



Human Factors (CRM) in Wells

Conferentie: Zorgen voor Teamwork
1st November 2018

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Agenda

- Wells – Dimensions, Organization, Risks
- Relevance of Human Factors
- Ongoing work and next steps

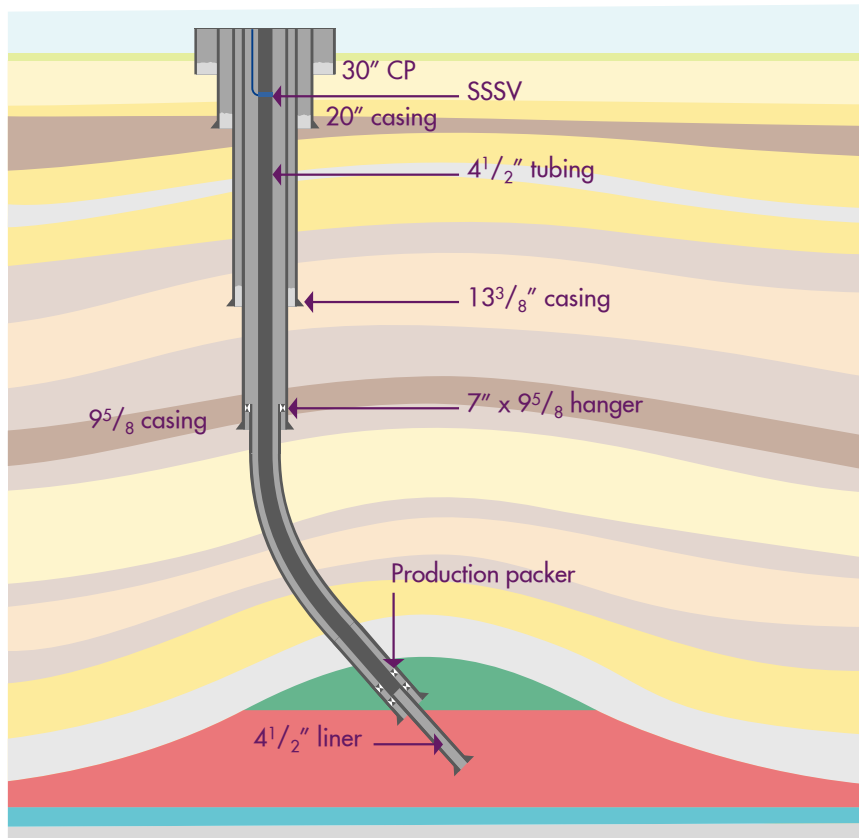
What we do in Wells



