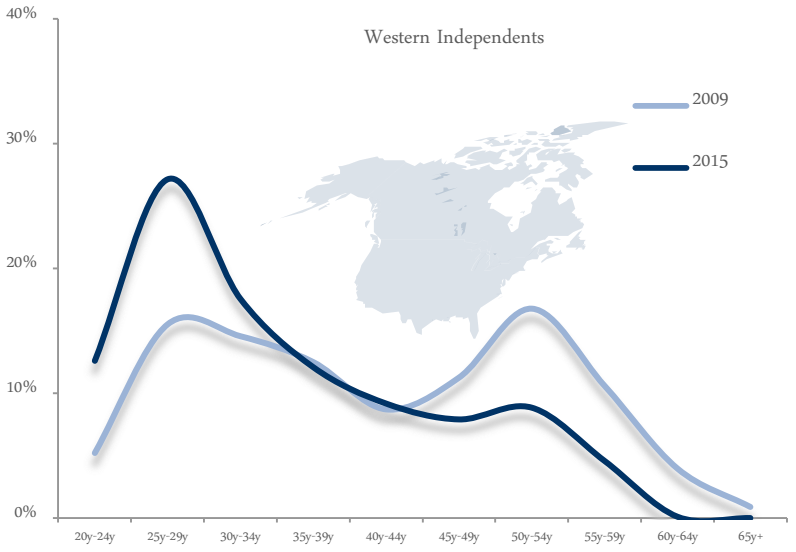
Informal Learning

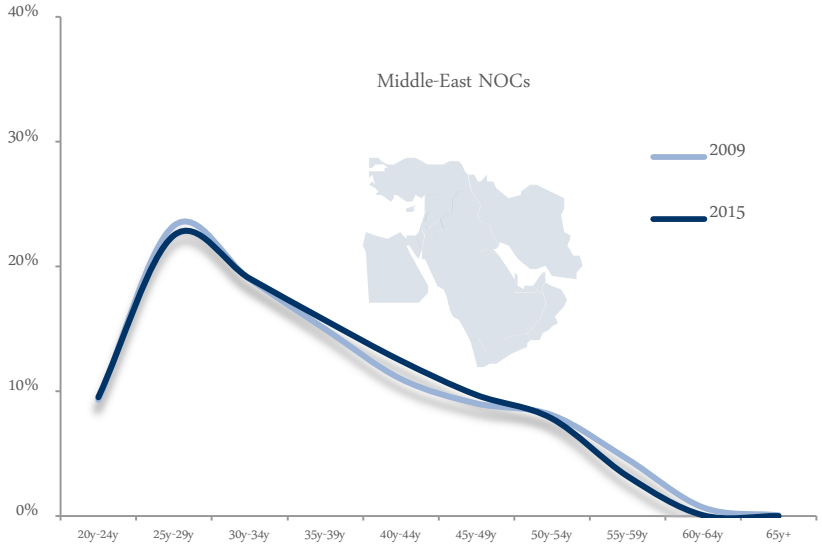
Objectives set by Learners

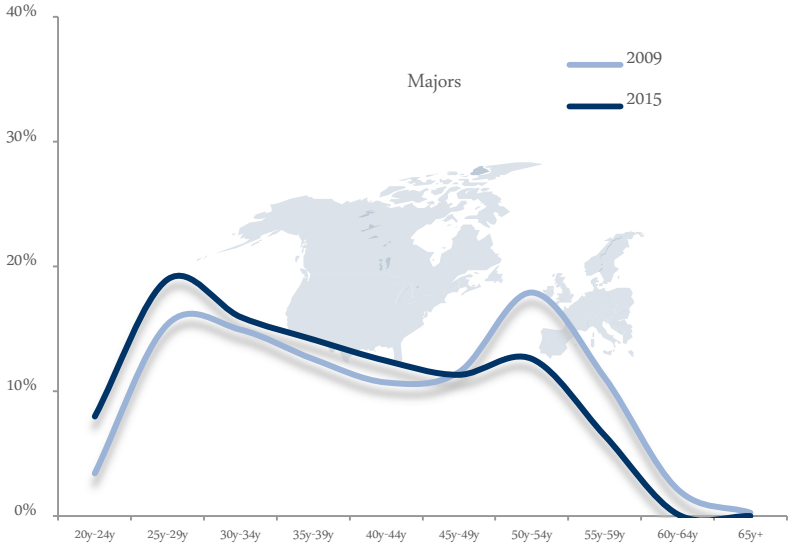
Managed by Knowledge Sharing Teams

DEMOGRAPHIC CHALLENGE: Petroleum Engs and Geoscientists







