

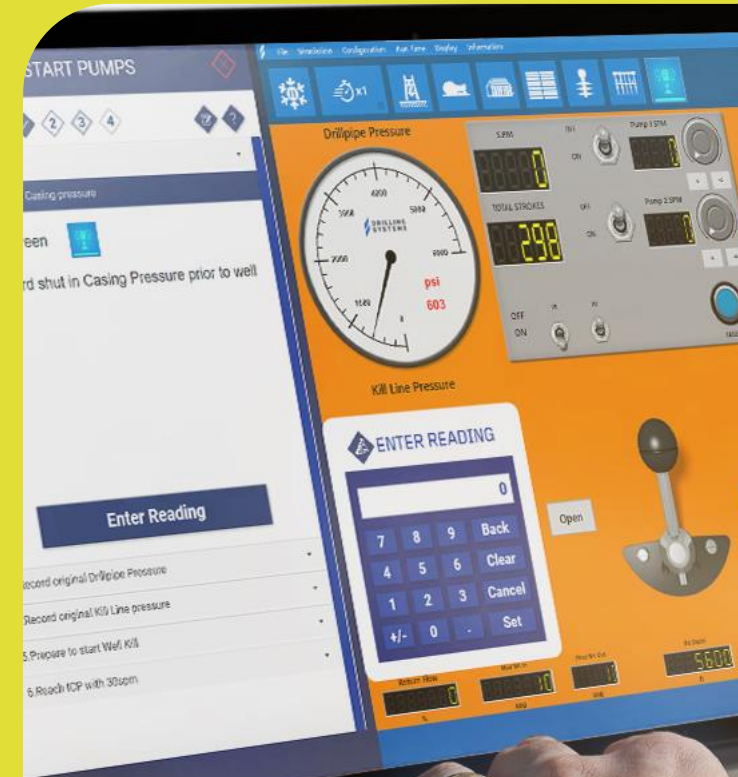
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Training
Technology
Transformation

3tglobal.com

3t

3t Drilling Systems

DrillSIM:Academy



We are 3t.

Blended learning solutions for safety critical sectors

Training
Technology
Transformation



3t Training Services

- Compliance
- Face-to-face
- Apprenticeships

3t Digital

- Learning Technologies
- Platforms
- Drilling Systems

3t Drilling Systems

3t Workforce Solutions

- Competence Programmes
- Up-skilling/Re-skilling
- Programme Development
- Powered By
- Medicals
- Consultancy

3t Managed Services

- Outsourced workforce management solutions

We are at the leading-edge of our industries...

— And pride ourselves on the depth of our offering to our global clients

— Training
Technology
Transformation

35+

— Years working with leading global energy sector organisations

600+

— Training courses available

5k

— Global clients

No. 1

— Energy Sector market share in the UK, and a major player globally

1.5k+

— Simulators deployed globally

60

— Countries we operate in

300k

— Customers transforming their training experiences with 3t

130k

— Delegates trained every year in our centres

400

— Expert staff from 17 nationalities, located in strategic global locations

IOGP Report 668

Gamification techniques in well control training and competency

gam·i·fi·ca·tion

Noun

the application of typical elements of game playing
e.g. **point scoring**, **competition** with others, **rules** of play

"**gamification** is exciting because it promises to make the hard stuff in life fun"

Source – Oxford Languages

What could this mean for the **future** of well control training ?



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DrillSIM:Academy

—
A continuous learning platform that allows individual personnel to access self-paced drilling and well control learning.

A blended learning platform that uses innovative bite sized eLearning, quizzes and world-leading simulation technology in one seamless environment to raise the standard in well control.

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Case Study

—
Seadrill took radical action to significantly improve both the technical knowledge and competence of its drilling crews.

The approach included six measures that, when combined, would dramatically improve overall well control competence:

1. Elevated pass-level thresholds vs industry standards
2. Well control training simulators permanently installed across the fleet since ~ 2013
3. Improved mathematics skills with e-learning since ~ 2013
4. Enhanced certification with human factors – HF being embedded into the way we work
5. Constant review to ensure only the highest-quality training providers are used
6. Committed to building the next level of continuous training process with knowledge verification



Primary Well Control

Built in tutorial

User friendly

Feedback through the exercises

Familiar interface of the **DrillSIM** simulation environment



- Well control fundamentals
- SCR's and lining up for drilling.
- Recording choke line frictions (3 methods)
- Drilling into a kick
- Wellbore ballooning
- Losses
- Horizontal well control fundamentals
- Formation pressure and Hydrostatic pressure
- Dynamic BHP and ECD
- Tripping and pumping slugs

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Secondary Well Control

Exercises powered by world leading **DrillSIM** technology that provides a **gamified** experience