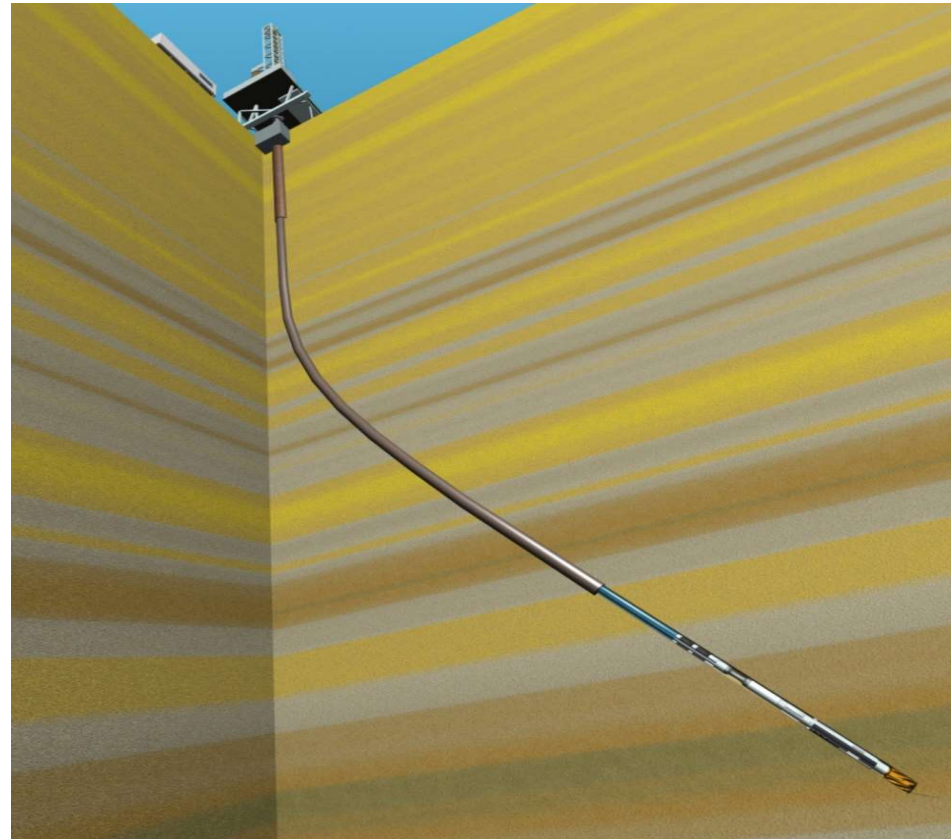
What we do in Wells



What we deliver



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1st November 2018

Wells Organization example - simplified

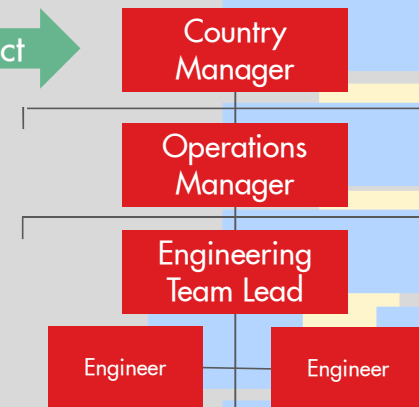
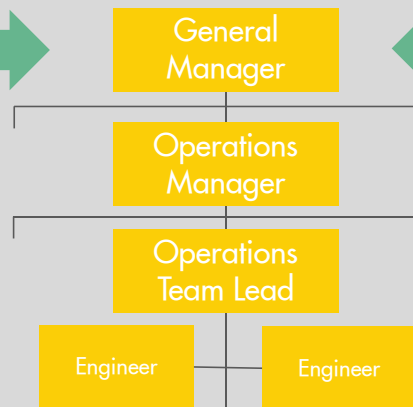
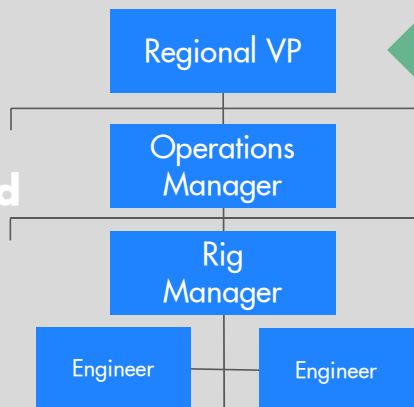
Rig owner

Operator (Shell)

