CNet Training
An Uptime Education Company

The Digital Infrastructure Industry and Career Overview

cnet-training.com/resettlement

Trusted Resettlement and Ex-forces Education for 26 Years

Since 1996, CNet Training has educated thousands of Service Leavers, providing them with the skills, hands-on experience and sought after qualifications to enter the lucrative network cable and data centre sectors. Today, CNet is the only industry dedicated education provider in the world to provide both internationally recognised qualifications and official certification for their programs.

CNet is the originator of The Global Digital Infrastructure Education Framework which forms the benchmark education for the industry across the world. It maps professional education programs to actual career routes and progression throughout the industry allowing learners to enhance their skills, knowledge, industry recognised qualifications and official certifications as they progress. And, of course, many programs are eligible for ELC funding allowing Service Leavers extra help to continue to progress their careers. CNet is also proud to be a CTP Preferred Supplier, allowing ease of access to high quality knowledge delivering sought after qualifications and certifications.

Every CNet technical education program has been carefully designed to blend technical knowledge with essential hands-on skills that are needed for the industry. We have an on-going schedule to regularly review the content of each program to ensure it reflects the very latest changes in technology, in addition to preparing students for possible new and emerging industry trends that are just around the corner. Plus, working alongside major companies in the industry CNet Training ensures each program content continues to meet the needs of the industry today and reflects the emerging future trends.

CNet believe that it's the combination of program design, alongside the quality of expert Instructors, many of whom are ex-Forces themselves, that form the secret of their on-going success.

To talk about your new career or, if you are already in the industry and want to progress your knowledge further, please do contact us. We have a number of ex-forces personnel in our team, so we are able to relate to your circumstances and understand the importance decisions you are making, so we can help you every step of the way. **You can email resettlement@cnet-training.com, call us on 01284 767100 or visit cnet-training.com/resettlement**

CNet Receives Gold Defence Employer Recognition Award

CNet Training has been awarded Gold in the Defence Employer Recognition Awards that recognises CNet's on-going support to the Armed Forces Community in the UK. Following on from signing the Armed Forces Covenant and being awarded Bronze and Silver, Gold award recognises CNet as an organisation that is actively supporting the Armed Forces Community and has put positive HR policies in place and shows continued encouragement for our team Reservists.

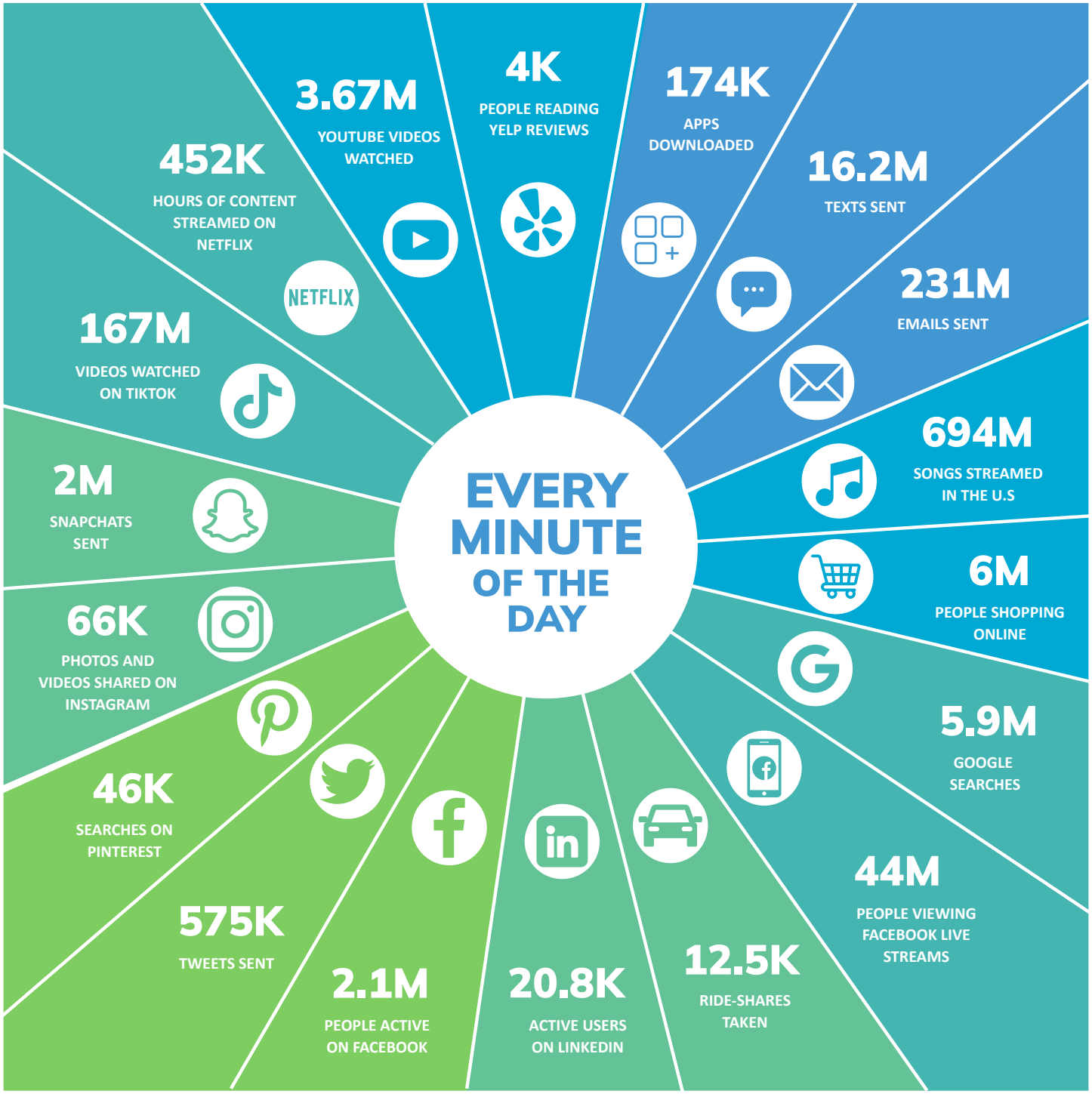
ARMED FORCES COVENANT

EMPLOYER RECOGNITION SCHEME

GOLD AWARD

The Network Cable Infrastructure Sector

Everyone relies on network cable infrastructure and often without realising. Whether it is to check emails, manage traffic lights, maintain safety through air traffic control, watch Netflix, run a global organisation or utilise technology without even knowing.



This Is What Happens In An Internet Minute

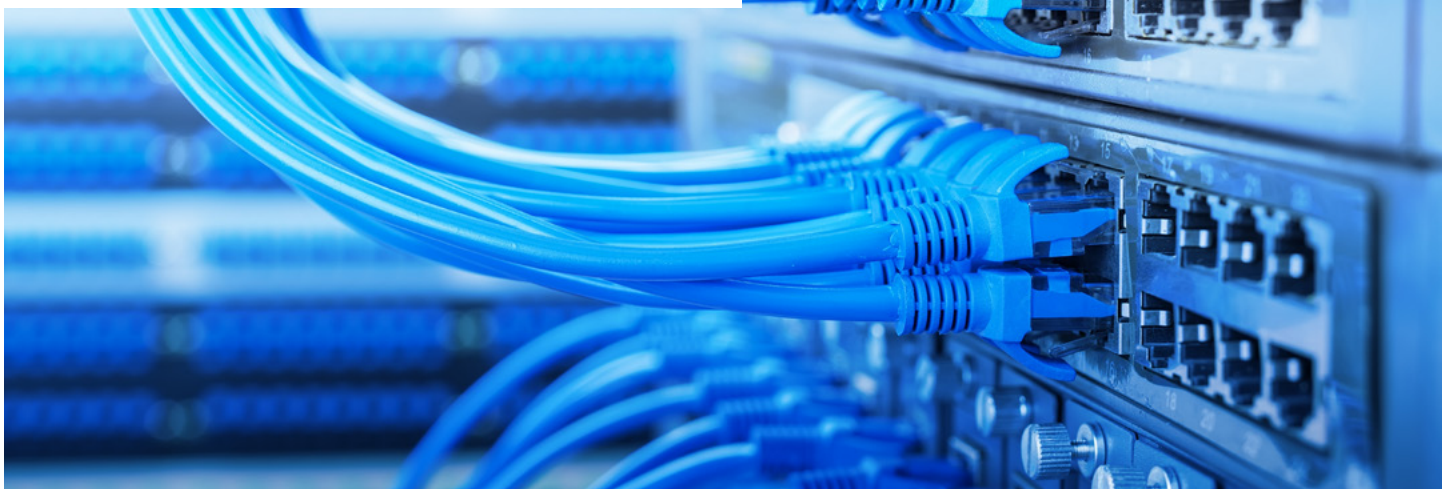
Commonly referred to as the 4th utility and likened to other essential utilities such as water, electricity and gas, Broadband relies on copper and fibre optic network cable infrastructure which is absolutely critical to maintain the flow of communication services.

CNet's network cable infrastructure technical education programs are the only industry dedicated programs to award both official certifications and internationally recognised qualifications, they provide credentials that are sought and required within job role specifications across the UK and beyond. CNet's programs focus on accuracy and quality of work deemed essential in order to maintain service availability.

Career Opportunities

Career Opportunities Within Network Cabling are Strong.

Considering the world relies on the network cable infrastructures it's a sector that is only set to grow and those who are able to prove their skills and knowledge with a certification and qualification are in demand. Many installation companies are keen to employ certified individuals; indeed, the Certified Network Cable Installer (CNCI®) program and certification is often stated as a must-have within tender documentation for new builds and refurbishment projects across the UK.



A Growing Market

Smart buildings, smart homes and the Internet of Things (IoT) are dominating the digital infrastructure sector at the moment, with the global smart building market size expected to reach USD 109.46 Billion by 2026 (Fortune Business Insights).
IoT technologies deliver comfort, security and energy efficiencies across the entire range of industrial, healthcare, commercial and domestic buildings using smart control devices on an integrated network platform.

Underpinning this capability is the network, a combination of active network switching and passive cabling components that deliver the communications path, where the big game-changer of the day is Power over Ethernet (PoE). PoE delivers operating power to the device from the network switch, routing through the data cable. With Category 6A cable being generally accepted as the minimum requirement for PoE projects, the demand for network upgrades is expected to rise significantly. **Global PoE market is expected to reach $1,048.2 million USD by 2022** dominating the Wide Area Network (WAN) environment are the high-profile strategies to deliver full fibre broadband to all homes and businesses and the 5G infrastructure roll-out.

Both technologies require high speed, low latency networks to deliver their respective services, with singlemode optical fibre being the preferred solution. The UK government alone is recommending an investment of £30bn to upgrade legacy national infrastructure to 'full fibre' solutions (House of Commons Library). Mainstream Internet Service Providers (ISPs) and Alternative Service Providers (Alts) are ramping-up projects to deliver the significant amount of fibres required and are turning to mass-fibre optic cables, high density ribbon based solutions delivering up to 1728 fibres in a 22mm diameter cable.

Who Could You Work For?

Certifications are in Demand

CNet's certifications are shaping the future of the network infrastructure industry as the industry standard certifications for those working throughout the network cabling and data centre sectors.

The Certified Network Cable Installer (CNCI®) certification in particular has become sought after. The certification, has been fully embraced and approved by major industry organisations, who are specifying it as the new 'must have' official certification for their cable installation teams. Having this accolade from the sector itself confirms the importance of this knowledge and certifications The CNCI® is also specified by The Royal Signals for their technicians.