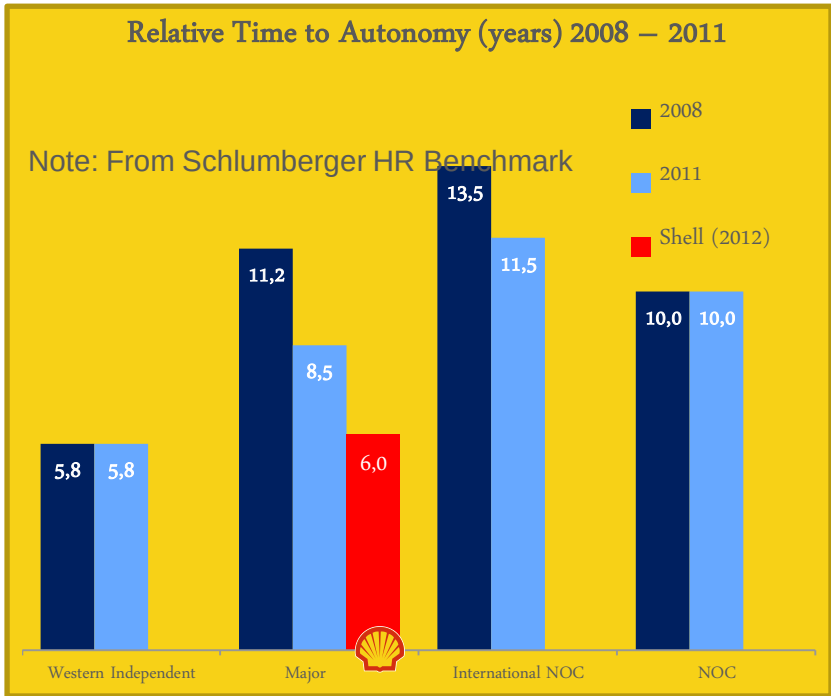


Note: From Schlumberger HR Benchmark

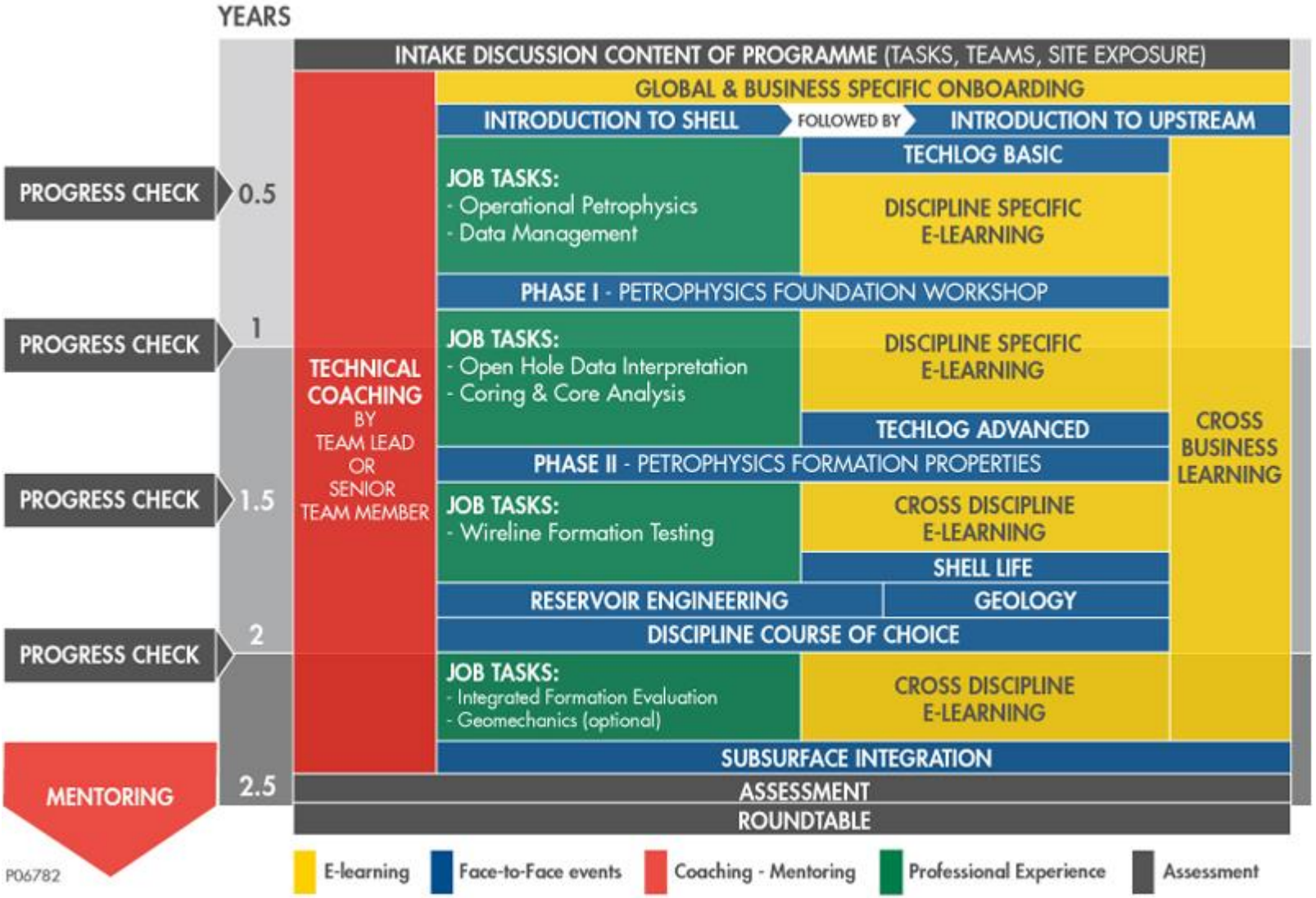
TIME TO AUTONOMY IS MAJOR FOCUS AREA

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.



