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| | **Unit ID: E024** |
| **Domain** | **ELECTRONICS** |
| **Title:** | **Upgrade Electronics Systems** |
| **Level: 4** | **Credits: 5** |

**Purpose**

This unit standard specifies the competencies required to upgrade electronics systems. It includes planning for upgrading, installing upgrades, and re-commissioning of the upgraded system. This unit standard is intended for those who work in electronics industry.

**Special Notes**

1. Entry information:

   Prerequisite

   - *Unit E01 - Apply health and safety rules and regulations in electronics workplace*
   - *Unit E01 - Plan and organise work in electronic work environment*
   - *Unit E018 - Install Electronic systems*

2. To demonstrate competence, minimum evidence of the ability to plan, install and commissioning of at least two electronic systems is required

3. Assessment evidence may be collected from a real or a simulated workplace in which electronics operations are carried out.

4. Glossary of terms:
   - *'specifications' refers to any, or all of the following: manufacturers' specifications and recommendations, workplace specific requirements.*

5. Regulations and legislation relevant to this unit standard include the following:
   - Labour Act, No. 11, 2007
   - Occupational Health and Safety Regulations No. 18, 1997

and all subsequent amendments.

**Quality Assurance Requirements**

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority on www.nta.com.na

## Elements and Performance Criteria

### Element 1: Plan for upgrading

**Range**
Electronics systems to be upgraded include access control system, surveillance system, alarm system, telemetry system, computer system, monitoring and control systems etc

**Performance Criteria**

1.1 Need for system upgrade is identified.

1.2 Types of systems to be upgraded are identified and the location determined.

1.3 Upgrade alternatives are identified and analysed.

1.4 Upgrade manual is interpreted.

1.5 Upgrade schedule is developed based on upgrade manual.

1.6 Upgrade resources are identified and selected.

1.7 Upgrade budget is prepared in terms of materials and time required.

1.8 System upgrade plan is interpreted and communicated to the relevant personnel.

### Element 2: Install upgrades

**Range**
Electronics systems to be upgraded include access control system, surveillance system, alarm system, telemetry system, computer system, monitoring and control systems etc. This may include hardware/software upgrade.

**Performance Criteria**

2.1 Upgrade activities are carried out in accordance with manufacturer's instructions, company procedures and regulatory requirements.

2.2 Upgrade is completed within negotiated time frames.

2.3 Upgrade documentation is prepared, filed in accordance with company practice and communicated to the relevant personnel.

### Element 3: Re-commissioning of the upgraded system

**Range**
Electronics systems to be commissioned after upgrades include access control system, surveillance system, alarm system, telemetry system, computer system, monitoring and control systems etc

**Performance Criteria**

3.1 Acceptance tests are conducted.
3.2 Electronic system is handed over.

## Registration Data

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| **Subfield:** | Electrical Engineering |
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| **Date first registered:** | |
| **Date this version registered:** | |
| **Anticipated review:** | |
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| **Body responsible for review:** | Namibia Training Authority |