The CNCI® is dedicated to providing cable installers with everything they need to confidently and accurately prepare, install, test and certify copper and fibre cabling systems, specifically for those wishing to demonstrate the highest levels of knowledge, skills and expertise in network infrastructure. Blending a perfect mix of theoretical study and practical exercises the CNCI® certifies individuals' ability to work to the correct cabling standards and follow the recommended codes of practice when undertaking cable installation projects. See below copies of actual consultant specifications which show just how important the CNCI® certification is. Read further into this brochure to read the full details of the CNCI® program and others spanning the network cable infrastructure and data centre sectors.

Minimum of 50% of Installation Personnel to be Certified Network Cable Installer (CNCI®) Certified

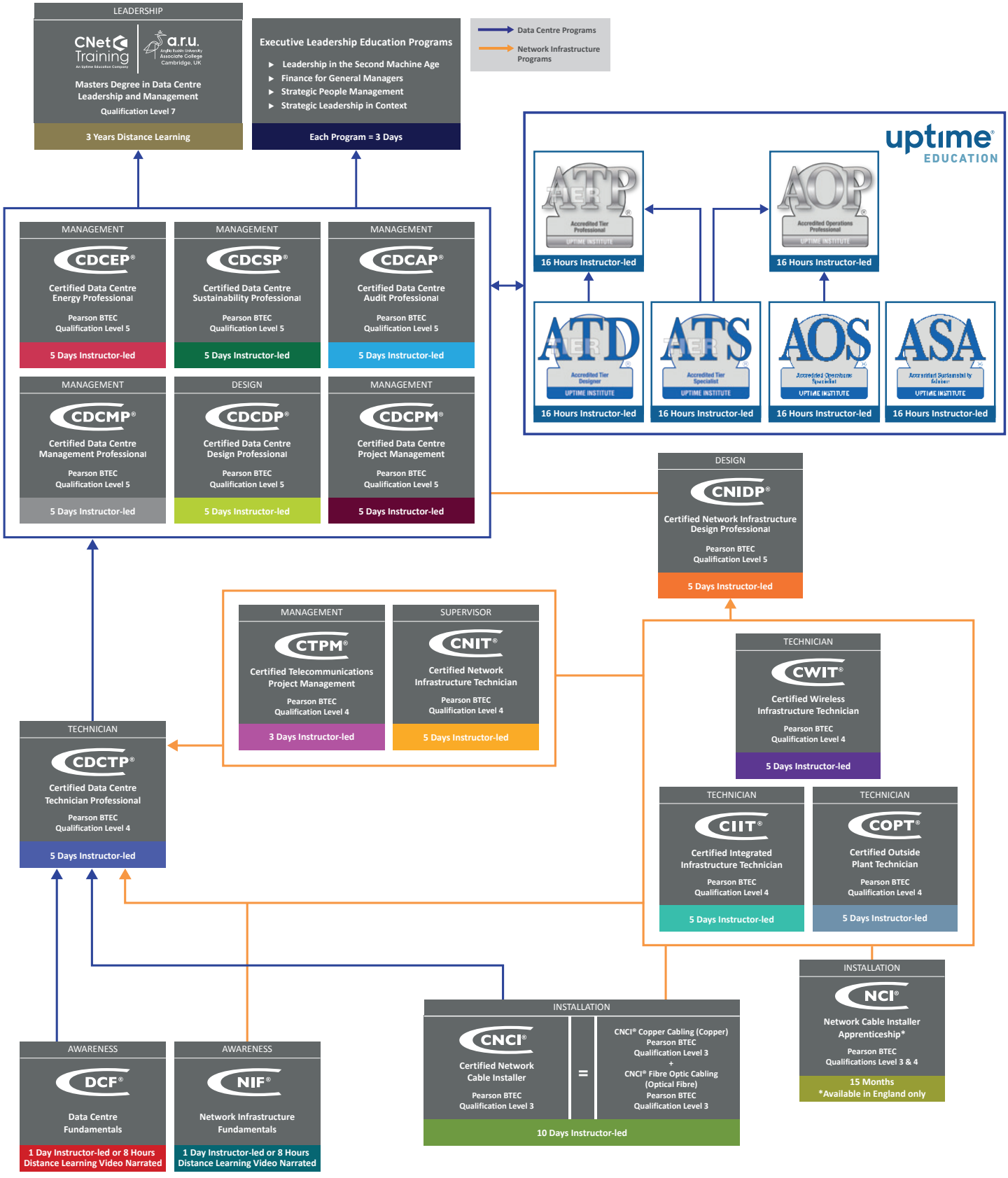
The SCC shall ensure that a minimum of 50% of installation personnel proposed for this project are CNCI® certified. A paper or electronic copy of the SCC accreditation shall be submitted prior to the installation of the cabling system commencing. The SCC shall provide commitment to this requirement at tender stage, shall ensure that the relevant documentation is submitted four weeks prior to works commencing on site and understand that site personnel credentials will be subject to qualification. The SCC shall provide details of additional qualifications (i.e. CNIT® or CNID®) that will be held by directly employed personnel during the projected installation programme and their proposed relationship to the project (i.e. as a designer or site manager etc.). Where CNCI® certification is recognised or accepted by the SCSM in conjunction with their installation and warranty requirements, the SCC shall provide documented evidence to support this. The SCC shall identify any discrepancies between the CNCI® certified installation requirements and the SCSM installation requirements, along with the proposed mitigation to resolve such discrepancies.

Minimum of 50% of Personnel Undertaking the Installation will be Certified Network Cable Installer (CNCI®)

Cordless Consultants require that a minimum of 50% of personnel undertaking the installation of the SCS will be CNCI® qualified. This requirement has been put in place to help ensure the quality of the SCS installation expected by Cordless Consultants and The Client is achieved. The Tenderer shall confirm in its response whether it is able to achieve this requirement and provide a statement committing to meet this requirement. The Tenderer shall also state in its response any other relevant qualifications (e.g. CNIT® and CNID®) held by its personnel proposed to work on this project. The sub-contractor must also provide personnel trained to the required level to provide the SCS manufacturer's warranty, if this differs from the above. As part of its Quality Assurance process, to ensure the requirements above are being undertaken, Cordless Consultants will undertake checks of the credentials of onsite personnel.

Industry Career Progression

Each program on CNet Training's highly acclaimed Global Digital Infrastructure Education Framework has been designed to address the skills and knowledge requirements of those working in different areas of these vibrant and fast moving sectors. Whilst the programs flow perfectly from one to another they are of equal value as stand alone programs, plus you can enter the framework at any level depending on your level of experience.



Resettlement and Enhanced Learning Credits (ELC) Funded Education Programs

ELC will fund up to 80% of the maximum value, based on the individual's tier (lower/higher).

	What is included	Duration	ELCAS Price
CNCI®	Certified Network Cable Installer (CNCI®)	10-day Classroom program 10-day work placement	£2,994
CIIT®	Certified Integrated Infrastructure Technician (CIIT®)	5 Day Classroom Program	£2,394
COPT®	Certified Outside Plant Technician (COPT®)	5 Day Classroom Program	£2,394
CWIT®	Certified Wireless Infrastructure Technician (CWIT®)	5 Day Classroom Program	£2,394
CNIT®	Certified Network Infrastructure Technician (CNIT®)	5-day Classroom Program or Remote Attendance	£2,394
CTPM®	Certified Telecommunications Project Management (CTPM®) *	3-day Classroom Program or Remote Attendance	£1,554
CNIDP®	Certified Network Infrastructure Design Professional (CNIDP®)	5-day Classroom Program or Remote Attendance	£4,554
CDCTP®	Certified Data Centre Technician Professional (CDCTP®)	5-day Classroom Program 10-day work placement	£3,300
CDCDP®	Certified Data Centre Design Professional (CDCDP®)	5-day Classroom Program or Remote Attendance	£5,994
CDCMP®	Certified Data Centre Management Professional (CDCMP®)	5-day Classroom Program or Remote Attendance	£5,994
CDCAP®	Certified Data Centre Audit Professional (CDCAP®)	5-day Classroom Program or Remote Attendance	£5,994
CDCEP®	Certified Data Centre Energy Professional (CDCEP®)	5-day Classroom Program or Remote Attendance	£5,994
CDCSP®	Certified Data Centre Sustainability Professional (CDCSP®)	5-day Classroom Program or Remote Attendance	£5,994
CNet Training / a.r.u. Masters Degree in Data Centre Leadership and Management	Masters Degree in Data Centre Leadership and Management	3 Years Distance Learning	£18,000

***Certified Telecommunications Project Management (CTPM®) - 20% personal contribution still applies and any remaining funds in claim, if on a high tier, will be lost.**

ELC Funding

Before being eligible to make an ELC claim, individual scheme members must have completed no less than six years eligible service (lower tier).

The lower tier (six years service or more) of funding is up to £1,000 per claim instalment

The higher tier (eight years service) is up to £2,000 per claim instalment.

Only service accumulated since 1st April 2000, may be counted as eligible service for the purpose of the ELC Scheme.

Service leavers are entitled to make three ELC claims in total. They can only make one claim per financial year (1 April - 31 March), however if they have served between 6 and 8 years they are eligible to aggregate all three claims together.

Work Placement

Work placement is an added value service CNet provides with the Certified Network Cable Installer (CNCI®) program. Following the CNCI® program Service Leavers are placed with a cable installation company for a 10-day work placement. The CNet team arrange the placement for you so you can gain valuable on-the-job hands-on experience. Plus, some cable installation companies are currently recruiting so we will urge you to treat the placement as a two-week job interview to really demonstrate your skills, ability and enthusiasm to maximise the chances of being offered employment with the company.

Typical Roles and Salaries

Job Title	Responsibilities	Salary
Cabling Engineer	Cable installation, termination and testing of copper and fibre cabling	£25-50k
Site Supervisor/ Lead Engineer	Supervising and delivering complex infrastructure projects within site environments	£35-60k
Project Manager	Produce and implement project plans and activities, and motivate teams, to manage project through to a successful completion	£40-70k
Data Centre Technician	Install, configure, test, troubleshoot and maintain hardware components and server software. Configure complex components. Ensure the data centre facility is operated and maintained to the highest possible standards	£35-55k

Career Insight

CNet's highly acclaimed Global Digital Infrastructure Education Framework offers professionals throughout the industry the opportunity to plan knowledge enhancement in line with actual career progression. Below, is the Resettlement and Forces Leaver Education Framework that provides insight into the recommended education programs based on your current experience.

Operations Package		Technical Package
Masters Degree in Data Centre Leadership and Management	**Officer** **Warrant Officer**	Masters Degree in Data Centre Leadership and Management
Certified Data Centre Management Professional (CDCMP®)	**Senior NCO**	Certified Network Infrastructure Design Professional (CNIDP®) Certified Data Centre Design Professional (CDCDP®)
Certified Network Infrastructure Technician (CNIT®) Certified Telecommunications Project Management (CTPM®)	**Junior NCO**	Certified Network Cable Installer (CNCI®) Certified Network Infrastructure Technician (CNIT®) Certified Integrated Infrastructure Technician (CIIT®) Certified Outside Plant Technician (COPT®) Data Centre Fundamentals Certified Data Centre Technician Professional (CDCTP®)
Certified Network Cable Installer (CNCI®)	**Seaman** **Private** **Airman**	Certified Network Cable Installer (CNCI®)

INSTALLATION

Certified Network Cable Installer

Pearson BTEC Level 3 Awards (Copper & Optical Fibre)

10 Day Program

Demonstrate the highest levels of knowledge, skills and competency in network cable infrastructure.

Program Overview

The Certified Network Cable Installer (CNCI®) resettlement program is for Service Leavers wishing to demonstrate the highest levels of knowledge, skills, expertise and competency in network cabling infrastructures and offers a real opportunity to gain employment.

Undertake copper and fibre cabling installation, termination and testing to the highest quality whilst complying to industry best practice and standards to ensure a right first-time approach.