GRADUATE PROGRAMME – PETROPHYSICS EXAMPLE



As we recruit from a mix of countries, universities and subjects, we do insist all Graduate Recruits follow the full curriculum of their discipline.

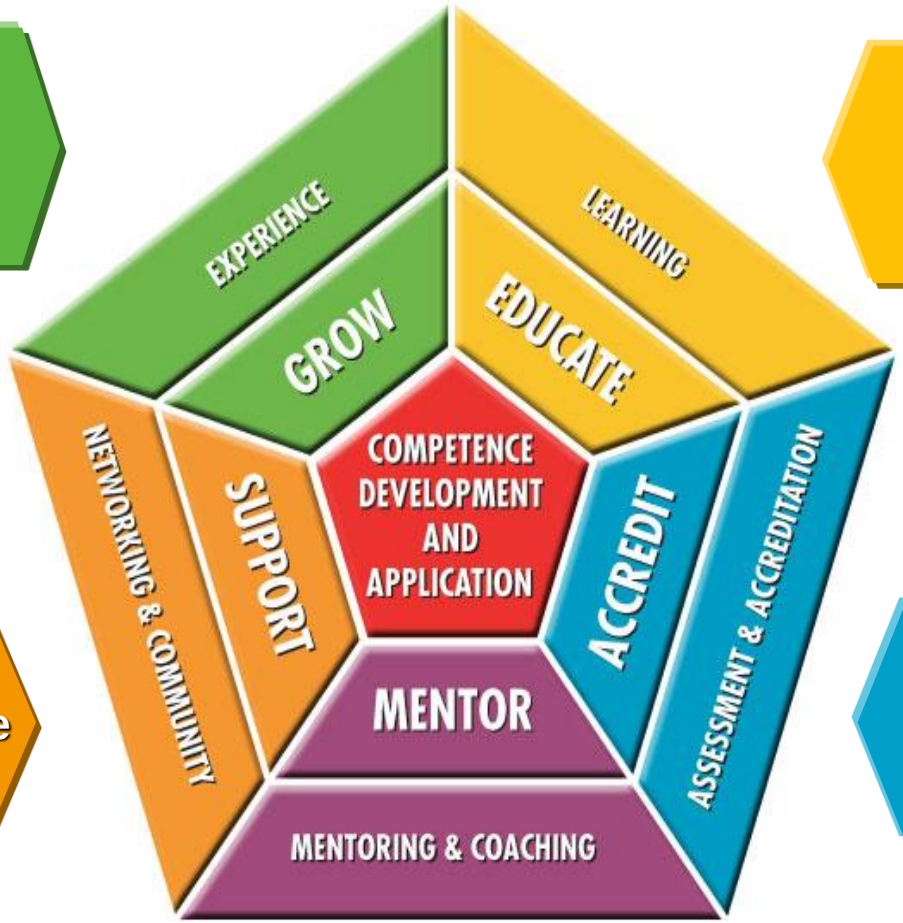
By exception it is agreed to skip certain courses.

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

COMPETENCY FRAMEWORK JOURNEY

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:

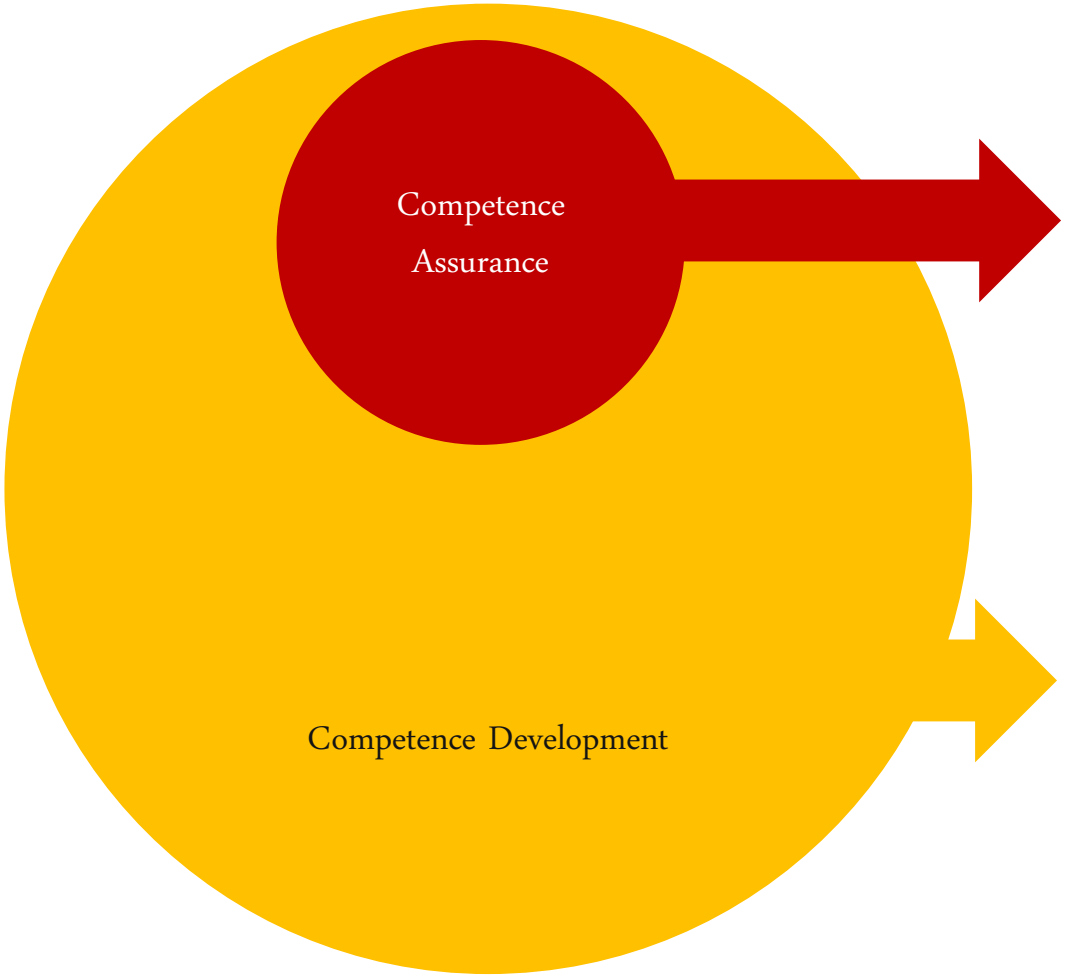
Externally: Recent industry tragedies have placed greater importance on our ability to prove our people are competent in key 'license to operate' areas

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:

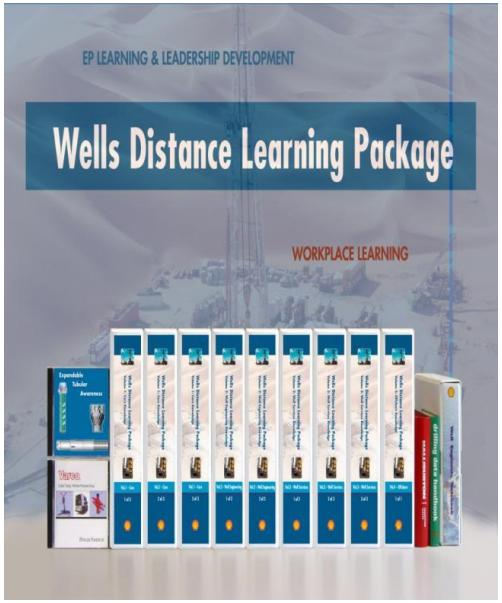
- Operational
- HSSE
- Technical Authorities 1/2

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

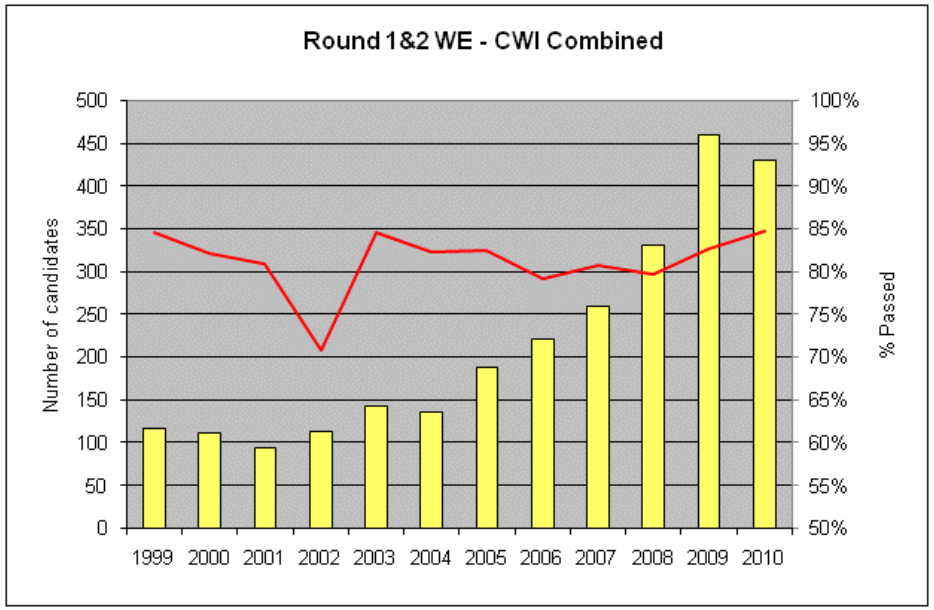
This new solution provides Focus and Simplicity