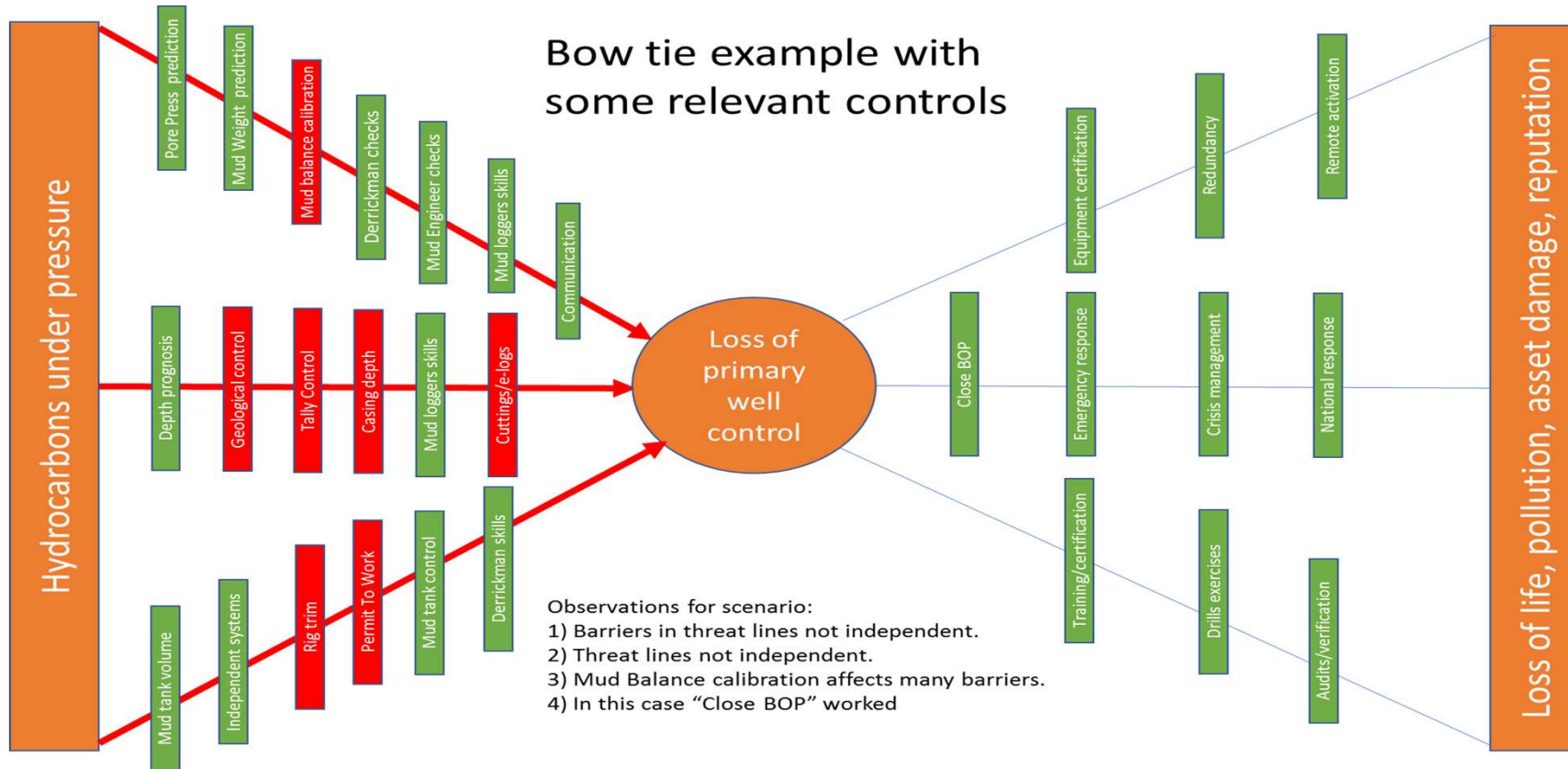
8-10 Services

Office based

Rig based

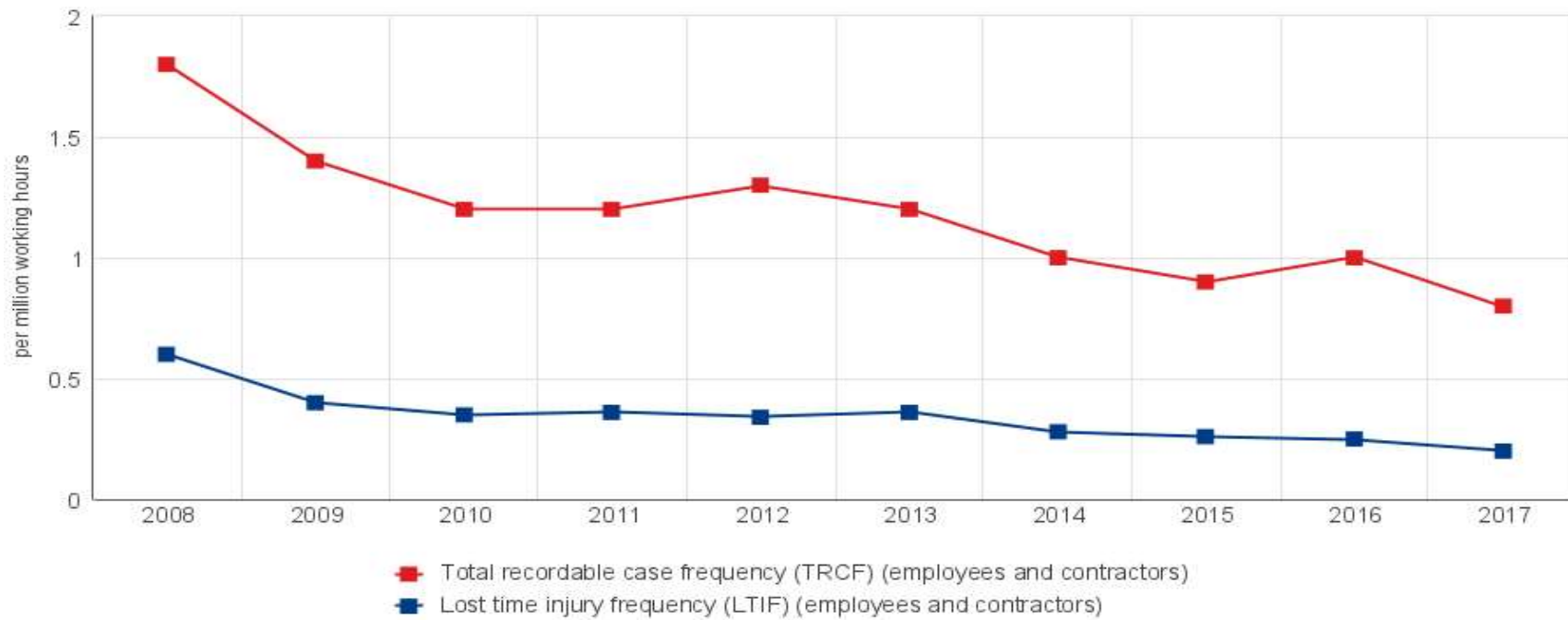