The Certified Network Cable Installer (CNCI®) has become the industry preferred certification for network cable installation and is specified as a requirement on many job profiles and installation project contracts. In addition, manufacturers, major installation companies, associations and consultants endorse the certification knowing that it provides the right level of technical knowledge, competence and confidence to the industry.
In recognition of the CNCI® certification, many manufacturers also award accreditations towards their product warranties.

The CNCI® resettlement program is perfect for Service Leavers, combining the ten-day program with a further **ten-day work placement** with one of the major cable installation companies with the potential for employment.

This comprehensive ten-day program offers the perfect mix of technical knowledge and practical activities for both copper and fibre component installation. Official CNCI® certification proves that an individual is certified to undertake network cable infrastructure projects to the highest calibre whilst working to the current national and international industry standards and industry best practice. During the program learners will be provided a valuable opportunity to access the latest industry standards.

Having successfully completed this program, and with the appropriate level of experience, it is highly recommended that you continue your professional development by advancing your knowledge and skills to gain further official certifications and qualifications by progressing through The Global Digital Infrastructure Education Framework which maps education programs to career advancement throughout the network infrastructure and data centre sectors.

The CNCI® program is classroom-based and led by one of CNet's expert Instructors.

Program Duration

- 5 Day CNCI® Copper Cabling
- 5 Day CNCI® Fibre Optic Cabling
- 10 Day Work Placement

Program Format

50% Theory, 50% Practical

Program Objectives

Service Leavers will gain the knowledge and skills to confidently install, test and certify a complete copper and fibre optic cable installation. This forms part of the entry level requirement into the Global Digital Infrastructure Education Framework which enables individuals to progress their knowledge, education and skills inline with their careers within these fast moving industries. See **cnet-training.com** to view the Global Digital Infrastructure Education Framework.

Learner Profile

The CNCI® resettlement program is perfect for Service Leavers wishing to acquire the very latest skills and knowledge to enable them to complete both copper and fibre cable installation projects to the highest standards.

Pre-requisites

No previous experience is required to attend this program.

Program Requirements

Learners are required to have:

- A laptop or suitable device with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for opening and reading PDFs. Typically, your device's in-built PDF reader is sufficient

Qualification

- Pearson BTEC Level 3 Award in Certified Network Cable Installer (Copper)
- Pearson BTEC Level 3 Award in Certified Network Cable Installer (Optical Fibre)

Certification

- Official Certified Network Cable Installer (CNCI®) certification
- Use of the CNCI post nominal title
- Use of the CNCI® logo
- Use of the official CNCI® digital badge
- Fluke CCTT™ certification

Certifications are a commitment to lifelong learning and offer the perfect portal to ensure knowledge, skills and certification remain current and up-to-date. Each certification gained requires re-certifying every three years via an online learning management system.

Additional Awards

- Eligibility for an ECS (Electrotechnical Certification Scheme) Network Infrastructure Installer (Level 3) card (only available in the UK)
- Continual Professional Development (CPDs)
- 10 IEEE Continued Education Units (CEUs)

Certified Network Cable Installer (CNCI®) Topics

CNCI® Copper Cabling

Introduction to Structured Cabling
- Cable media types
- Network topologies
- Categories

LAN Hardware
- PCs, switches, routers

Installing Structured Cabling
- National and international standards
- Interpreting drawings
- Risk evaluation
- Working in containment routes
- Cable installation, cable termination
- Tool and equipment selection

Network Overview
- What is a network?
- Characteristics of a network
- Resource sharing

Signal Theory
- Electrical principals
- DC current principals
- Analogue versus digital

Health & Safety
- Legislation
- Workplace risk
- Electrical safety
- Working at heights
- Working in confined spaces

Standards
- Why standards?
- Standard bodies, BSI, ISO, CENELEC, TIA/EIA
- Relationships between standards
- Categories and classes

Fire Safety
- Why fire stop?
- Types of fire stopping
- Three pillars of fire stopping
- Construction Product Regulation (CPR)

Documentation & Labelling
- Floor plans
- Naming conventions
- Symbols
- Records

Testing & Commissioning
- Continuity testing
- Certification/ acceptance testing
- Level IV testing
- Saving of results to database
- O & M manuals

Practical
- Patch cord manufacture
- Cable installation
- Termination techniques UTP/STP
- Patch panel/outlet termination, Cat 5e/ Cat6

Fluke CCTT™ (Copper)
- Copper certification (DSX)
- Set up DSX
- Test using DSX
- Troubleshoot
- Test standards/limits
- DSX diagnostics
- HDTDX and HDTDR

CNCI® Optical Fibre Cabling

Safely Working with Fibre/General Safety
- LED, VCSEL, laser safety
- Fibre preparation hazards, disposal of sharps
- Hazardous substances
- OSP safety, pits, gas detection
- General safety

Network Overview
- History of fibre
- Advantages
- What is a network?
- Benefits of a network
- Topologies
- Why a network?

Hardware
- Cable construction
- LED, VCSEL, laser sources
- Switches, routers, media converters

Theory of Light Transmission
- Optical windows
- Electromagnetic spectrum
- Transmission
- Media choice

Cable
- Construction
- Choice of cable
- Installation practices
- Patch cords

Enclosures
- ODF
- 19” splice tray
- Slack fibre management, protection, patch field

Standards
- Standards bodies BSI, ISO, CENELEC, TIA/EIA
- Classifications
- Application distances

Connectors
- Connector types
- Functionality
- Density (SFF)

Outside Plant (OSP)
- Fibre backbone to the LAN
- Hardware
- Media choice

Fibre Splicing
- Safety
- Fusion splicer set up and operation
- Single-mode programs
- Multi-mode programs
- Splicing in patch panels

Fibre Termination
- Safety
- Pigtail manufacture
- Techniques, cold cure, mechanical splice, fusion splice
- End-face inspection techniques

Fluke CCTT™ (Fibre)
- Tier 1 fibre certification (CertiFibre® Pro)
- Tier 2 fibre certification (OptiFibre® Pro)
- Encircled Flux (EF)
- End-face inspection
- Set a reference
- OTDR event types
- OptiFibre® Pro link testing

There are a number of individual practical activities and assignments leading to a group installation project.

“The CNCI® is a must have program for installers. It gives in-depth details on cable installation, proper handling and testing.”

CNCI® Learner Comment

CNCI® Benefits for Individuals

- Become one of the elite certified network cable installers in the country
- Demonstrate the highest levels of knowledge, skills and expertise in network infrastructure installation
- Confidently install copper and fibre cable correctly in accordance with industry best practice and in compliance with national and international standards
- Plan individual tasks, and the materials required, accurately and with confidence
- Demonstrate a sound knowledge of personal health and safety risks and take practical steps to mitigate them
- Become proficient at selecting the correct products to effectively construct pathways and containment systems to support cable infrastructure
- Install copper and fibre network cable infrastructure projects on time and within budget, maximising profit potential
- Possess the skills and aptitude to test and certify installed copper and fibre cable infrastructure in accordance with the correct test criteria

CNCI® Benefits for Businesses

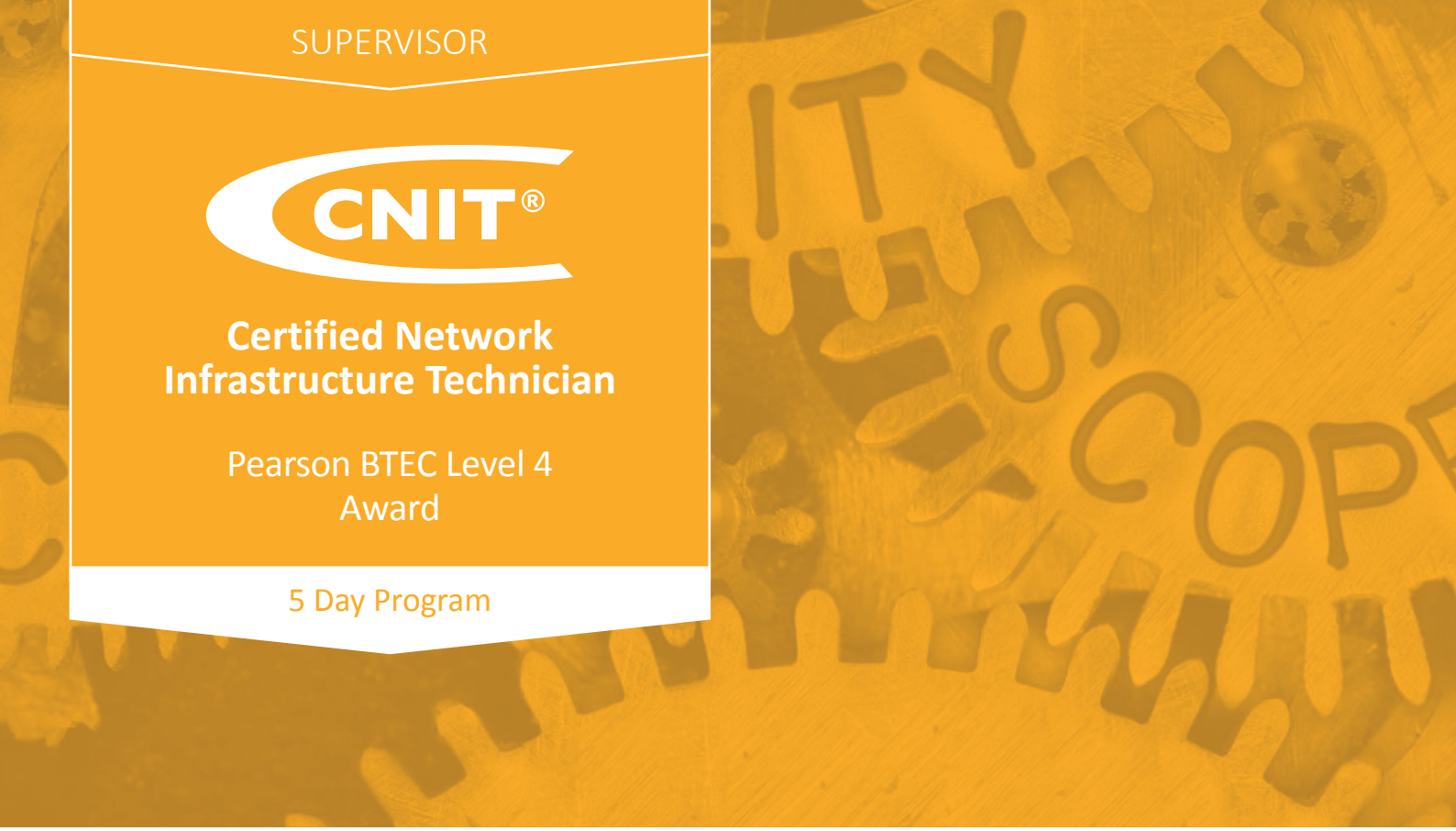
- Competitive edge, certified, qualified and add value to tender responses
- Knowledge that employees have a full and rounded knowledge in network infrastructure installation, improving competency and productivity
- Reduced time and material wastage as employees are equipped to carry out tasks in an accurate and timely manner
- Deliver infrastructure installation projects to the highest quality standards resulting in increased client satisfaction and potential repeat business
- Confidence that health and safety best practice is being employed, mitigating the risk of potential red card action or loss of time due to injuries
- Reassurance that capacity limits are not exceeded, therefore ensuring value for money and conformance to client requirements
- Meet contractual requirements reducing sign off and project hand over times
- Ensures that network infrastructure is fully serviceable and meets the transmission requirements of the network

SUPERVISOR

Certified Network Infrastructure Technician

Pearson BTEC Level 4 Award

5 Day Program



Take your existing network infrastructure skills to new levels allowing you to successfully control and deliver major infrastructure projects.

