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Competence beyond certification: Shaping a true safety culture in hazardous environments

For organisations operating in high-risk industries, demonstrating competence in hazardous environments is crucial to ensuring safe and efficient operations. While training and qualifications play an essential role, true competence extends beyond certificates and into the practical application of knowledge, experience and continuous assessment.

Here Martin Constable, EPIT's Operations Director, highlights how ensuring workforce competence is an ongoing responsibility. One that requires structured systems, periodic evaluations, and an understanding of evolving regulatory and technological landscapes.

There needs to be a shift in organisational mindsets that goes from simply box-ticking to building a strong safety culture amongst the workforce. It's a common misconception that we see throughout the industry. We must move away from the notion that attending a training course automatically grants competence – yes, that's the first step but a box-ticking approach where competence is reduced to collecting certificates is not going to cut it when it comes to proving competence in the event of a workplace incident.

Instead, organisations should instil a culture of continuous learning and accountability. It's important to ensure that employees understand *why* competence matters – not just for compliance but for their own safety and the safety of their colleagues.

Understanding competence: beyond qualifications

The Health and Safety Executive (HSE) defines competence as “the combination of training, skills, experience, and knowledge that a person has and their ability to apply them to perform a task safely.”

While the completion of a training certification or qualification provides foundational knowledge, it does not on its own achieve competence. Demonstrating true competence in hazardous environments requires a combination of:

- **Knowledge** – acquired through formal training and theoretical education
- **Skills** – developed through hands-on experience in real-world scenarios
- **Experience** – gained over time, ensuring practical application of learned concepts
- **Training** – ensuring individuals remain updated with evolving industry standards

- **Assessment** – continuous evaluation to verify that individuals possess the necessary knowledge, skills, experience, and training to maintain competence and compliance

Often, organisations fall into the trap of equating training completion with competence, but assessment is essential to determine whether individuals meet the required competency standards.

The role of competence management systems (CMS)

One of the significant challenges faced by organisations is the lack of structured competence management systems (CMS). A robust CMS is essential for the ongoing tracking of employee capability, ensuring regulatory compliance, and mitigating risks associated with hazardous environments.

A well-designed CMS should include:

1. **Documented evidence** – a comprehensive file for each employee, including training records, internal assessments, CVs, and peer reviews.
2. **Internal assessments** – regular evaluations by qualified personnel to confirm practical skills and adherence to safety standards.
3. **Continuous Professional Development (CPD)** – ensuring employees are continuously developing and demonstrating competence through learning experiences as well as identifying and addressing any capability gaps.
4. **Periodic reviews** – structured reassessment cycles (annually, bi-annually) to validate continued competence.
5. **Knowledge of regulatory updates** – keeping employees informed about changes in standards, regulations and best practices. For example, hazardous area classifications, explosion protection, and maintenance protocols.

Without a structured CMS, organisations may struggle to justify workforce competence in the event of an incident or regulatory audit. Competence should be documented with evidence of knowledge, skills, experience, training, and assessment to validate competency.

Regulatory and technological influences on competence

HSE, the UK regulatory body, the IEC, and BS EN regularly update standards guidance to enhance safety in hazardous environments. These changes require continuous upskilling and knowledge updates to maintain compliance. Companies must integrate CPD into their competence frameworks to ensure employees remain informed about evolving safety requirements.

Furthermore, technological advancements, including AI and VR-based training, are redefining competence development.

While digital tools provide accessible training solutions, practical, hands-on training remains irreplaceable in hazardous environments. Particularly in tasks requiring precision, such as installing hazardous area (Ex) equipment. The real-world experience of handling equipment, tightening bolts, and troubleshooting systems cannot be fully replicated in virtual environments.

Competence in the transition to renewables

As industries transition to renewable energy sources, particularly hydrogen, the scope of competence requirements expands. Hydrogen presents distinct hazards compared to traditional fuels, requiring specialised knowledge and training. Workers must be competent, not only in traditional hazardous area classifications, but also in understanding hydrogen's unique risks and explosion characteristics.

This shift requires:

- Training in hydrogen-specific hazardous area risks
- Competence development in new installation and maintenance techniques
- Cross-sector knowledge transfer for workers transitioning from traditional petroleum backgrounds

The cost of incompetence: legal and insurance considerations

Beyond operational efficiency, competence management has direct implications for legal liability and insurance coverage. In the event of an incident, companies are



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required to provide documented evidence proving that personnel were competent in their roles. A single training certificate is insufficient; regulatory bodies and insurers require a comprehensive record of competence development, including ongoing training, peer reviews, and work sample assessments.

Failure to maintain a documented competence management system can result in:

- Regulatory fines and operational shutdowns
- Increased insurance premiums or denial of claims
- Legal liability in case of accidents due to inadequate training or competence verification

Insurance companies operate on a presumption of competence but conduct reactive investigations post-incident. If evidence of periodic competence validation is lacking, companies may face significant financial and reputational consequences.

Future-proofing workforce competence

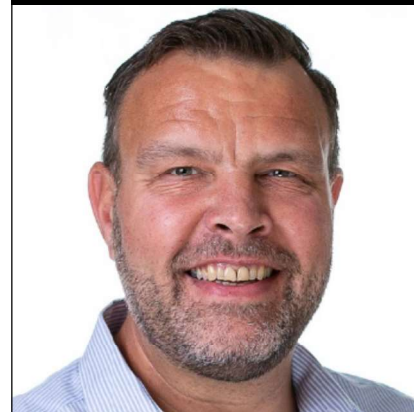
Competence is not a static achievement but a continuous process. Organisations should:

- Invest in structured competence management systems
- Conduct regular internal assessments and peer reviews
- Stay ahead of regulatory and technological changes
- Integrate CPD into workforce development strategies
- Foster a safety-first culture where

competence is valued beyond certification

While training is a key component, true competence requires continuous assessment to confirm that individuals apply their skills effectively in real-world environments. By embedding competence into every aspect of operations, organisations can enhance safety, improve efficiency, and secure long-term compliance in an ever-changing industrial landscape. ■

About the author



Martin Constable, Operations Director at EPIT Group, brings over 25 years of experience in electrical engineering and professional training within high-risk, industrial environments. Since joining EPIT in 2010, Martin has played a pivotal role in shaping the organisation's training delivery, operational efficiency, and client-focused approach. With a background in electrical engineering in the energy and drilling support sectors, Martin's practical expertise underpins his commitment to raising safety and competency standards across hazardous industries.