Key Risk



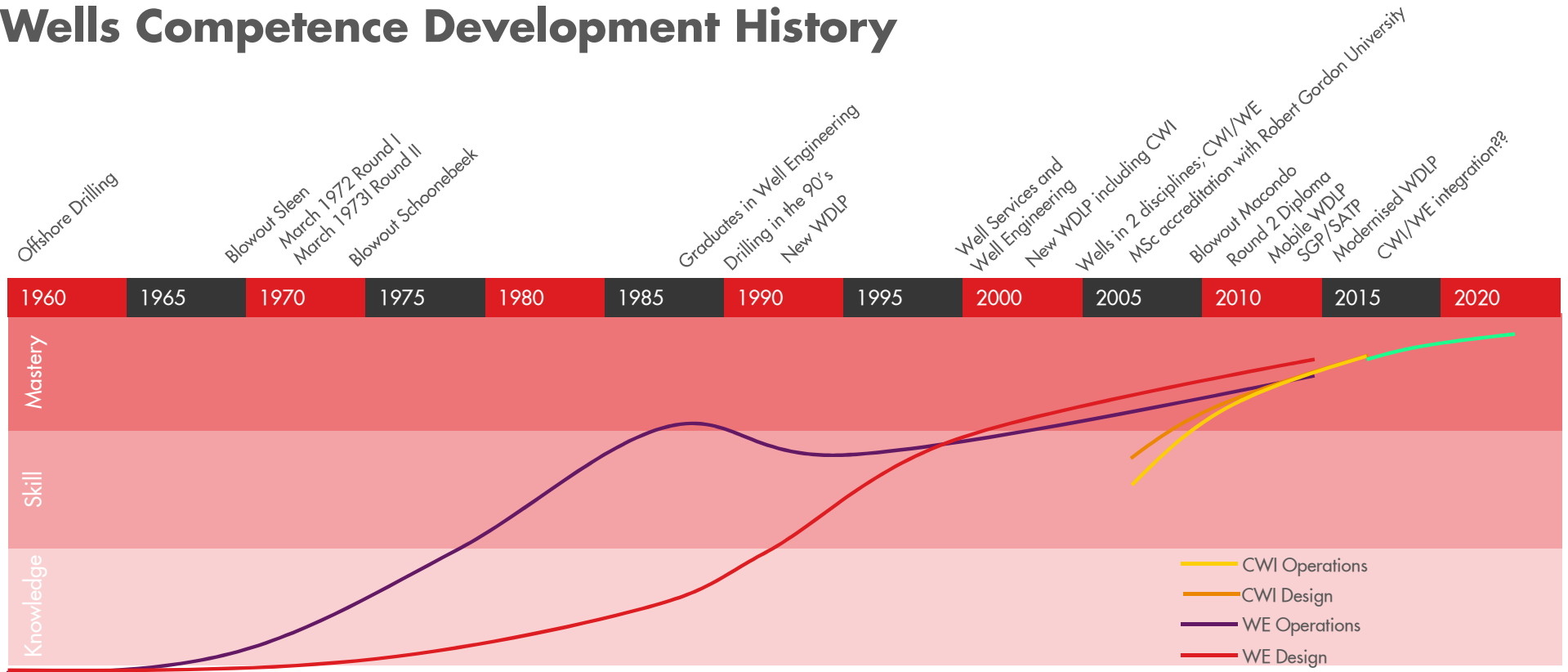
Royal Dutch Shell personal safety results