ASSURANCE & ACCREDITATION IN WELLS



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

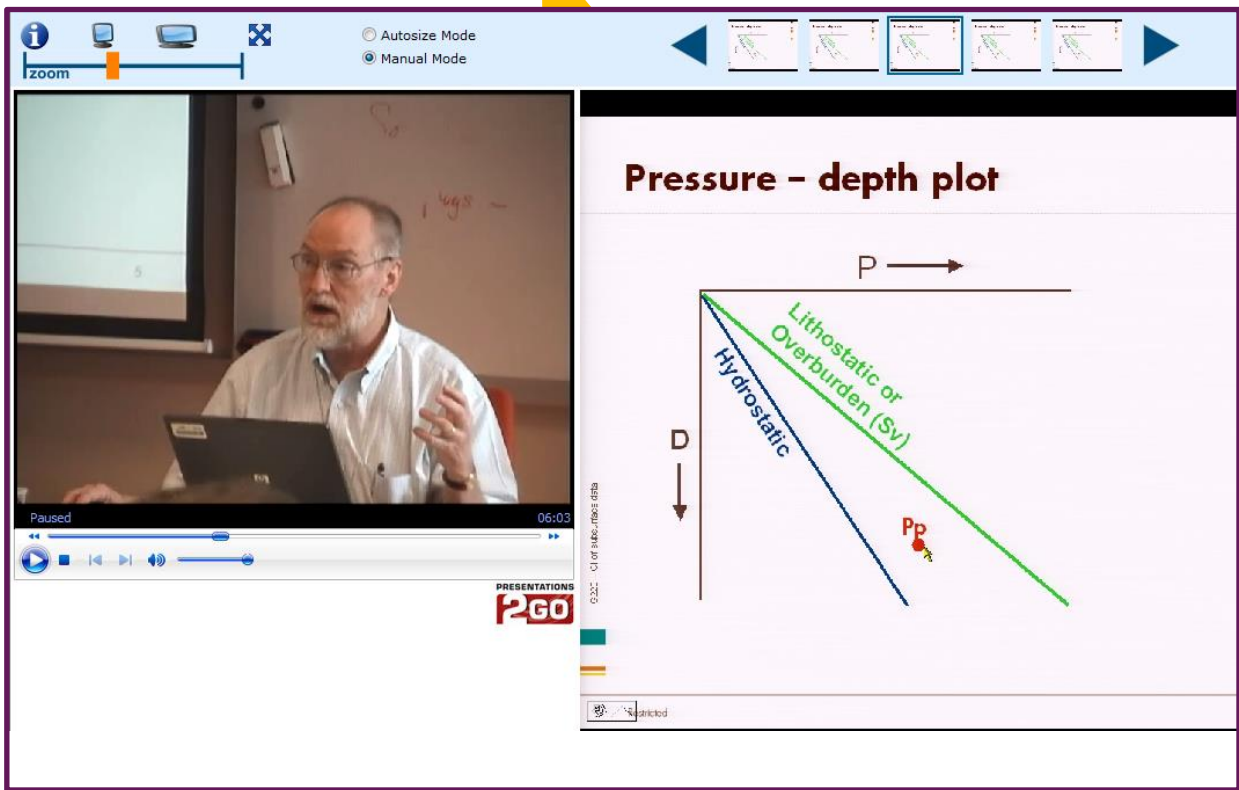
CLASSROOM RECORDING TO GLOBAL ON-DEMAND DELIVERY

Record live courses & lectures

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

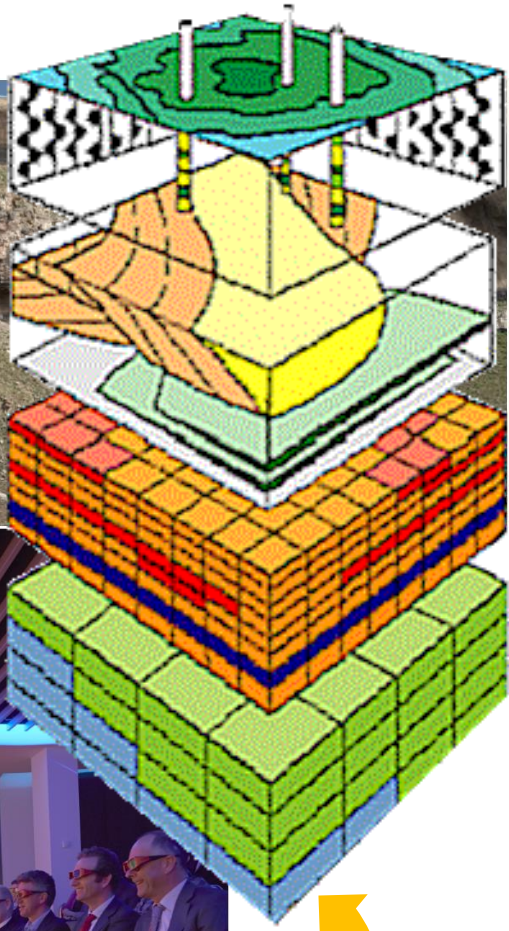
Enables Better Global Learning