Program Overview

The five-day Certified Network Infrastructure Technician (CNIT®) program develops the knowledge and skills required to perform the multifaceted role of delivering complex projects to the site. Learners will greatly enhance their supervisory and management skills through a series of complex case studies, mastering the knowledge and understanding required to interpret complex design documentation, the need to establish effective relationships and communications with principle stakeholders, and managing the end-to-end project implementation cycle. Learners will develop an aptitude for logistics and resource management, including team health and safety, and dealing with the risks and issues that can impact project delivery. A certified CNIT® will be undaunted when dealing with escalations and problem resolution within a strategic network infrastructure project. The impact to the project delivery of current and emerging networking technologies will also be explored, including wireless access, security systems and VOIP.

Learners will gain an in-depth knowledge of technical parameters for cable testing and will demonstrate confidence when dealing with escalations from installers undertaking cable testing. Experience will also be gained in the management of test records using cloud-based applications, from cable testing through to the delivery of warranty certificates to the customer. On successful completion, learners can demonstrate the highest levels of knowledge, competency and confidence in supervising the delivery of complex infrastructure projects, demonstrating efficiencies in both time and cost, coupled with a focus on quality and accuracy, to achieve project closure on time and within budget.

A certified CNIT® also considers the requirements for compliance, having a full understanding of national and international regulations, codes and standards. During the program learners will be provided a valuable opportunity to access the latest industry standards.

The CNIT® program is led by one of CNet's expert Instructors and is available via remote attendance or classroom-based.

Program Duration

5 days.

Program Format

50% Theory, 50% Case Study.

Program Objectives

Learners will gain the supervisory and management skills, knowledge and competency to confidently deliver complex infrastructure projects within site environments.

Learner Profile

This program is designed for those wishing to extend their knowledge, skills, qualifications and certifications into a wider and more complex project environment with emphasis on enhancing supervisory, leadership and management skills.

Pre-requisites

A minimum of two years installation experience within the network infrastructure sector is required. Successful completion of the Certified Network Cable Installer (CNCI®) program would be advantageous. If you would like to discuss your experience or suitability for this program, please contact us.

Program Requirements

Learners are required to have:

- A webcam and microphone enabled laptop with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for reading/annotating PDFs and a suitable application for editing standard office documents such as Microsoft Word, PowerPoint, and Excel

Qualification

- Internationally and industry recognised Pearson BTEC Level 4 Award in Certified Network Infrastructure Technician

Certification

- Certified Network Infrastructure Technician (CNIT®) certification
- Use of the CNIT post nominal title
- Use of the official CNIT® digital badge
- Use of the CNIT® logo

Certifications are a commitment to lifelong learning and offer the perfect portal to ensure knowledge, skills and certification remain current and up-to-date. Each certification gained requires re-certifying every three years via an online learning management system.

Additional Awards

- Eligibility for an ECS (Electrotechnical Certification Scheme) Network Infrastructure Supervisor card (only available in the UK)
- Continuing Professional Development (CPDs)
- 5 IEEE Continual Education Units (CEUs)

Certified Network Infrastructure Technician (CNIT®) Topics

Role of the CNIT®
- Within:
  - The core layer
  - The distribution layer
  - The access layer

Fundamentals of Network Architecture
- Networking protocols
- Ethernet
- Network architecture
- Active network devices
- 3 layer network topology
- Bandwidth demand
- Intelligent building infrastructure
- Internet of Things (IoT)
- Wireless network standards
  - 802.11 variations
  - IEEE standards
  - Frequency bands
  - Channel overlap
- Power Over Ethernet (PoE)

Compliance
- National/international standards
- Legislative requirements
- Good practice
- BS EN 50173 series
- BS EN 50174 series
- Other supporting BS EN standards
- Construction products regulations
- The approach to implementing standards

Design Documentation
- Active network design drawings
- Inside plant drawings
- Outside plant drawings
- Network equipment room design
- Bill of materials
- Patch lists
- Rack face layout

Health and Safety
- General requirements
- CDM requirements
- Permits and cards
- Legal requirements
- Risk
  - Identification
  - Evaluation
  - Mitigation
- Risk assessments and method statements
- Tool box talks

Network Implementation Management
- Outside plant
  - Manholes and building entry points
  - OSP cable run-out list
  - Material call off
  - Task planning
- Inside plant
  - Pathways and containment systems
  - Material call off
  - Task planning
- Quality Assurance

Fire Safety
- Regulations
- Compartmentation
- Fire stop rated materials
- Construction Product Regulations (CPR)

Test Procedures and Escalations
- Certification versus qualification
- Warranty requirements
- Testing principles
- Test standards
- Copper cabling
  - Custom setup
  - Channel testing
  - Requirements for PoE
  - Dealing with test failure escalations
- Optical fibres
  - Loss budgeting
  - Passive optical networks
  - Dealing with test failure escalation
  - Certification

OEM Software Project Structure
- Complex project structure
- Project creation
- Importing test results
- Cloud access
- Re-certification

Change Control
- MACs
- Evaluating impacts on:
  - Cost
  - Time
  - Material

Project Closure
- Red-line drawings
- Certification
- Site closure

"Lots to learn and put into motion. The CNIT® program gave me a greater insight into what I am doing and things I should be doing in my day-to-day. The Instructor was extremely knowledgeable with plenty to share."

CNIT® Learner Comment

CNIT® Benefits for Individuals

- Utilise new multi-disciplined supervisory knowledge to manage people and tasks confidently and competently
- Acquire new and improve existing technical skills, widening your scope of capability with up-to-date technology
- Gain greater understanding of project complexity enabling more effective delivery management
- Increased focus on service excellence resulting in a 'right first time' approach
- Raise awareness of stakeholders enabling more effective communications
- Improve ability to effectively manage teams, resulting in better team morale and performance
- Gain an industry recognised qualification and official certification

CNIT® Benefits for Businesses

- Added supervisory skills provides the ability to realise cost efficiencies through effective planning and manpower utilisation
- Improve confidence in project progression through accurate reporting
- Increase customer satisfaction leading to quicker project closure and final payment
- Greater opportunities for repeat business due to improved quality of service
- Implement a more structured delivery methodology through standardised task planning and strategies
- Investment in team development improves morale and job satisfaction leading to greater staff loyalty

TECHNICIAN

Certified Integrated Infrastructure Technician

Pearson BTEC Level 4 Professional Award

5 Day Program

Develop a 'smart hands' approach to infrastructure delivery and gain comprehensive knowledge of a range of intelligent devices that support smart building technical architecture.

Program Overview

The Certified Integrated Infrastructure Technician (CIIT®) program develops the knowledge and practical skills required to deliver network infrastructure projects, including the installation and commissioning of intelligent network devices. This comprehensive five-day program is perfect for those with at least two years of verifiable experience within the network infrastructure sector, or relevant qualifications and certifications in a wider project environment.

A certified CIIT® also considers the requirements for compliance, having a full understanding of national and international regulations, codes and standards. During the program, learners will be provided a valuable opportunity to access the latest industry standards.

Learners will explore the effect of bandwidth demand on the network, based on the operating parameters of a range of intelligent devices. In addition, the effects of power demand by Power over Ethernet (PoE) devices on the cable infrastructure will also be addressed.

Practical hands-on sessions are incorporated throughout this program, focusing on PoE network equipment architecture. Learners will also site and mount equipment to optimise coverage and direction, and will commission and configure devices into service. Such devices include wireless access points, AV systems, CCTV cameras and security control systems (both swipe access and biometric).

The CIIT® program is classroom-based and led by one of CNet's expert Instructors.

Program Duration

5 days.

Program Format

30% Theory, 20% Case Study, 50% Practical.

Program Objectives

Learners will gain the knowledge, competency and confidence to install and commission smart building technology devices. On successful completion, learners will be able to demonstrate the highest levels of technical skills and capability when installing wireless access devices, VoIP telephony, CCTV cameras, door access controls and biometric security systems.

Learner Profile

This program is designed for those wishing to extend their technical knowledge and further develop practical skill sets, with the aim of achieving a broader technical level capability, supported by professional qualification and certification.

Pre-requisites

A minimum of two years installation experience within the network infrastructure sector is required. Successful completion of the Certified Network Cable Installer (CNCI®) program would be advantageous. If you would like to discuss your experience or suitability for this program please contact us.

Program Requirements

Learners are required to have:

- A webcam and microphone enabled laptop with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for reading/annotating PDFs and a suitable application for editing standard office documents such as Microsoft Word, PowerPoint, and Excel

Qualification

- Internationally and industry recognised Pearson BTEC Level 4 Professional Award in Certified Integrated Infrastructure Technician

Certification

- Official Certified Integrated Infrastructure Technician (CIIT®) certification
- Use of the CIIT post nominal title
- Use of the official CIIT® digital badge
- Use of the CIIT® logo

Certifications are a commitment to lifelong learning and offer the perfect portal to ensure knowledge, skills and certification remain current and up-to-date. Each certification gained requires re-certifying every three years via an online learning management system.

Additional Awards

- Continual Professional Development (CPDs)
- 5 IEEE Continual Education Units (CEUs)

Ask Us About Apprenticeships

NCI®
Network Cable Installer
Apprenticeship

The First Government Funded Apprenticeship for Network Cable Installation Across England.

Includes CNCI® plus CIIT® certification. To find out more, visit cnet-training.com/nciapprenticeship

Certified Integrated Infrastructure Technician (CIIT®) Topics

Role of the CIIT®
- Understand 'intelligent buildings and technologies'
- Select and prepare equipment for installation
- Install terminal equipment
- Commission terminal equipment
- Troubleshoot installations

Data-communications
- Binary coding
- Internet protocol
- IP addressing

Standards and Compliance
- BSEN 50173-6
- Legislation and regulation
- Compliance
- Warranties

Power over Ethernet (PoE)
- Concept
- PoE standards and power ratings
- Power considerations and media selection
- PoE injection devices
- Network segregation

Virtual Local Area Networks
- VLAN structure
- Planning the VLAN
- Switch configuration
- Network security

Integrated Network Architecture
- PoE capable technology
- Bandwidth demand
- Planning
- Media considerations

Network Commissioning and Troubleshooting
- BSEN 50174 quality standards
- Network warranty
- Commissioning PoE channels

Practical Installation Tasks
- Prepare, install and commission
- Access control devices
- CCTV camera systems
- Wireless access points
- Audio visual systems
- PoE network switches
- Configure devices
- Troubleshoot network failures

There is a final case study which challenges learners to plan and prepare their practical installation tasks.

"I can't say enough how great I found the program. Really happy with the content and materials and I can take this forward into my day-to-day work."

CIIT® Learner Comment

CIIT® Benefits for Individuals

- Develop an increased technical knowledge and ability
- Enhance technical capability to deliver multidisciplined projects
- Greater potential for variety and increase job satisfaction
- Gain an industry recognised qualification and official certification

CIIT® Benefits for Businesses

- Enhance your delivery portfolio, leading to greater opportunities when project tendering
- Take control of normally external dependencies
- Realise cost savings through greater efficiencies
- Investment in team development improves morale and job satisfaction leading to greater staff loyalty

TECHNICIAN

COPT®

Certified Outside Plant Technician

Pearson BTEC Level 4 Professional Award

5 Day Program

Learn how to construct high capacity, high quality external fibre optic networks to meet the demand of smart technologies of the future, and the importance of Fibre To The Everything (FTTx).

Program Overview

Big data is getting bigger. The development of smart technology devices and the concepts of the Internet of Things (IoT), smart homes, smart buildings and smart cities are driving a significant demand for wider network accessibility. Improvements in wireless technology and the increased deployment of wireless access points, along with the rollout of small-cell technology (5G) aims to meet the growing demand for access. Underpinning all of this, as well as the UK government strategy for a 'full fibre broadband' access, is the need for a significant growth in the national fibre optic network structure.