Injuries**

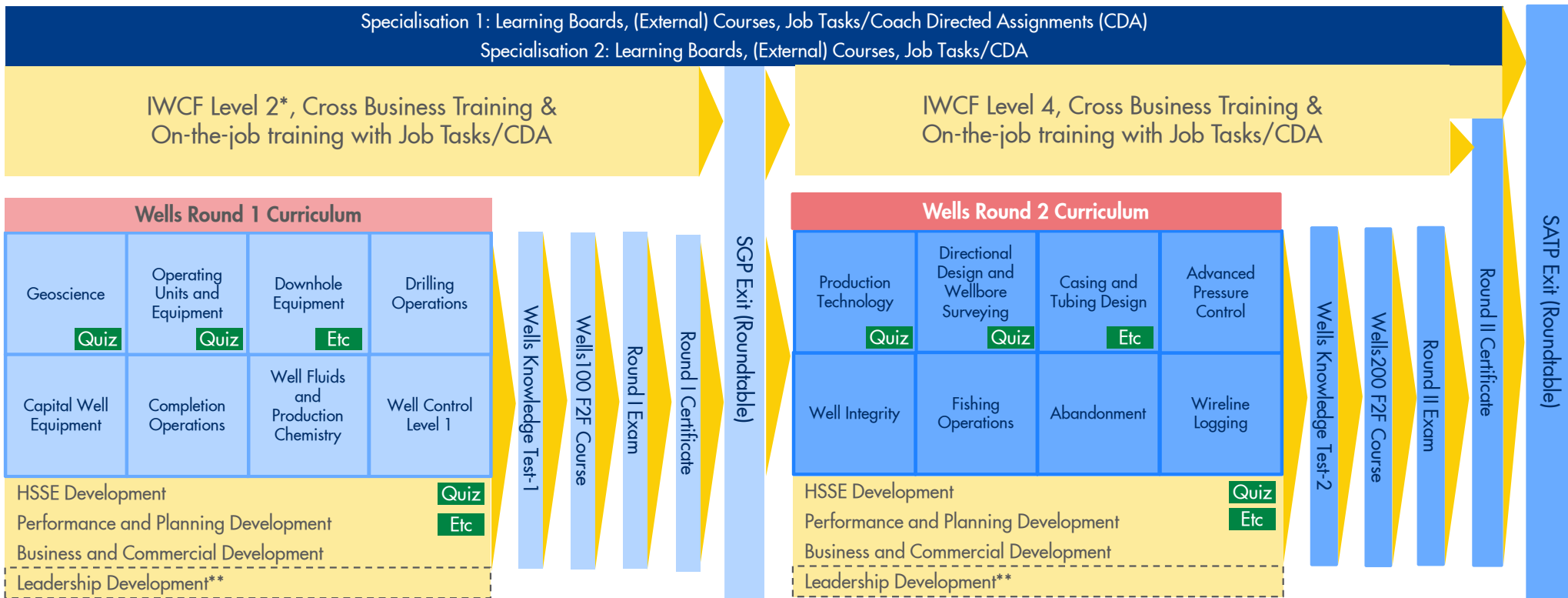


* Data from Royal Dutch Shell Sustainability report 2017

Wells Competence Development History



Shell Round I and Round II program



* If admitted: IWCF Level 4 is preferred

** Leadership development offered as part of the cross-business training



Why is HF important in Wells operations

- Risks and Opportunities are Significant.
- Many companies, cultures, corporate objectives and individuals meet.
- Complexity in organizations and complex deliverables.
- Rotation schedules.
- Team dynamics.