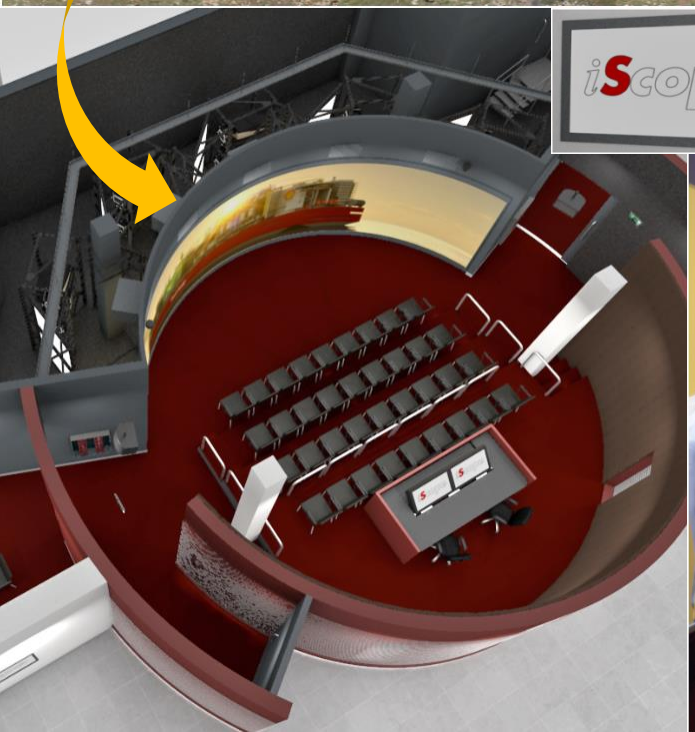
- Offer courses 100% virtual as alternative to face-2-face
  - On-demand to desk or iPad
  - Just-in-time delivery
- Efficient export f2f courses
- Coaching of lecturers
- Knowledge management
  - Retain Expertise
  - Searchable global sharing



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.

