

Developing and Sustaining Personnel Competency at the Workplace Implications for Safety, Performance and Business Sustainability in Nigeria

Event: IADC Nigeria Chapter HSE Awards

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What Do We Mean by “Personnel Competency”?

COMPETENCY = KNOWLEDGE + SKILLS + EXPERIENCE + BEHAVIOUR

IN DRILLING OPERATIONS, THIS INCLUDES:

TECHNICAL CAPABILITY (WELL CONTROL, EQUIPMENT, SYSTEMS)

HSE LEADERSHIP AND RISK AWARENESS

DECISION-MAKING UNDER PRESSURE

UNDERSTANDING OF OPERATING ENVIRONMENT (LAND, SWAMP, OFFSHORE, DEEPWATER)

COMPETENCY ≠ TRAINING CERTIFICATES ALONE

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Why Competency Matters in Today's Nigerian Drilling Industry

- Rapid increase in drilling activity across:
  - Land & swamp redevelopment programmes
  - Offshore brownfield campaigns
  - Deepwater appraisal & development drilling
- Higher operational complexity and tighter margins
- Workforce transition:
  - Ageing experienced personnel
  - Influx of early-career local workforce
- **Competence is now a leading indicator of HSE performance**

You cannot outsource competence – it must be built, verified and sustained.

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The Nigerian Drilling Contractors Landscape



- Over **35 active drilling rigs** across Nigeria (2024–2025 average)
- Mix of:
  - Indigenous contractors
  - International drilling companies
- Operations across **4 distinct environments**:
  - Land
  - Swamp
  - Shelf / classic offshore
  - Deepwater

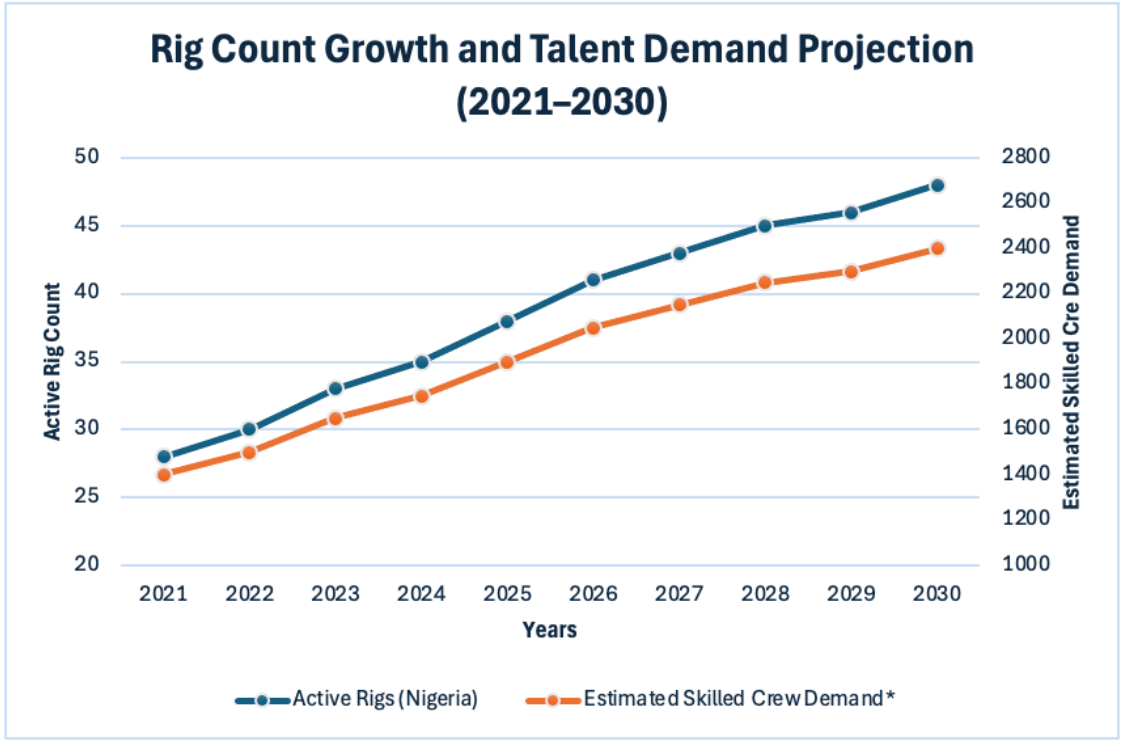
Each environment demands different competence profiles