Elements of HF



Situational
Awareness



Decision
Making



Communication

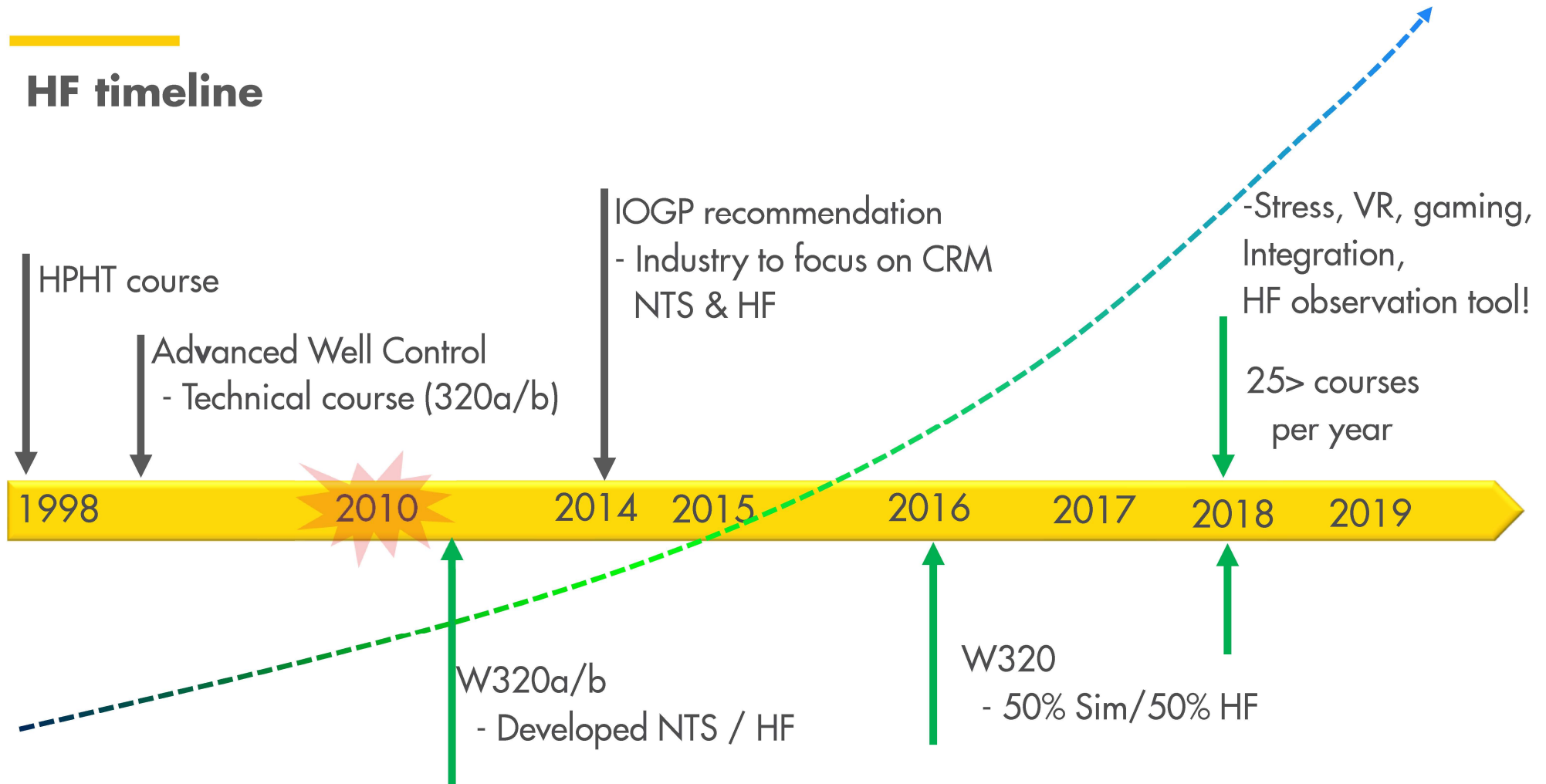


Teamwork



Leadership

HF timeline



HF context

- IOGP* reports 476, 502, 503.
- Internal Expertise.
- KLM, Medsim, NASA, Stressjam.
- Mandatory internal training.
- Inherent desire to improve.

■ * IOGP = International Association of Oil and Gas Producers



HF in Leading Advanced Well Control course

- Leading Advanced Well Control course.
- Run in 5 global locations.
- Learning Outcomes in Human Factors.
- Delivered in a technical simulated setting.