The five-day Certified Outside Plant Technician (COPT®) program is a comprehensive program perfect for those with 2-3 years' experience within network infrastructure who wish to extend their knowledge, practical hands-on skills, qualifications and certifications into deployment of fibre optic connectivity in the external environment.

Learners can take their existing network cabling knowledge and skills to the next level by gaining a valuable insight into external fibre network distribution strategies, infrastructure components and installation methods. Passive Optical Networking (PON) features heavily as the primary delivery technology for fibre broadband to the home. Methods used for distribution will also feature, exploring the benefits and rationale behind the choice to distribute services underground or overhead.

Focused practical hands-on sessions are incorporated throughout this program, including the implementation of in-line splicing, high fibre-count distribution, Multi Dwelling Unit (MDU) cabinet installation and customer connection drops. Blown fibre practices also feature.

The duration of this program is five days; the content is comprehensive and detailed enabling network infrastructure professionals to add real value to their skills by including these complex areas in their product/service portfolio. A COPT® will be undaunted when dealing with complex external fibre networks, able to rationalise the network structure and understand the functions of installed components.

A certified COPT® also considers the requirements for compliance, having a full understanding of national and international regulations, codes and standards. During the program learners will be provided a valuable opportunity to access the latest industry standards.

The COPT® program is classroom-based and led by one of CNet's expert Instructors.

Program Duration

5 days.

Program Format

50% Theory, 50% Practical.

Program Objectives

Learners will gain the knowledge and practical skills to confidently install, test and certify fibre optic installations in the external environment.

Learner Profile

This program is designed for individuals experienced within the network cabling installation environment who wish to extend their hands-on practical skills, knowledge, qualifications and certifications in relation to fibre optic technology and infrastructure in the external environment.

Pre-requisites

A minimum of two years experience within the network infrastructure sector is required. Successful completion of the Certified Network Cable Installer (CNCI®) program would be advantageous. If you would like to discuss your experience or suitability for this program, please contact us.

Program Requirements

Learners are required to have:

- A webcam and microphone enabled laptop with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for reading/annotating PDFs and a suitable application for editing standard office documents such as Microsoft Word, PowerPoint, and Excel

Qualification

- Internationally and industry recognised Pearson BTEC Level 4 Professional Award in Certified Outside Plant Technician

Certification

- Official Certified Outside Plant Technician (COPT®) certification
- Use of the COPT post nominal title
- Use of the official COPT® digital badge
- Use of the COPT® logo

Certifications are a commitment to lifelong learning and offer the perfect portal to ensure knowledge, skills and certification remain current and up-to-date. Each certification gained requires re-certifying every three years via an online learning management system.

Additional Awards

- Continuing Professional Development (CPDs)
- 5 IEEE Continual Education Units (CEUs)

Certified Outside Plant Technician (COPT®) Topics

Role of the COPT®

- Planning external plant
- Construction of external pathways
- Working in the OSP environment

Regulations, Standards, Codes and Industry Best Practices

- Applicable BSEN Standards
- New Roads and Streetworks Act 1991
- Working in confined spaces
- Working at height

Fundamentals of Outside Plant Pathways Underground

- Route planning
- Pit and chamber construction
- Ducts and sub-ducts
- Building entry methods
- Blown fibre tubing
- Pathway security
- Installation methods

Fundamentals of Outside Plant Pathways Overhead

- Route planning
- Telegraph poles and other support structures
- Route stability
- Environmental clearances
- Wayleaves and pole sharing
- Pole route construction
- Installation practices

Passive Optical Networks

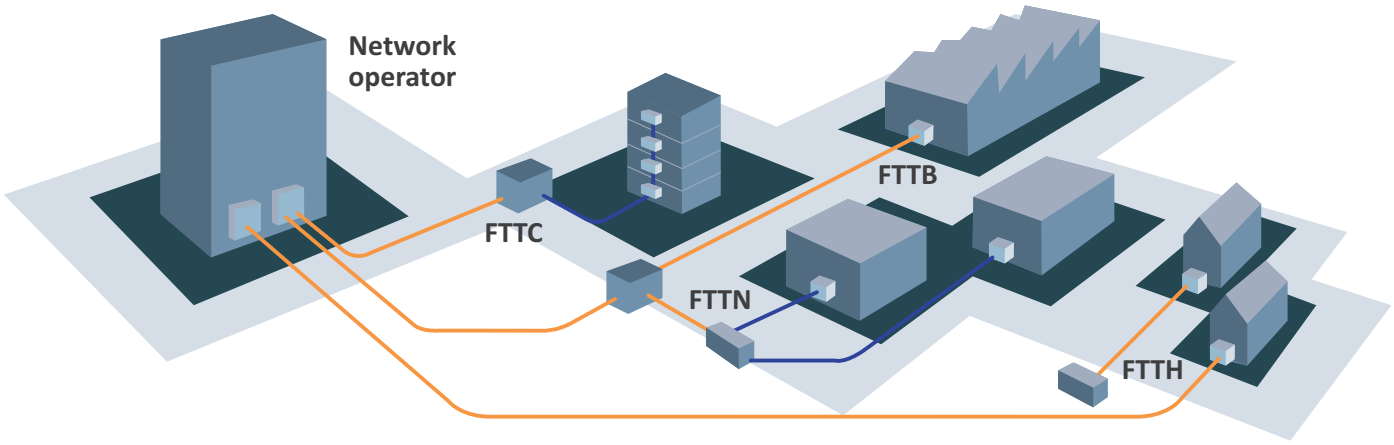
- Types; GPON, EPON, GEPON
- Wavelengths and bandwidth
- PON architecture
- PON components
- PON distribution methods

Testing External Fibre Optic Networks

- Tier 1 and Tier 2 testing requirements in the OSP environment
- Effects of passive splitters
- PON test methodology
- HD/TDR test functionality

Fibre To The Everything (FTTx)

- Fibre to the node
- Fibre to the curb
- Fibre to the building
- Fibre to the antenna
- Fibre to the home



"The COPT® program gave me a deeper understanding into the theory behind fibre connectivity, along with giving me the opportunity to take part in practicals where I could put the theory into practice."

COPT® Learner Comment

COPT® Benefits for Individuals

- Develop broader fibre knowledge and skills to gain greater opportunities in the industry
- Undertake work with much higher fibre counts using different termination techniques, building confidence with experience
- Increase technical knowledge and understanding of fibre network complexity

COPT® Benefits for Businesses

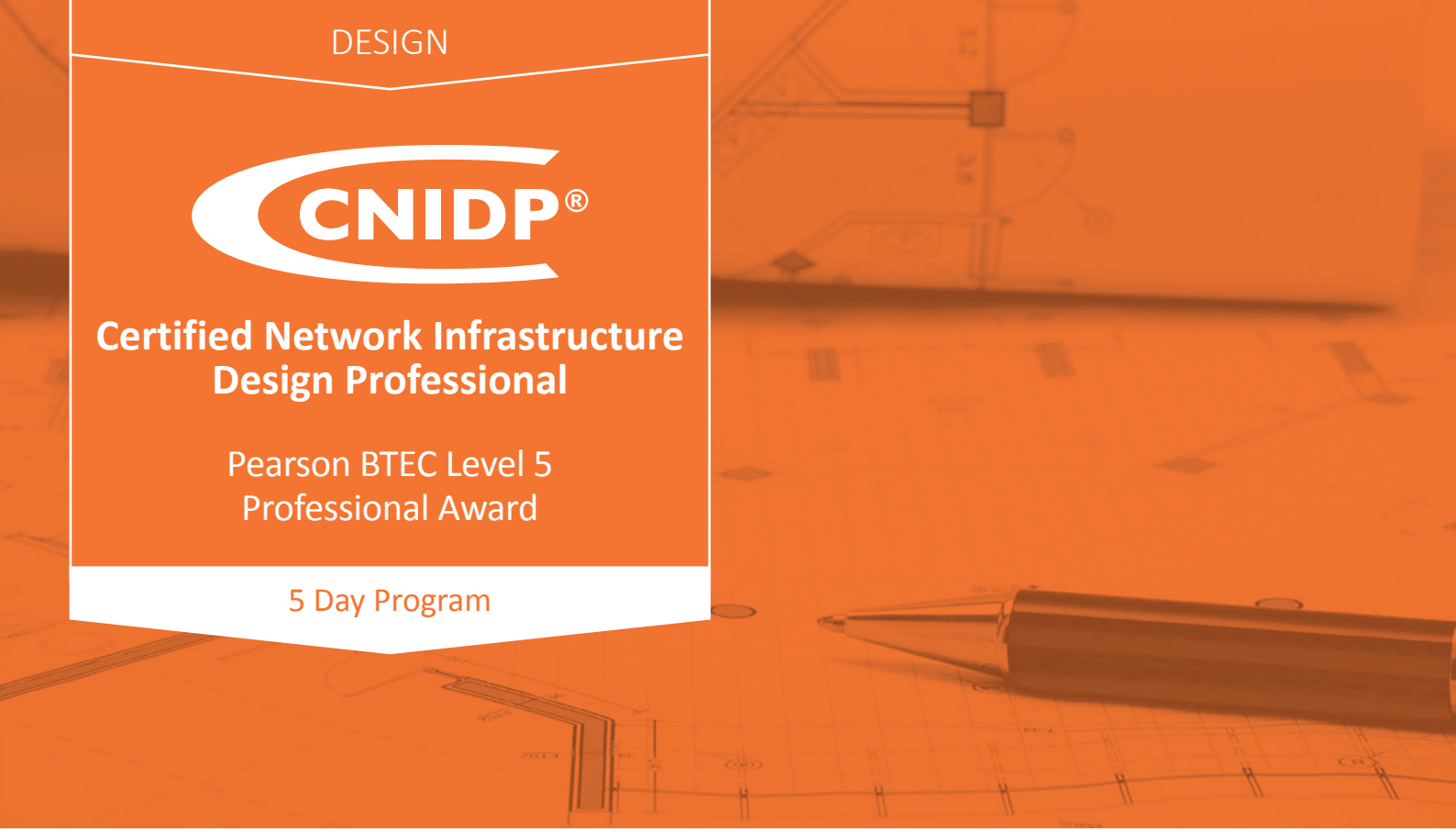
- Develop a broader installation capability, increasing business opportunities
- Reassurance that you are developing a capable and reliable workforce, encouraging independence and reducing cost of failure
- Confidence that with greater network knowledge, your technicians can be more engaging with your customers, able to establish good working relationships and promote future growth

DESIGN

Certified Network Infrastructure Design Professional

Pearson BTEC Level 5 Professional Award

5 Day Program



Learn how to complete a detailed campus network design project and deliver this to the market via an effective tender response.

Program Overview

The five-day Certified Network Infrastructure Design Professional (CNIDP®) is a full and comprehensive program that equips network infrastructure professionals with the knowledge, skills and confidence to deliver complex infrastructure design projects from inception through to customer handover.

The importance of collaborative working with key stakeholders is also emphasised to ensure that the optimal internal and external network infrastructure solutions are delivered, offering flexibility and resilience across a wide range of services, ensuring that network performance is maximised to meet the customer's specified Key Performance Indicators (KPIs).

The program explores the complex issues involved when designing whilst planning for both Inside Plant (ISP) and Outside Plant (OSP) network infrastructures, examining the role of the designer and the multitude of disciplines required to deliver a multifaceted design to meet the customer requirements. Learners will benefit from understanding the design lifecycle (from concept to design completion), including the analysis of the customer needs, the site survey process and detailed structure of a final design document.

It also significantly elevates the knowledge and skills of the learner within the project delivery lifecycle. The program explores the complex issues involved in completing a response to a Request for Quotation (RFQ) or Invitation to Tender (ITT).