Explore, try and most importantly learn **how to win!**

- Pump start up with Drillers method.
- WC problems during well kill and gauge interpretation
- Pump shut down after 1st circulation
- Conduct a leak off test
- Gas Migration
- BOP Testing
- Shutting in with a float in the string
- Second circulation Drillers method.
- Circulation Weight and Wait method.
- Volumetric Well Control
- Gas behaviour during well control calculations
- Surface and Subsea BOP control systems



Our solution

—
Bite-sized
Knowledge Delivery

—
Infinitely
Variable Simulation

—
Random Knowledge
Verification

—
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The system randomizes key parameters within the exercise. (e.g. valve lineup, system pressures etc.)

Randomisation of formation pressures that will affect shut in pressures.

Assures simulation exercises between students are always different (e.g. required kill mud weight, calculated shut in pressures, BOP system pressures and valve positions etc.)

Exercises currently available

1. Tutorial
2. Formation pressure and Hydrostatic pressure
3. Dynamic BHP and ECD
4. tripping and pumping slugs
5. Recording CLF's
6. SCR and preparing to drill
7. Kick warning signs and indicators (called drill into a kick)
8. Driller's method pump start-up
9. Gas behaviour during well control circulations
10. Driller's method pump shut down
11. Well control problems
12. Leak of Test's
13. Gas migration
14. Pumping open the Float
15. Surface BOP control systems
16. Subsea BOP control systems
17. BOP pressure testing

eLearning

— Bite Sized eLearning

Self paced

Increased retention

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Module Plan

Bite sized eLearning has been specifically built to aid knowledge delivery.

Random knowledge check quizzes are built into the **DrillSIM:Academy** to further build and verify knowledge and retention.

The LMS tracks user performance and highlights areas that need to have re-focus to enhance and improve their knowledge.

The screenshot shows a dark blue interface with the 'DRILLING SYSTEMS' logo in the top left. The main heading is 'Welcome to this module on Choke Line Friction (CLF)'. Below it, the text reads 'By the end of this module, you should be able to:'. At the bottom, there is a navigation bar with a 'BACK' button on the left, a progress indicator showing 'Welcome' and '1/9', and a 'NEXT' button on the right.

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The screenshot shows an 'Assessment' section with '5 questions' and a timer showing '4 / 5' and '19:00'. The question is: 'During the well kill what will happen to CLF as the influx enters the choke line'. Below the question, it says 'Please select an answer'. There are four radio button options: 'CLF will increase due to gas expansion', 'The influx only effects the CLF when its being vented at', 'The influx will have no effect on CLF', and 'CLF will reduce due to the lighter fluid having less friction'. The last option is selected.

Assessment Feedback

— Focused feedback

— Gamified approach

— Links to dashboard

DrillSIM Academy Exit Course

Pump Start Up Assessment
Assessment results

Sorry, you have failed this assessment.

Your score: **75%**

Learning Objectives
You could improve the most on 'Well Control Pressures' related questions. However, you performed best at 'Driller's Method of Well Control' questions.

Questions
The table below details the questions you answered incorrectly.

Question
If a kick occurs while drilling a horizontal well, why is there little
When killing a well, what will happen to the mud pit volume as th

To sit the assessment again, select the 'Restart Assessment' button.

DrillSIM Academy Exit Course

Pump Start Up Assessment
Assessment results

Congratulations! You have passed this course.

Your score: **88%**

Learning Objectives
You performed best at 'Pump Start-up Procedure' related questions. You could still improve further at 'Driller's Method of Well Control' questions.

Questions
The table below details the questions you answered incorrectly.

Question	Learning Objective	Feedback
The main advantage of using the Driller's Method to kill a kick is _____	Driller's Method of Well Control	Refer to Benefits of the Driller's Method Page 4/11

Select the 'Exit' button to leave the course.