Rig Count Growth & 5-Year Talent Challenge

- Projected industry trends:
- Increase in:
  - Land & swamp redevelopment drilling
  - Offshore brownfield work
- Moderate deepwater growth
- **Implications:**

Need for:

  - More drillers, toolpushers, supervisors
  - More competent maintenance and BOP personnel



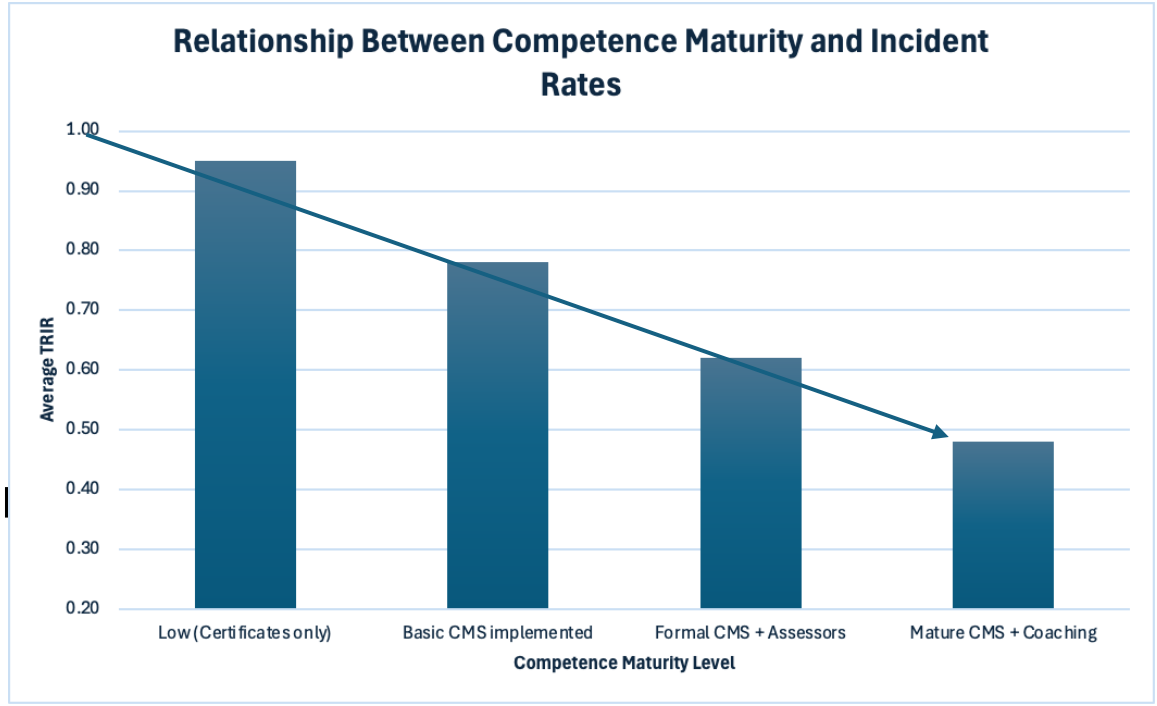
Risk of "experience dilution" if growth outpaces talent development

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Correlation Between Incident Rates and Talent Quality

Observed industry trend:

- Rigs with:
  - Higher crew stability
  - Formal competence assurance
  - Structured mentoring
    → **Lower TRIR and fewer high-po incide**
- Rigs with:
  - High turnover
  - Certificate-only training
  - Inexperienced supervision
    → **Higher incident frequency**



Correlation is strong, even if not always formally measured

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Thematic of Analysis of Industry Events