Learners will benefit from gaining an understanding of all aspects of the tendering process from RFQ/ITT through to tender award, and will understand the importance of the bid evaluation process and appreciate the need for thorough, detailed and accurate submittals to the client's project team.

Elements such as calculating accurate project delivery costs, and creating a comprehensive implementation plan and handover criteria, will be examined in detail and provide a thorough overview of all elements involved in producing a successful tender response document.

A certified CNIDP® also considers the requirements for compliance, having a full understanding of national and international regulations, codes and standards. During the program learners will be provided a valuable opportunity to access the latest industry standards.

The CNIDP® program is led by one of CNet's expert Instructors and is available via remote attendance or classroom-based.

Program Duration

5 days requiring pre-class study of approximately 30 hours.

Program Format

40% Theory, 60% Practical.

Program Objectives

Successful learners will gain in-depth knowledge and supporting skills to confidently deliver detailed design documentation and the process of evolving a customer Statement of Requirement (SOR) into an accurate and successful tender response document. Learners gain an understanding of the importance of national and international standards and can confidently apply them to design projects. Learners will also know how the tender document is processed and the assessment criteria involved.

Learner Profile

This program is designed for telecommunications and data communications engineers within the network cabling design and installation environment, and those wishing to extend their skills, knowledge, qualifications and certifications in relation to the planning and design of cable systems within different environments. Learners will have sound knowledge of copper and fibre optic cabling infrastructure and awareness of networks, inside plant and outside plant. They will also have an understanding of how relevant standards are applied to design.

Pre-requisites

A minimum of five years experience of working in the network infrastructure sector is required with at least two years project delivery experience, preferably in an installation management or infrastructure design role. In addition, knowledge of applicable industry standards would be advantageous. If you would like to discuss your experience or suitability for this program, please contact us.

Program Requirements

Learners are required to undertake pre-class study, which is fully supported by an experienced and dedicated online support team.

Learners are required to have:

- A webcam and microphone enabled laptop with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for reading/annotating PDFs and a suitable application for editing standard office documents such as Microsoft Word, PowerPoint, and Excel

Qualification

- Internationally and industry recognised Pearson BTEC Level 5 Professional Award Certified Network Infrastructure Design Professional

Certification

- Official Certified Network Infrastructure Design Professional (CNIDP®) certification
- Use of the CNIDP post nominal title
- Use of the official CNIDP® digital badge
- Use of the CNIDP® logo

Certifications are a commitment to lifelong learning and offer the perfect portal to ensure knowledge, skills and certification remain current and up-to-date. Each certification gained requires re-certifying every three years via an online learning management system.

Additional Awards

- Eligibility for an ECS (Electrotechnical Certification Scheme) Network Infrastructure Designer card (only available in the UK)
- Continuing Professional Development (CPDs)
- 8 IEEE Continual Education Units (CEUs)

Certified Network Infrastructure Design Professional (CNIDP®) Topics

Design Principles
- Assess requirements
- Information gathering
- CDMQ
- Constraints
- Capacity planning

Standards
- Standards organisations
- Cabling standards
- Installation standards
- Electrical standards
- Network and application standards
- Building Information Modelling (BIM)

Spaces & Working Areas
- Building Entrance Facility (BEF)
- Main Equipment Room (MER)
- Building Distributor (BD)
- Floor Distributor (FD)
- Horizontal/work area distribution

Site Survey
- Site survey process
- Greenfield and brownfield impacts
- Formulation of site survey report

Cabling Sub-systems (ISP & OSP)
- OSP cabling
- Backbone cabling
- Horizontal cabling
- Network cabling

Network Architecture
- Ethernet
- VoIP
- CCTV
- Wireless
- Access control
- Environmental management
- Fire alarms

Pathways and Containment
- Cable distribution systems
- Raised access floor
- Confined spaces
- OSP cable duct systems

Fire Stopping
- Types and specifications
- Mechanical and non-mechanical
- Regulations and testing

Bonding and Earthing
- Regulations
- Protective Earth (PE)
- Equipotential bonding
- Electrical and UPS

Test and Commission Specification
- Commissioning process
- Certification test methods
- Testing standards

Understand the Design Process
- Roles of the design team
- Design stages
- Contracts
- Tools and traits for success

Customer Requirements Assessment
- Conducting customer interviews
- Identifying key stakeholders
- Needs analysis
- Scope, plan and schedule

ITT/RFQ Development
- RFP/RFQ objectives and structure
- Formulation of RFP/RFQ
- Scope review
- Bid submission
- Change management

Bid Evaluations & Contract Negotiations
- Bid evaluation techniques
- Shortlist interviews
- Contract negotiations
- Contract award

Project Execution
- Project delivery cycle
- Contractual and professional obligations
- Project scope and schedule
- Quality assurance/change management
- Installation and test sequences
- Communication plan
- Manage stakeholder expectations

Administration, Documentation & Plans
- Identification systems
- Test results and reports
- As-built documentation
- Handover process
- Warranty compliance

Commissioning and Closure
- Commission and test sequence
- Test results and documentation
- Snag/punch list process
- Customer handover
- Customer training
- Project closure process

Throughout this program learners will work on an individual campus based case study.

"I'm very impressed with the CNIDP® program. Since attending, I have won two tender bids where I have used the methodology I was taught."

CNIDP® Learner Comment

CNIDP® Benefits for Individuals

- Make effective design decisions based on detailed client requirements that demonstrates compliance with national and international standards
- Deliver detailed drawings that accurately depict network infrastructure components
- Generate a precise bill of materials detailing all infrastructure material requirements by type and quantity, including complex cost calculations
- Specify the requirements for project documentation in support of progression and closure
- A right-first-time approach that is technically accurate in all aspects

CNIDP® Benefits for Businesses

- Confidence that design decisions are clearly represented enabling the prospective client to assess technical compliance with the statement of requirements
- Costs are clearly and accurately communicated to the prospective client mitigating the risk of variations and change requests during implementation
- Reassurance that project design documents clearly outline the implementation and closure processes, ensuring a smooth transition from installation to operations, and enabling timely completion and handover to the customer

MANAGEMENT

Certified Telecommunications Project Management

Pearson BTEC Level 4 Professional Award

3 Day Program

Develop the knowledge and skills to define, initiate, deliver and close a complex telecommunications project, in time, on budget, and to the highest quality specifications.

Program Overview

Successful projects depend on highly trained and multi-skilled project managers equipped with the ability to communicate, plan and execute strategic project decisions and manage situations that have the potential to adversely impact progress. A successful project manager can develop and maintain a structured approach to delivering project processes effectively and with repeatability and scalability.

The Certified Telecommunications Project Management (CTPM®) program equips learners with the skills and confidence to develop an end-to-end project implementation plan based on a multifaceted campus telecommunications project.

CTPM® is based on the global standards for project management and adds technical input from programs within The Global Digital Infrastructure Education Framework. This combination delivers a unique project management education program designed specifically for the fast-paced world of telecommunications design and implementation.

Learners complete eight assignments that are assessed individually and combine to create the project management plan portfolio:

- Project principles - what defines your project?
- Project integration management - combining all aspects of your project to produce outstanding results
- Project scope management - clearly defining exactly what we are delivering and, more importantly, what we are not delivering?
- Project quality management - delivering the precise quality product your customer will demand
- Project risk management - identifying and controlling what can possibly go wrong
- Project human resource management - developing the team; getting the right people, working together towards a common goal for greatest effect
- Project time management - structuring, calculating and tracking your project tasks to maximise efficiency to deliver on time, every time
- Project cost management - Using advanced tools to ensure that you come in on budget

Program Duration

3 days.

Program Format

40% Theory, 60% Case Study.

Program Objectives

Learners will be taken on a journey through the end-to-end project management cycle, taking the opportunity to explore and appreciate the worth of repeatable project processes and gaining valuable experience in the application of project management tools. Learners are given the opportunity to apply this knowledge and understanding to take a complex telecommunications project to the next level, preparing and delivering the project management plan.

Learner Profile

This program is perfect for individuals looking to improve the overall performance of telecommunications and data centre projects. It is suitable for those with some experience of telecommunications planning and data centre projects.

Pre-requisites

Experience in telecommunications projects within a data centre or enterprise network environment would be an advantage.

Program Requirements

Learners are required to have:

- A webcam and microphone enabled laptop with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for reading/annotating PDFs and a suitable application for editing standard office documents such as Microsoft Word, PowerPoint, and Excel

Qualification

- Internationally and industry recognised Pearson BTEC Level 4 Professional Award Certified Telecommunications Project Management

Certification

- Official Certified Telecommunications Project Management (CTPM®) certification
- Use of the CTPM post nominal title
- Use of the official CTPM®digital badge
- Use of the CTPM® logo

Certifications are a commitment to lifelong learning and offer the perfect portal to ensure knowledge, skills and certification remain current and up-to-date. Each certification gained requires re-certifying every three years via an online learning management system.

Additional Awards

- Eligibility for an ECS (Electrotechnical Certification Scheme) Network Infrastructure Manager card (only available in the UK)
- Continuing Professional Development (CPDs)
- 3 IEEE Continual Education Units (CEUs)

Certified Telecommunications Project Management (CTPM®) Topics

Project Management
- What is a project?
- Defining project constraints
- Roles of a project manager
- Overview of project documentation

Integration Management
- Combining project areas
- Producing the project plan
- Planning the execution
- Mastering change control

Scope Management
- Defining the scope
- Producing the scope of works
- Verification of scope
- Preventing scope creep with effective change control

Quality Management
- Quality concepts
- Quality definition
- Quality control
- Quality planning
- Quality assurance

Risk Management
- Defining risk
- Risk identification
- Quantifying risk
- Developing risk responses
- Devising risk response controls

Human Resource Management
- Organisational planning
- Leading teams
- The psychology of teams
- Team development
- Motivating teams

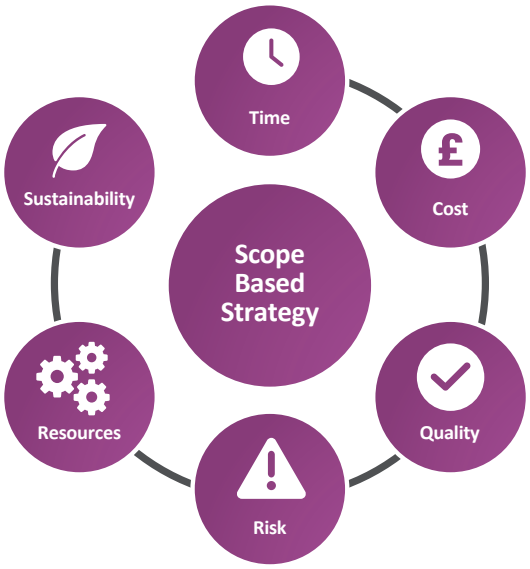
Time Management
- Defining the tasks
- Task estimation
- Scheduling tasks
- Resource allocation

Cost Management
- Resource planning
- Cost estimating
- Cost budgeting
- Cost control
- Use of budgeting tools

Communications Management
- Developing communication strategies
- Conflict resolution
- Stakeholder analysis
- Communications planning
- Effective information distribution

"This is a well-rounded program, ideal for both people moving into project management and project managers wishing to hone their skills. I would recommend it to the entire sector to increase their skill set."