EXIT

Detailed Competency Reports

Quick feedback

Competency

Completion status

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Academy

demo.dashboard.drillingsystems.com/reports/f0659824-3c70-4f9b-be5a-d8185c7a1d4d

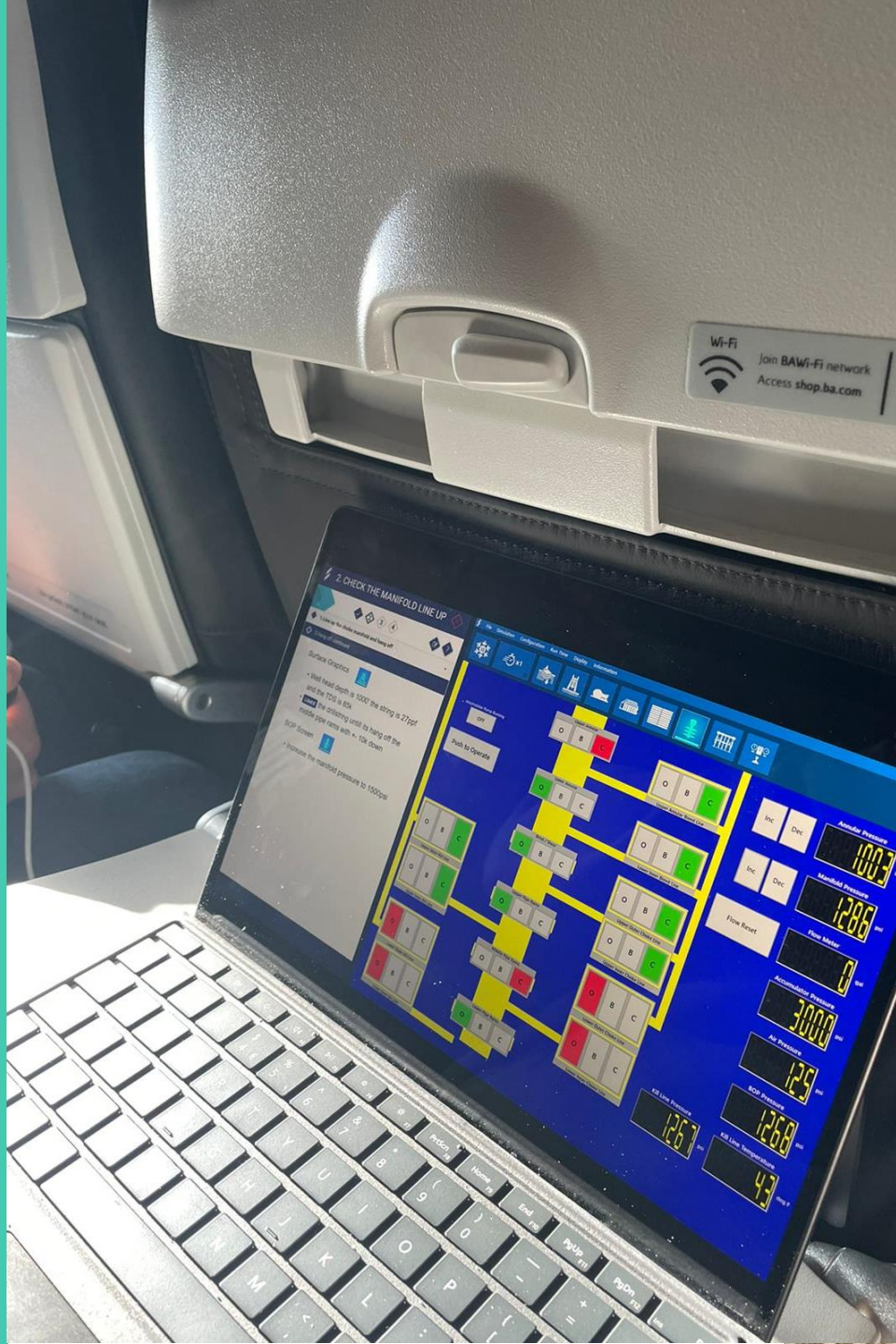
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FILTERS (0)

< REMEDIAL REPORT

	COMPETENCY	LAST RECORD	TOTAL ATTEMPTS	TOTAL PASSES	TOTAL ABORTS	TOTAL FAILS	TOTAL UNKNOWN
+ Floaters	11%	04-10-2023	1768	1172	296	300	0
- Harsh Environment	4%	30-07-2023	240	202	25	13	0
+ Drilling Systems UK Developer 1	0%		0	0	0	0	0
- Drilling Systems UK Developer 2	23%	13-03-2023	136	123	11	2	0
+ Derrickman (Subsea)	7%	23-04-2023	10	5	5	0	0
- Assistant Driller (Subsea)	43%	26-09-2023	195	85	52	58	0
- Jack Jones	85%	26-09-2023	195	85	52	58	0
- BOP Pressure Testing	85%	26-09-2023	195	85	52	58	0
+ BOP Pressure Testing	67%	25-09-2023	6	3	2	1	0
- Driller's Method Pump Shut Down	67%	24-09-2023	14	4	2	8	0
Assessment	0%	24-09-2023	6	1	2	3	0
DrillSIM Exercise	100%	24-09-2023	6	1	0	5	0
E-Learning	100%	24-09-2023	2	2	0	0	0
+ Driller's Method Pump Start Up	96%	24-09-2023	14	3	3	8	0

The future ?



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Thank you for your time.

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