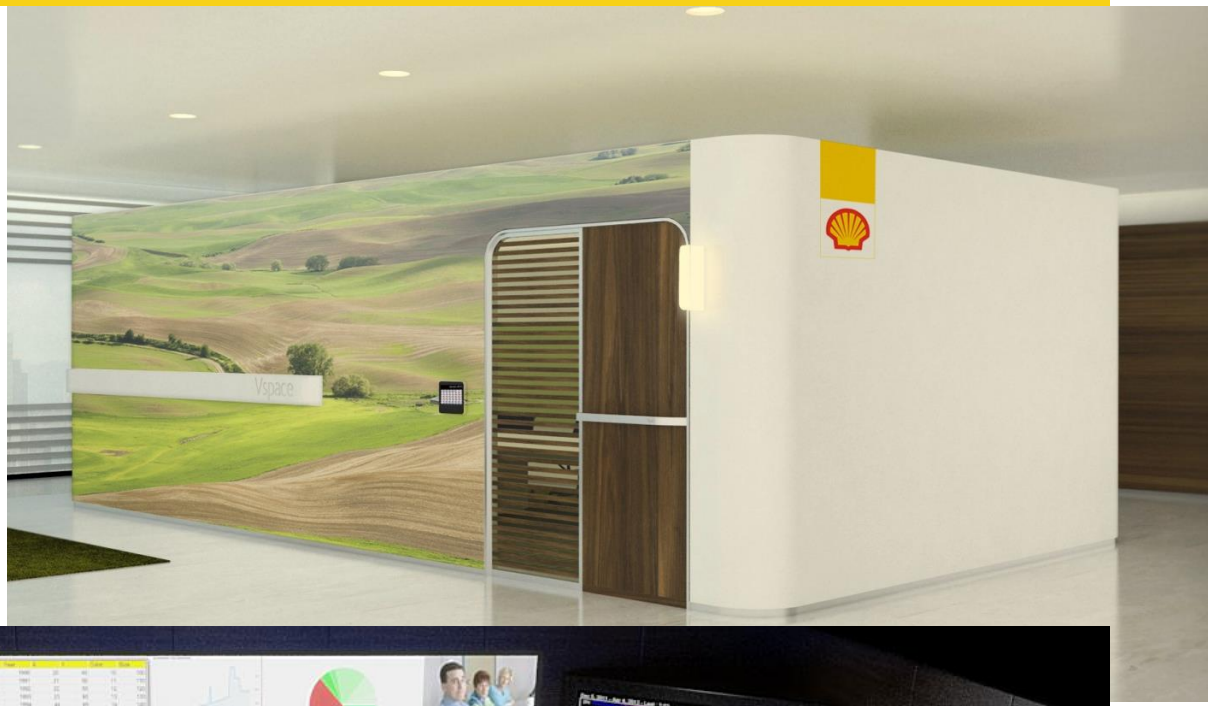




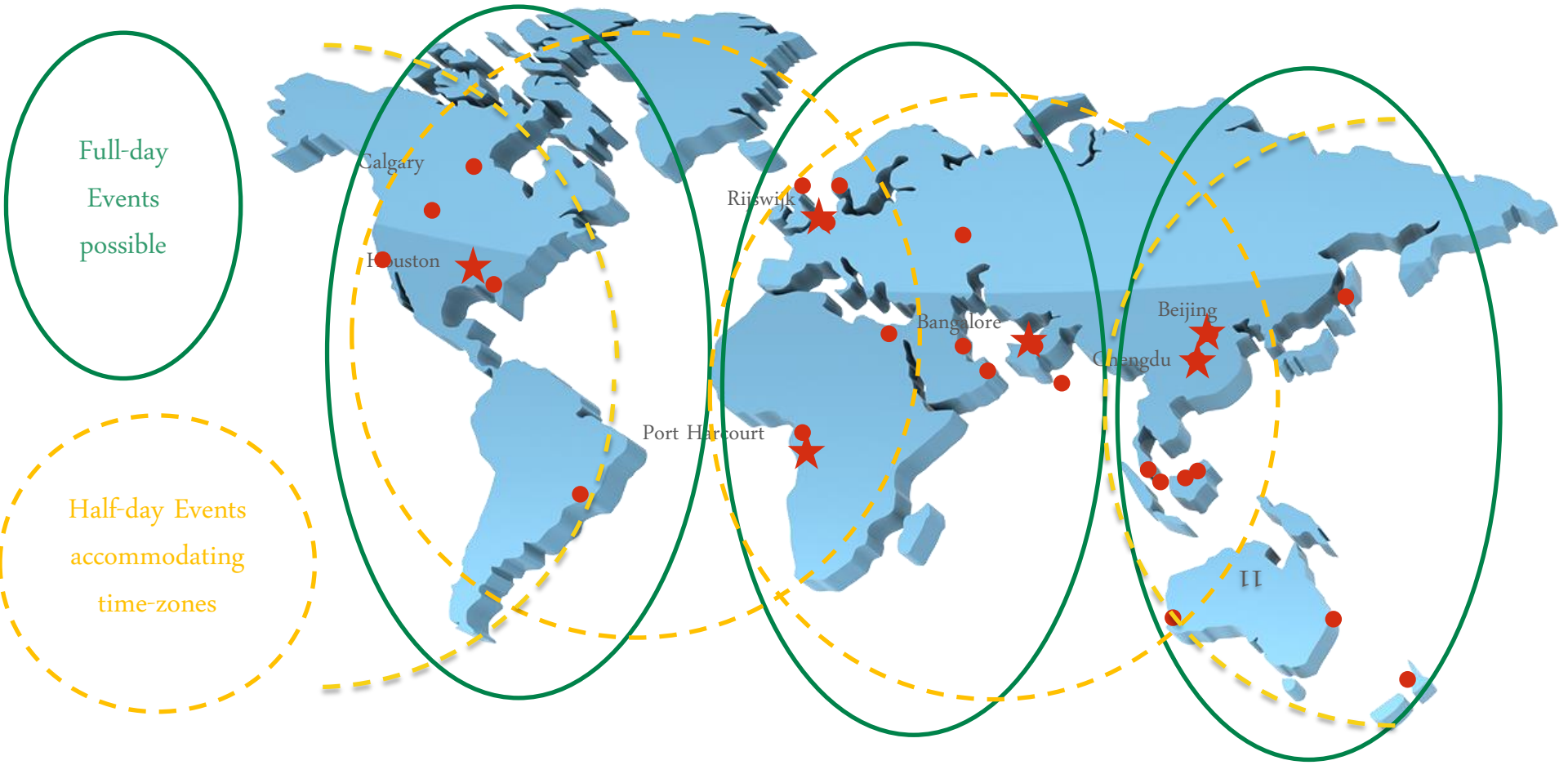
Virtual Classroom using network of Collaboration Rooms