CTPM® Learner Comment



The CTPM® program examines in depth the principles above, exploring the use of project management tools as it progresses:

CTPM® Benefits for Individuals

- Gain portable knowledge, skills, techniques and tools in order to be more successful in managing projects and demonstrate to your employer that you have the desire and commitment to learn and improve
- Enhance your career development prospects by achieving a recognised project management qualification
- Evidence your skills with an independent measure of project management knowledge and competence

CTPM® Benefits for Businesses

- Develops a comprehensive understanding of project goals, objectives and benefits before committing significant resources to ensure that only projects which are expected to provide a Return On Investment (ROI) or financial margin are committed to
- Ensure that projects proceed effectively through all essential phases, from concept through to completion
- Provide a rigorous approach to defining a realistic timescale and budget for completion of the project

TECHNICIAN

Certified Data Centre Technician Professional

Pearson BTEC Level 4 Professional Award

5 Day Program

Excel in a highly skilled and efficient technical team charged with optimising the operational capability and productivity of the data centre to meet the evolving demands of the business.

Program Overview

Ensuring zero downtime within the mission critical data centre environment involves employing highly competent and confident technicians who consistently demonstrate unrivalled technical knowledge and skills. High quality technicians are increasingly seen as a vital component to the smooth running of any data centre operation.

The five-day Certified Data Centre Technician Professional (CDCTP®) program is for individuals working within mission critical data centre facilities. It explores the wide range of subjects relevant to the data centre technician including a detailed breakdown of the data centre operating environments and the four key constraints to its operational effectiveness (power, cooling, IT and space), the necessary operational policies, procedures and compliance based on legislation, standards (national and international) and codes of conduct. During the program, learners will be provided a valuable opportunity to access the latest industry standards.

Certified technicians can foresee potential causes of failure honing an in-depth understanding of facility components and their operating parameters. In addition, technicians can identify, analyse, and remedy problems as they occur, quickly, decisively and accurately, avoiding potential high cost repairs and the risks associated with loss of service.

The CDCTP® program is led by one of CNet's expert Instructors and is available via remote attendance or classroom-based.

Program Duration

5 days.

Program Format

70% Theory, 30% Practical.

Program Objectives

CDCTP® certified individuals possess the knowledge, expertise and skills that are considered essential in ensuring that a data centre facility is operated and maintained to the highest possible standards.

Learner Profile

This program has been specifically designed for individuals wishing to acquire skills of the highest calibre in order to carry out their technical data centre duties. CDCTP® certification is beneficial to personnel who contribute to the day-to-day smooth operation of the mission critical facility.

Pre-requisites

Experience of working within a data centre environment is essential. If you would like to discuss your experience or suitability for this program, please contact us.

Program Requirements

Learners are required to have:

- A webcam and microphone enabled laptop with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for reading/annotating PDFs and a suitable application for editing standard office documents such as Microsoft Word, PowerPoint, and Excel

Qualification

- Internationally and industry recognised Pearson BTEC Level 4 Professional Award in Certified Data Centre Technician Professional

Certification

- Official Certified Data Centre Technician Professional (CDCTP®) certification
- Use of the CDCTP post nominal title
- Use of the official CDCTP® digital badge
- Use of the CDCTP® logo

Certifications are a commitment to lifelong learning and offer the perfect portal to ensure knowledge, skills and certification remain current and up-to-date. Each certification gained requires re-certifying every three years via an online learning management system.

Additional Awards

- Continuing Professional Development (CPDs)
- 5 IEEE Continual Education Units (CEUs)

"In a short amount of time, this program covers a wide variety of technical information covering all aspects of a data centre."

CDCTP® Learner Comment

Certified Data Centre Technician Professional (CDCTP®) Topics

Data Centre Fundamentals
- What is a data centre?
- Understanding the basic design requirements
- Availability and resilience measures and practices

Compliance
- Codes and regulations
- National and international standards
- Industry guidelines and best practices
- Certification and accreditations

The Physical Infrastructure

The four key environments (power, cooling, IT and space)

Power
- Power infrastructure (data centre electrical distribution)

Cooling
- Cooling infrastructure and airflow management
- Overview of different cooling system technologies

IT Connectivity
- Active network
  - Equipment configuration
  - Servers, software and services
  - Storage infrastructure
  - Data centre networks
  - Distribution options
- Physical network
  - IT cabinets and frames
  - Cable containment
  - Data centre topologies
  - Structured wiring
  - Fibre optical cabling

Space
- Relationship between white and grey space environments
- Physical security and access control

Working in the Data Centre

Safety Consideration
- Risk assessment and method statements
- Environmental health and safety
- Personal protective equipment
- Life safety systems (fire detection and suppression)

Task Preparation
- Understanding the operation structure
- Operational processes and procedures
- Moves, Adds and Changes (MACs)
- Decommissioning
- Operational measuring and monitoring

Asset Management
- Management tools, administration
- Change management

Data Centre Maintenance
- The need for maintenance
- Maintenance strategies
  - Preventative maintenance
  - Predictive maintenance
  - Reliability centred maintenance
  - Condition-based maintenance
- Power maintenance
- Cooling maintenance
- IT connectivity maintenance

Data Centre Power Infrastructure
- Electrical safety
- Power infrastructure systems (distribution path and components)
- Back-up power infrastructures
- Earthing and bonding
- Measuring, monitoring and routine checks
- Benchmarking and data centre metrics

Data Centre Cooling Infrastructure
- Understanding the need for cooling
- Data centre cooling architectures and systems
- Air cooling
- Economiser modes
- Liquid cooling
- Chilled water plant
- Cooling towers
- Measuring, monitoring and routine checks
- HVAC efficiency and Power Usage Effectiveness (PUE) relationship

There are a number of group and individual case studies throughout this program.

CDCTP® Benefits for Individuals

- Understands all aspects of data centre operations including technical and physical constraints. Recognises the dependencies on other workstreams, can plan work efficiently and avoid unnecessary delays
- Understands the benefits of carrying out physical inspections of data centre components as a matter of routine. Adopts a proactive attitude and can identify potential equipment failures before they occur
- Understands the need to adhere to codes, legislation and standards and is focused on first-time compliance, avoiding unnecessary rework
- Recognises the roles of others within the facility and can improve business processes through effective contribution to the right people and at the right level

CDCTP® Benefits for Businesses

- Have a technical team equipped with a broad knowledge of data centre functions and operational processes enabling the business to function with optimum efficiency
- Significantly reduces the risk of failure by having knowledgeable and proactive technical staff capable of identifying signs of potential failure
- Having a technical team with a broad knowledge of codes, legislation and standards instils confidence that the data centre can operate effectively whilst consistently meeting legal and contractual obligations
- Develop a technical team that is cognisant of the roles of their peers and managers ensuring efficient and timely passage of accurate information and thereby increasing productivity

DESIGN

Certified Data Centre Design Professional

Pearson BTEC Level 5 Professional Award

5 Day Program

Create a comprehensive data centre design that supports the critical needs of the business, examining in-depth the key constraints of data centre functionality to deliver a balanced, efficient and sustainable solution.

Program Overview

The Certified Data Centre Design Professional (CDCDP®) program is proven to be an essential certification for individuals wishing to demonstrate their technical knowledge of data centre architecture and component operating conditions.

This five-day program has a comprehensive agenda that explores and addresses the key elements associated with designing a data centre. It teaches best practice principles for the design, construction and operation of computer rooms and data centre operational support facilities. The program also addresses the importance of accurate interpretation of detailed customer requirements at the planning stage to ensure that the business needs remain focal to all decision making.

Learners will also explore the key elements of physical infrastructure, electrical distribution systems, air-conditioning, data cabling and building support systems. The program concludes with a comprehensive case study exercise that guides learners through the design steps from initiation to commission, covering the business decisions, design scope and implementation phases that need to be addressed throughout all aspects of the process.

A certified CDCDP® also considers the requirements for compliance, having a full understanding of national and international regulations, codes and standards. During the program, learners will be provided a valuable opportunity to access the latest industry standards.

The CDCDP® program is led by one of CNet's expert Instructors and is available via remote attendance or classroom-based.

Program Duration

5 days requiring pre-class study of approximately 20 hours.

Program Format

60% Theory 40% Case Study.

Program Objectives

CDCDP® certified individuals will possess unrivalled knowledge, expertise and capability to deliver a comprehensive data centre design to meet ongoing operational and business needs.

Learner Profile

The program will prove beneficial for professionals already designing projects for implementation within a data centre facility, or those looking to advance into data centre design from associated data centre technical or operational roles.

Pre-requisites

Experience of working within a data centre environment is essential; preferably with two years experience in a technical IT, operational or facilities role. If you would like to discuss your experience or suitability for this program, please contact us.

Program Requirements

Learners are required to undertake pre-class study, which is fully supported by an experienced and dedicated online support team.

Learners are required to have:

- A webcam and microphone enabled laptop with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for reading/annotating PDFs and a suitable application for editing standard office documents such as Microsoft Word, PowerPoint, and Excel

Qualification

- Internationally and industry recognised Pearson BTEC Level 5 Professional Award in Certified Data Centre Design Professional

Certification

- Official Certified Data Centre Design Professional (CDCDP®) certification
- Use of the CDCDP post nominal title
- Use of the official CDCDP® digital badge
- Use of the CDCDP® logo

Certifications are a commitment to lifelong learning and offer the perfect portal to ensure knowledge, skills and certification remain current and up-to-date. Each certification gained requires re-certifying every three years via an online learning management system.

Additional Awards

- Continuing Professional Development (CPDs)
- 7 IEEE Continual Education Units (CEUs)

Certified Data Centre Design Professional (CDCDP®) Topics

What is a Data Centre?
- The data centre stack
- Types of data centre

The Design Planning Process
- Main design considerations
- Developing a project plan

Scoping the Requirement
- Identifying key stakeholders
- Market and political drivers
- National and international standards
- Availability and resilience classifications
- Introduction to availability models (Uptime Tier, TIA 942-B Rating, BICSI Classes and Syska Hennessy Critical Levels)
- Recommendations for location, size, height, floor loading, lighting and decor

White space Floor
- National and international standards
- Structural and load requirements
- Recommended floor heights
- Airflow and sealing
- Ramps and access
- Seismic protection
- Slab floor construction considerations

Cabinets
- Requirements of a cabinet
- Security, safety and stabilisation
- Clearance, accessibility and ventilation
- Cable management
- Seismic stability considerations
- Design specifications

Power
- Regulations and codes
- The meaning of N, N+1, 2(N+1), etc.
- Power delivery and distribution losses
- Uninterruptible Power Supply (UPS) options
- Generator considerations
- Power distributions units
- Power distribution to, and in, a rack
- Remote Power Panels (RPPs)
- Emergency Power Off (EPO)
- Estimating power requirements

Cooling
- National and international standards
- Basics of air conditioning principles
- CRAHs and CRACs
- ASHRAE operational parameters
- Underfloor plenum approach
- Hot aisle/cold aisle layout principles
- Hot and cold aisle containment
- Psychrometric charts
- Min and max throw distances for underfloor air
- Bypass and recirculation
- Airflow management
- Chilled water racks, CO_2, free air cooling

Earthing & Bonding
- Applicable standards
- The terminology of earthing, grounding and bonding
- Equipotential bonding
- Electrostatic Discharge (ESD)
- Functional earths
- The Signal Reference Grid (SRG)

Cable Containment, Management & Protection
- Applicable standards
- Separation of power and data cables
- Administration and labelling
- Types of conduit, trunking, tray, etc. available
- Earthing and bonding
- Containment fill ratio
- Underfloor vs overhead containment
- Cable management, in and to, a rack
- Fire stopping

Delivering the IT Strategy
- Data centre equipment
- Functions and protocols, current and future
- Data centre connections
- Cabling requirements
- Cabling standards
- Cabling options
- The impact of 40G and 100G
- The impact of virtualisation

Copper & Optical Fibre Cabling Connectivity
- Cabling standards
- Cable categories supporting 10GBASE-T, CAT6A, Cat 7A and Cat 8
- Screened vs unscreened cables
- High density patching
- Alien crosstalk
- Copper test requirements
- Design for growth management
- Channel connections
- Connection topologies
- Optical connectors, past and present
- Optical fibre management
- Types of optical cable
- Advantages/ disadvantages of pre-terminating cables
- Optical component loss and link power budgets
- Application link loss
- Optical testing requirements
- Pre-terminated cabling

