

## Use advanced technologies to support drilling operations

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### Overview

#### **What is this standard about?**

This standard states the skills and knowledge required to demonstrate competence in using advanced technologies to support drilling operations. Advanced technologies, based on information and communication technologies (ICT) are increasingly being used to support drilling operations by improving communications, accurate positioning and repositioning, controlling and monitoring drilling machine performance. The standard applies to new drill rigs incorporating the technological equipment, and older rigs that have had advanced technological equipment and functions retro-fitted. The standard includes an understanding of the technologies and using them to provide information, set up the drill rig and perform drilling operations.

#### **Who is this standard for?**

This standard applies to operators of drill rigs that incorporate advanced technologies. They are likely to already have some competencies in drilling operations; they do not have to be competent in generic ICT skills and knowledge. The standard applies only to those advanced technologies used on drill rigs.

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### Performance criteria

You must be able to:

- 1 obtain and interpret information on the **advanced technologies** on the drill rig
- 2 initiate operation of the **advanced technologies**
- 3 check the **advanced technologies** are available and operational to designed parameters
- 4 carry out drilling aided by **advanced technologies**
- 5 monitor drilling and drill rig performance using **advanced technologies**
- 6 monitor the performance of the **advanced technologies**
- 7 shut down the **advanced technologies**
- 8 carry out work activities in conformance with the approved policies, procedures and practices for the use of the advanced technologies, the work activity and the working environment

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### Knowledge and understanding

You need to know and understand:

- 1 the sources of information on the **advanced technologies**
- 2 the range, quality and quantity of the information and services provided by the **advanced technologies**
- 3 methods to initiate, check operation, use, monitor and shut down the **advanced technologies**
- 4 problems that can occur with the use of **advanced technologies**
- 5 the consequences of faulty or misused **advanced technologies**
- 6 actions to be taken should the **advanced technologies** be non-operational, faulty or not working to expectations
- 7 actions to be taken should the **advanced technologies** fail to produce the specified outcomes
- 8 methods of communication and reporting arrangements for the work activity, and the work area
- 9 the approved policies, procedures and practices for the use of the advanced technologies, the work activity and the working environment

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### Scope/range

**1 approved policies, procedures and practices:** legislative/regulatory, organisational, operational, accident or emergency, health and safety, first aid, and environmental as appropriate to the work activity

**2 advanced technologies:** to achieve the standard the operator must carry out drilling using advanced technologies (probably but not essentially ICT based) to complete at least three of the following operations: positioning the drill rig; automatic re-positioning the drill rig; carrying out prestart checks; monitoring drilling performance; adjusting drilling performance; adjusting drilling direction; monitoring drilling rig performance; improving environmental performance (for example by carbon reduction or noise reduction); fault diagnosis; recording and reporting results.

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