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



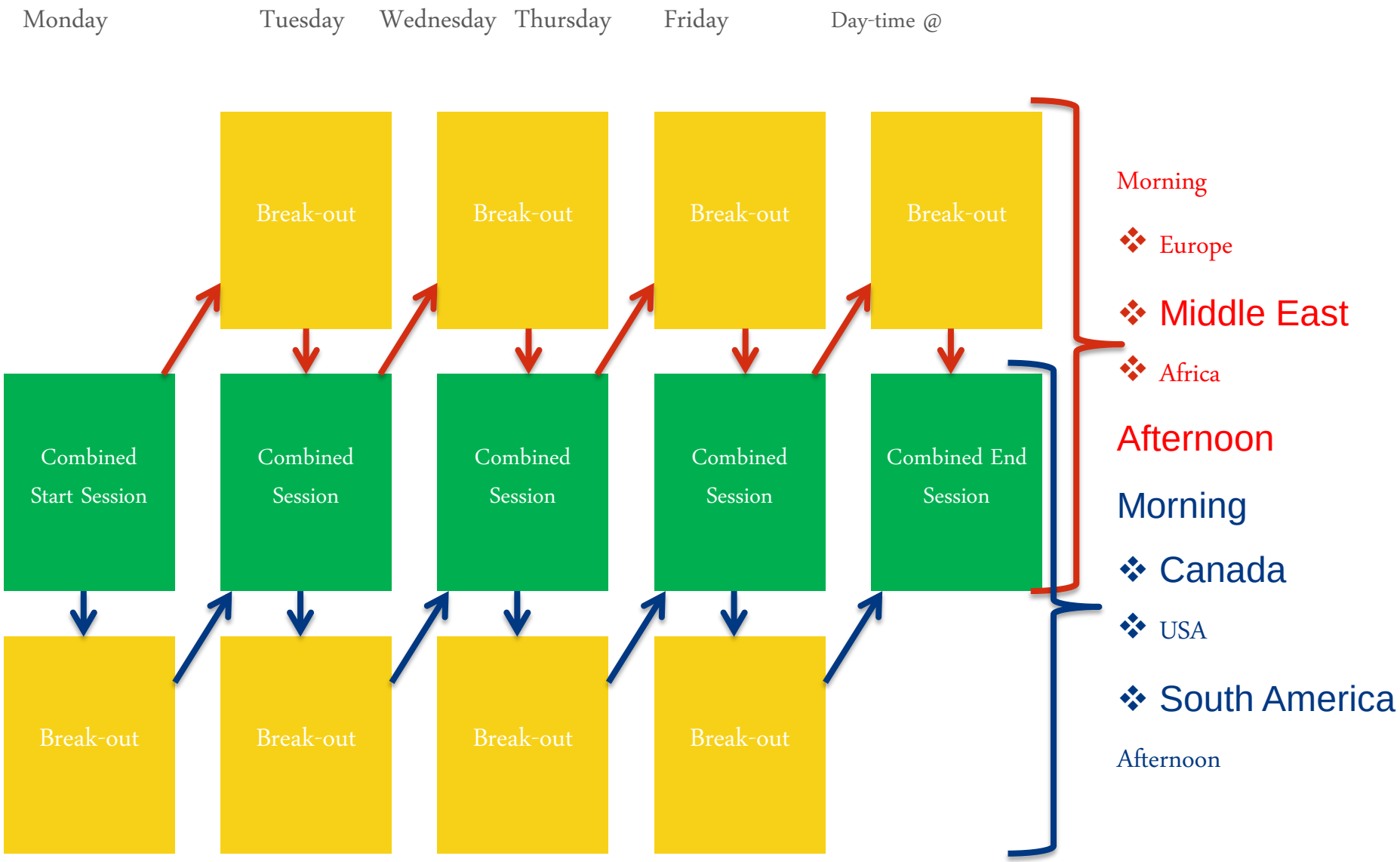
NETWORK OF DEDICATED LEARNING COLLABORATION ROOMS



★ 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

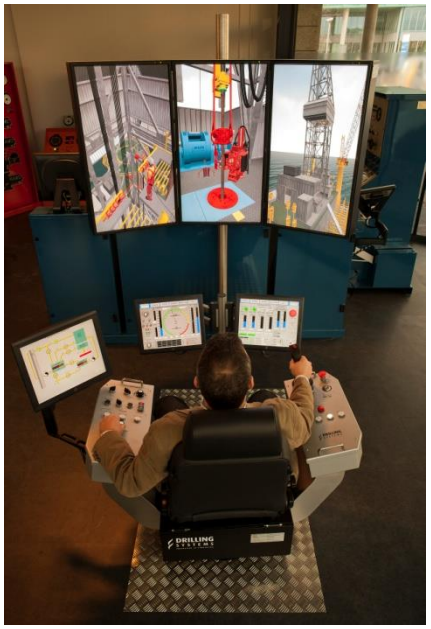


WELL INTERVENTION SIMULATOR

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

World Oil Online – June 2011

"Shell introduces first well Intervention Simulator"



Rijswijk Well Control Training Centre

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