IBEWA-16
20 May
2012

- **Domain A: Well Control and Drilling Operations**
  - Incidents: Macondo (USA, 2010), Funiwa No. 5 (Nigeria, 1980), K.S. Endeavor (Nigeria, 2012), Ekofisk Bravo (Norway, 1977), Ixtoc I (Mexico, 1979)
  - Primary human failure: Inability to recognise or respond to well control indicators; inadequate BOP management; absence of verified well control competency.
- **Domain B: Offshore Platform and Structural Integrity**
  - Incidents: Piper Alpha (UK, 1988), Alexander L. Kielland (Norway, 1980), Ocean Ranger (Canada, 1982), Glomar Java Sea (South China Sea, 1983), Bohai No. 2 (China, 1979), Enchova (Brazil, 1984), Mumbai High North (India, 2005), Petrobras P-36 (Brazil, 2001)
  - Primary human failure: Breakdown in procedural discipline, emergency response, marine stability management, and evacuation competency.
- **Domain C: Onshore and Offshore Refinery and Processing**
  - Incidents: BP Texas City (USA, 2005), Esso Longford (Australia, 1998), Buncefield (UK, 2005), Texaco Milford Haven (UK, 1994), Phillips 66 Pasadena (USA, 1989), Bhopal (India, 1984)
  - Primary human failure: Operator competency in process management, alarm response, abnormal situation handling, and procedural compliance.
- **Domain D: Marine and Navigation Operations**
  - Incidents: Exxon Valdez (USA, 1989)
  - Primary human failure: Bridge resource management failure, fatigue, and authority gradient suppression.
- **Domain E: Pipeline Integrity and Operations**
  - Incidents: Jesse (Nigeria, 1998), Abule Egba (Nigeria, 2006), San Bruno (USA, 2010), Guadalajara (Mexico, 1992), Ufa (Russia, 1989)
  - Primary human failure: Pipeline integrity management competency, pressure anomaly recognition, emergency response, and organisational learning.

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Nigerian Incidents & Peculiarities

- Based on public industry data (NUPRC, IOGP Africa, IADC Africa):
- Majority of reported incidents involve:
  - Human factors
  - Procedural non-compliance
  - Inadequate supervision
- Recurrent event types:
  - Dropped objects
  - Well control near-misses
  - Line-of-fire incidents
  - Lifting and SIMOPS events

The global dataset shows what happens when training and competency are treated as compliance checkboxes rather than operational necessities.
The Nigerian dataset shows what happens when even that minimum standard is not enforced.

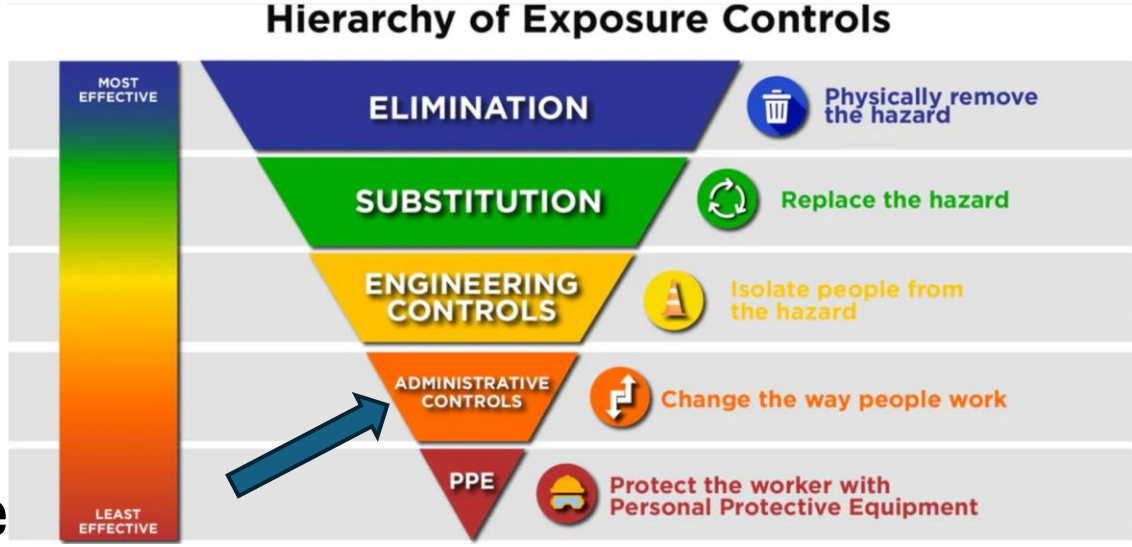
- Persistence of same failures and no regulartory reforms
- Complete absence of public hazard awareness increase casualty
- the regulatory structure in Nigeria creates a systemic accountability vacuum

Human performance is consistently a top causal factor and Organisational Learning Requires Structured Institutional Mechanisms

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Impact of Poorly Structured Competence Systems on Business

- Increased:
  - Non-productive time (NPT)
  - Equipment damage
  - Well control incidents
- Higher insurance and audit exposure
- Reduced operator confidence in local contractors
- Slower localisation of senior rig roles
- Reactive HSE culture rather than proactive risk management