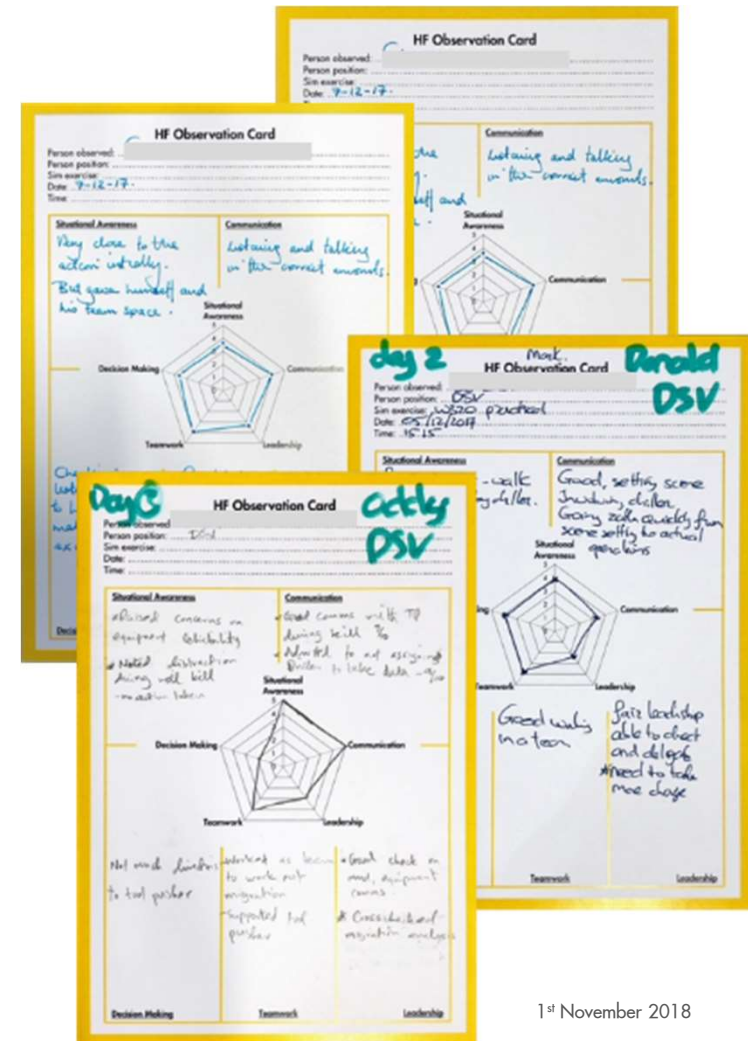
Leading Advanced Well Control - iScope



HF observation template

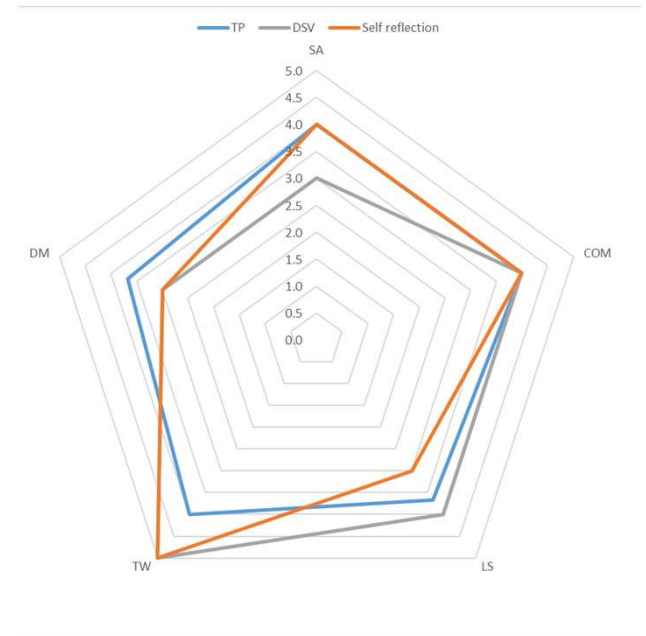
		Communication (prescriptors)				
scoring:		1	2	3	4	5
Topics of observation						
Clear communicator		Individual not able to get message across. Struggling to describe what the event.		Able to communicate the task in a clear and comprehensive manner.		Able to adopt a level of communication everybody understands. Using the relevant terminology, thus reducing ambiguities and confusion in the communication process.

		Situational Awareness (prescriptors)				
scoring:		1	2	3	4	5
Topics of observation						
Gathering information		Individual not involved in drafting a plan forward to overcome event. Person along the sideline, limited engagement, not interested to participate	Individual keen to pull the information required to come to a solution. Person making sense of information provided	Individual setting the scene about information required to solve the problem. Person taking the lead and steers and actively pursues a solution	consider Able to able to	Considers all aspects of the operations in finding a solution. Able to judge moods and accepts points of view. Tailoring the contents and style of the messages strengthens the key points delivered within.
Interpreting information		Individual not able to interpretate the information, is unsure what to do next. Doesn't proactively engage finding a solution to the problem.	Individual interprets information correctly and follows through as part of the group to find a solution	Individual takes the lead and steers the information to a solution. Is able to analyse the data available and interpretate to a successful outcome.	others, options	Individual actively creating pull to draw others into the conversation. Able to filter different opinions, digest and use the information gained to direct the operations.