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Training Systems Comparison

Why Traditional Training Models Are Failing	What World-Class Drilling Contractors Are Doing Differently
- Classroom-heavy, operation-light - Limited simulation exposure - No formal assessment of competence transfer - Lack of structured career progression pathways - Training budgets cut during downturns	Formal **Competence Management Systems (CMS)** - Role-based competence matrices - Assessor-led verification - Simulation-based learning (well control, emergency response) - Mentoring and coaching programmes - Competence linked to promotion and mobilisation
Training ≠ Competence	

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Building Sustainable Competence Systems in Nigeria

Key Building Blocks:

- Define safety-critical roles clearly
- Develop role-specific competence standards
- Combine:
  - Training
  - Supervised experience
  - Formal assessment
- Maintain competence records and evidence
- Continuous revalidation



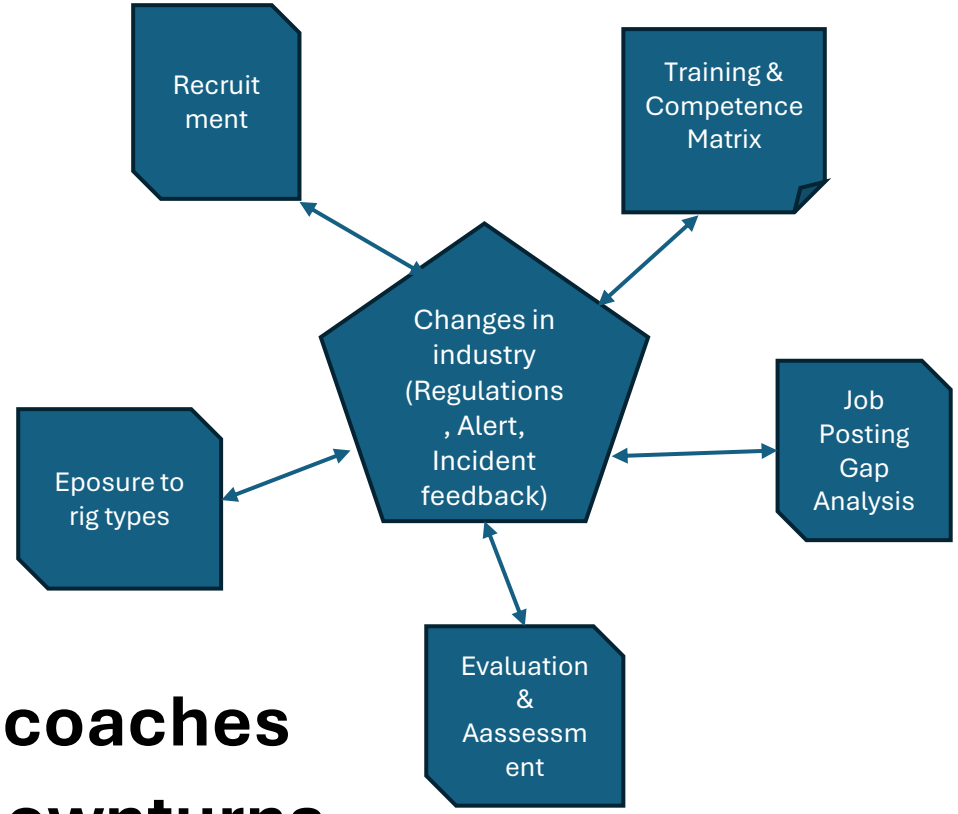
Local Talent Development: Practical Strategies

Early career pipelines:

- Graduate drilling programmes
- Structured rig rotations

Partnerships with:

- OEMs
- Training centres
- Operators



- **Develop Nigerian assessors and coaches**
- **Protect training budgets during downturns**
- **Align competence development with rig deployment plans**

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Role of Industry Stakeholders

- **Drilling Contractors**
  - Own competence assurance
  - Invest beyond minimum compliance
- **Operators**
  - Reward competence maturity, not just cost
- **Regulators**
  - Shift focus from certificates to verified competence
- **Industry Bodies (IADC, SPE)**
  - Share best practices and benchmarks

Is your Nigerian Content HCD plan addressing any of our skill sets needed as Drilling Contractors?

Epartriarte quota Enforcement vs. Available Qualified Nigerians?

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What Must Be Done Now?

- Start with safety-critical roles
- Standardise competence frameworks across fleets
- Build local assessor capability
- Use incidents and near-misses as learning tools
- Treat competence as a **strategic asset**



The cost of inaction is higher than the cost of investment

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Final Words

Sustainable drilling operations in Nigeria can only be achieved when **competence is engineered, verified and sustained**, not assumed.

Competent people save lives, protect assets and secure the future of the industry.

Thank You

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