Anticipating information		Individual has limited or no appreciation of event happening, not anticipating on what is happening.	Individual took action to prepare for the well control event. Is part of the team brainstorming the plan forward	Individual who anticipated how the situation may develop. Having the ability look forward, reason and draft a plan of action	ing about ed by ons and	Effortless approach towards analysing individuals input meanwhile able to think in through. Set steer after having considered all options.
Acting on information		Individual has limited or no appreciation of event happening, doesn't act on what is happening.	Individual involved, pursues and follows through how they perceive the solution to be. Will action on the anticipated plan forward	Individual sets steer towards actioning the plan assessed. Natural ability to drive the plan to a solution required.	correct follow pre	Having the ability to effectively analyse multiple streams of information, digesting same and able to explain the outcome as it was their own.
Assess situation		Individual not having the ability to assess the situation. Limited awareness of the plan forward	Individual assesses the situation, takes into account the bow-tie approach, anticipates mitigations.	Individual takes the lead or helps leading assessing the plan drafted. takes into account the consequences if things go different, assesses bow-tie and check list approach	ents	Exceeding
scoring:		1	2	3	4	5
Feedback		Room for improvement	Meeting requirements			Exceeding

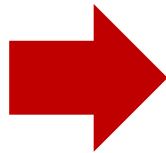


HF data in classroom environment

- 400 cards completed.
- Data from ME, SEA, US, EU.
- Value for individuals and –in the future- company
- ME/SEA participants tend to underestimate scores.
- MSc thesis ongoing to study data.
- Next step: Rig implementation.



Manage stress



What's next?

- Test stress measurements with feedback.
- What about VR and AR?
- HF assessments with a consequence?
- HF assessments on the rig.
- What else?



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Q&A