Safety & Manageability
- Local codes and regulations
- Fire safety plan
- ASD and detection systems
- Fire suppression systems
- Fire safety cable requirements
- Security and access control

Commission & Handover
- Benefits of commissioning
- Commission process and test sequence
- Handover process and training
- Lessons learnt

Power Review
- Power consumption trends
- Energy availability, security and cost
- Energy challenges facing the data centre

Power Regulations
- Which regulations affect data centres?
- Environmental regulations and pressures
- Energy and environmental programs

Power Basics
- Ohm's law, Joule's law, the Kirchhoff laws
- Electrical parameters
- AC and DC
- Single phase and three phase
- Residual currents
- Harmonics

Power to the Data Centre
- Where does the electricity come from?
- Electrical supply options
- Transformers
- Surge suppression devices
- Costs of electrical power
- Types of tariff available
- Alternate power supply options

Distribution in the Data Centre
- Electrical circuit requirements
- Switching devices
- Power factor correction units
- Automatic and static transfer switches
- Main, feeder, sub-main circuits
- Power distribution units
- Remote power panels
- Final circuits
- Cable and fuse sizing
- Power distribution and associated losses
- TN-S systems
- Energy efficiency

Standby Power
- UPS components, batteries and redundant systems
- UPS options and considerations
- Static and maintenance bypasses
- Standby generators

Cooling Review
- Data centre limiting factors
- Sources of cooling inefficiencies
- Cooling trends

Regulatory Climate
- Which regulations affect data centres?
- Environmental pressures
- Cooling efficiency
- Design considerations and planning redundancy
- Overview of Computational Fluid Dynamics (CFD)
- Periodic review process

Environmental Parameters
- Standards (NEBS, ETSI, ASHRAE)
- Operating environment ranges
- Rate of change
- ASHRAE psychrometric charts
- Humidification systems
- The need for sensors
- Measuring and monitoring

Collecting the Heat
- Cooling system overview
- CRACs and CRAHs
- Maximising existing investment
- Rack vs row options
- Dynamics and problems of air flow
- Liquid cooling
- Comparison of high-density cooling
- Available cooling options

Heat Rejection or Reuse
- Heat transfer considerations
- DX systems
- Chilled water CRAHs
- Chiller options
- Adiabatic cooling
- CWS and CHWS plant
- Design considerations
- Free cooling and free - air cooling
- Commissioning maintenance
- Planned preventative maintenance

Energy Use Systems
- Energy efficiency issues
- Layers of inefficiency
- Power system provision
- Cooling system provision
- Understanding areas of improvement

IT Infrastructure
- Extending the operating envelope
- Environment zones
- Accurate IT calculations
- Energy use in the IT equipment
- Software and storage considerations
- Transformation options
- Energy efficient IT equipment

Power Systems
- Energy use in the data centre
- DC power train
- Matching the support to the IT load
- Transformer efficiencies
- UPS and motor efficiencies
- DCiE for modular provisioning
- Maximising the power factor
- Measuring and monitoring
- Infrared inspections
- Planned electrical safety inspections
- Implementing data centre electrical efficiency

Cooling Efficiency
- Cooling a cascade system
- Affinity laws and cooling equation
- CRAC and CRAH efficiencies
- Optimising airside systems and waterside systems
- DCiE for cooling options
- Diagnostic and site specific monitoring
- Design considerations

Data Centre Metrics
- Where and what can we measure?
- The metric stack
- Metric characteristics
- Current Industry metrics (PUE, CUE, WUE, ERE, RCI and RTI)
- Chained value metrics (CADE)
- Proxy metrics (FVER, DPPE, DCeP)

Efficiency Models & Best Practices
- Energy calculations
- Levels of modelling
- Modelling tools
- Sources of guidance
- Effective vs Efficient
- The DC language barrier
- The multi-functional team
- Design for efficiency, operability and flexibility
- Industry recognised best practices

Design Management
- Characteristics of project management
- Key project processes
- Identifying and engaging with key stakeholders
- Setting goals
- Prioritisation of activities
- Cornerstones of project management

Managing the Design Process
- What is to be delivered?
- What constraints are there?
- Managing dependencies
- Managing the tribes
- Managing conflict
- Identifying risk
- Risk and issue management
- Change management
- Reporting and communication

Managing the Design Implementation Process
- Project charter and specification
- Risk assessment and management
- Scope management
- Float and critical path
- Human resource management
- Project integration and work breakdown structure
- Time and cost management
- Handover and progressive acceptance

There are a number of group discussions and individual design exercises throughout this program.

Certified Data Centre Management Professional

Pearson BTEC Level 5 Professional Award

5 Day Program

Gain unparalleled knowledge, skills and competency to manage the complex technical environments of a data centre facility and the ability to optimise its effectiveness by driving efficiencies.

Program Overview

Create a credible business strategy and apply strong leadership to maximise the operational capability of the data centre whilst continuing to meet the ongoing demands of the business.

The five-day Certified Data Centre Management Professional (CDCMP®) is a comprehensive program that investigates the functionality of all elements of a data centre facility and the relationships and dependencies between them, with a focus on maintaining consistent reliability, security and integrity of data and the availability of service.

Opening with a solid grounding in the basic design principles, the program progresses to provide an overview of the physical infrastructure elements, through to an understanding of the project management methodology required to deliver complex data centre projects.

It also explores the efficient management of the often conflicting operational and maintenance demands required of the data centre plant to continuously deliver the business needs. The challenges of regulatory compliance, data centre strategies and audit demands are also thoroughly examined. Real-life case studies are used to demonstrate putting theory into practice.

A certified CDCMP® also considers the requirements for compliance, having a full understanding of national and international regulations, codes and standards. During the program, learners will be provided a valuable opportunity to access the latest industry standards.

The CDCMP® program is led by one of CNet's expert Instructors and is available via remote attendance or classroom-based.

Program Duration

5 days requiring pre-class study of approximately 20 hours.

Program Format

80% Theory, 20% Case Study.

Program Objectives

Upon completion, successful learners will have an unrivalled knowledge of how to effectively manage a data centre environment to optimise its effectiveness in a more efficient manner whilst meeting the strategic operational demands of the business.

Learner Profile

The program is designed for individuals wishing to enhance their ability to strategically manage, control and improve the operational effectiveness of a data centre environment.

Pre-requisites

Experience of working within a data centre environment is essential; preferably with two years experience in a technical IT or operations role.
If you would like to discuss your experience or suitability for this program, please contact us.

Program Requirements

Learners are required to undertake pre-class study, which is fully supported by an experienced and dedicated online support team.

Learners are required to have:

- A webcam and microphone enabled laptop with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for reading/annotating PDFs and a suitable application for editing standard office documents such as Microsoft Word, PowerPoint, and Excel

Qualification

- Internationally and industry recognised Pearson BTEC Level 5 Professional Award in Certified Data Centre Management Professional

Certification

- Official Certified Data Centre Management Professional (CDCMP®) certification
- Use of the CDCMP post nominal title
- Use of the official CDCMP® digital badge
- Use of the CDCMP® logo

Certifications are a commitment to lifelong learning and offer the perfect portal to ensure knowledge, skills and certification remain current and up-to-date. Each certification gained requires re-certifying every three years via an online learning management system.

Additional Awards

- Continuing Professional Development (CPDs)
- 7 IEEE Continual Education Units (CEUs)

Certified Data Centre Management Professional (CDCMP®) Topics

What is a Data Centre?
- Data centre definition
- Data centre options
- Business demands
- Growth and demand challenges

Understanding Basic Design Principles
- Identifying the business need
- Building a business case
- National and international standards
- Site and building considerations
- Tier levels
- Criticality and availability
- Determining data centre capacities

Physical Infrastructure
- Power infrastructure
- Static and automatic transfer switches
- Measuring and monitoring
- Cooling infrastructure
- Cooling management options
- Cable infrastructure considerations
- IT systems and services
- Storage management
- IT security
- Access and security

Implementing Data Centre Projects
- Business case
- The project cycle
- Prioritisation of activities
- Triple constraints
- Customer value
- Quantitative risk analysis
- Rolling wave planning
- Decomposition
- Change management
- Documentation

Managing the Data Centre
- Regulations, standards and processes
- Service management frameworks
- Service lifecycles
- OLA, SLA and KPIs
- Process and procedures:
  - Moves, adds, changes
  - Energy efficiency
  - System availability
  - Decommissioning
- Transformation programs
  - Consolidation
  - Virtualisation
  - Cloud computing
  - Relocation
- Data Centre facility management
  - Facility operations
  - Building Management Systems (BMS)
  - Fire safety compliance
  - Fire suppression

Purpose
- The data centre stack
- The key constraints (power, cooling, space and IT)
- System availability
- Efficiency metrics
- Importance of commissioning
- Importance of capacity management
- Managing initial design principles

Management of Processes
- Introduction to ITIL
- Key performance indicators (KPIs)
- RACI matrices

Management of People
- Appreciation of different skill sets
- Creating a multi-disciplinary team
- Constructing a data centre team

Management of Plant
- Management of plant overview
- Power management
- IT environment management
- Cooling management

Energy Efficiency
- Understanding what is attainable and prioritisation
- Efficiency demands
- Efficiency measures
- Validation of processes and procedures

Management of Services
- Management of SLAs
- Data centre service management
- Automated tools
- Activity planning

Business Strategy
- Data centre strategic context
- Strategic planning
- Drivers for the business and IT strategies
- The impact on the data centre
- Aligning IT with the business strategy

IT Strategy
- The link between business and data centres
- IT strategy framework
- Portfolio management
- Execution plan

Supporting Strategies
- Strategic planning processes and techniques
- Supporting strategy examples
  - Power continuity
  - Cooling continuity
  - Finance
  - Fire safety
  - Security and access control
  - Business continuity/ disaster recover
  - Cleaning

Legislation and Regulations
- Data protection
- General data protection regulation (GDPR)
- Computer misuse act
- Freedom of information act
- Cloud service provider legislation
- Electricity regulations
- Electricity at work regulations, national electrical code
- Building and regulations
- Health and Safety
- Environmental legislation

Codes of Practice
- EU code of conduct
- DoE DCEP (Data Centre Energy Practitioner)
- Green Grid maturity model

Standards and Accreditations
- National and international standards
- Accreditations
  - Uptime Institute
  - Certified Energy Efficient Data Centre Award (CEEDA)
  - Building Research Establishment Environmental Assessment Method (BREEAM)
  - Leadership in Energy and Environmental Design (LEED) ISO 50001 and 14001

The Audit Process
- What is an audit?
- Defining the business requirement
- What should be audited?
- Audit outcomes
- Potential risk evaluation

Auditing the Data Centre Physical Infrastructure
- Audit guidance
- Site specific activities
- Evaluating the key environments
- Functional testing
- Trend analysis
- Recommended practices

Performance Audits
- Current industry metrics
- Modelling calculations
- Bin analysis

Environmental Audits
- The need to measure and monitor
- Site specific monitoring
- Energy use and monitoring

Asset Management
- Areas of asset management
- Asset management strategy and lifecycle
- Asset management tools

There are a number of group and individual management based case studies throughout this program.

"What a fantastic program: great material, great Instructor and great in class network. It was also good to meet other industry professionals and discuss data centre management practices."

CDCMP® Learner Comment

CDCMP® Benefits for Individuals

- The ability to develop a management strategy that aligns with the business operational requirements
- Recognises the need to develop a multi-disciplinary team supporting all operational functions of the data centre
- Can identify the processes within data centre operations that ensure consistent reliability, security and integrity of data and the availability of service

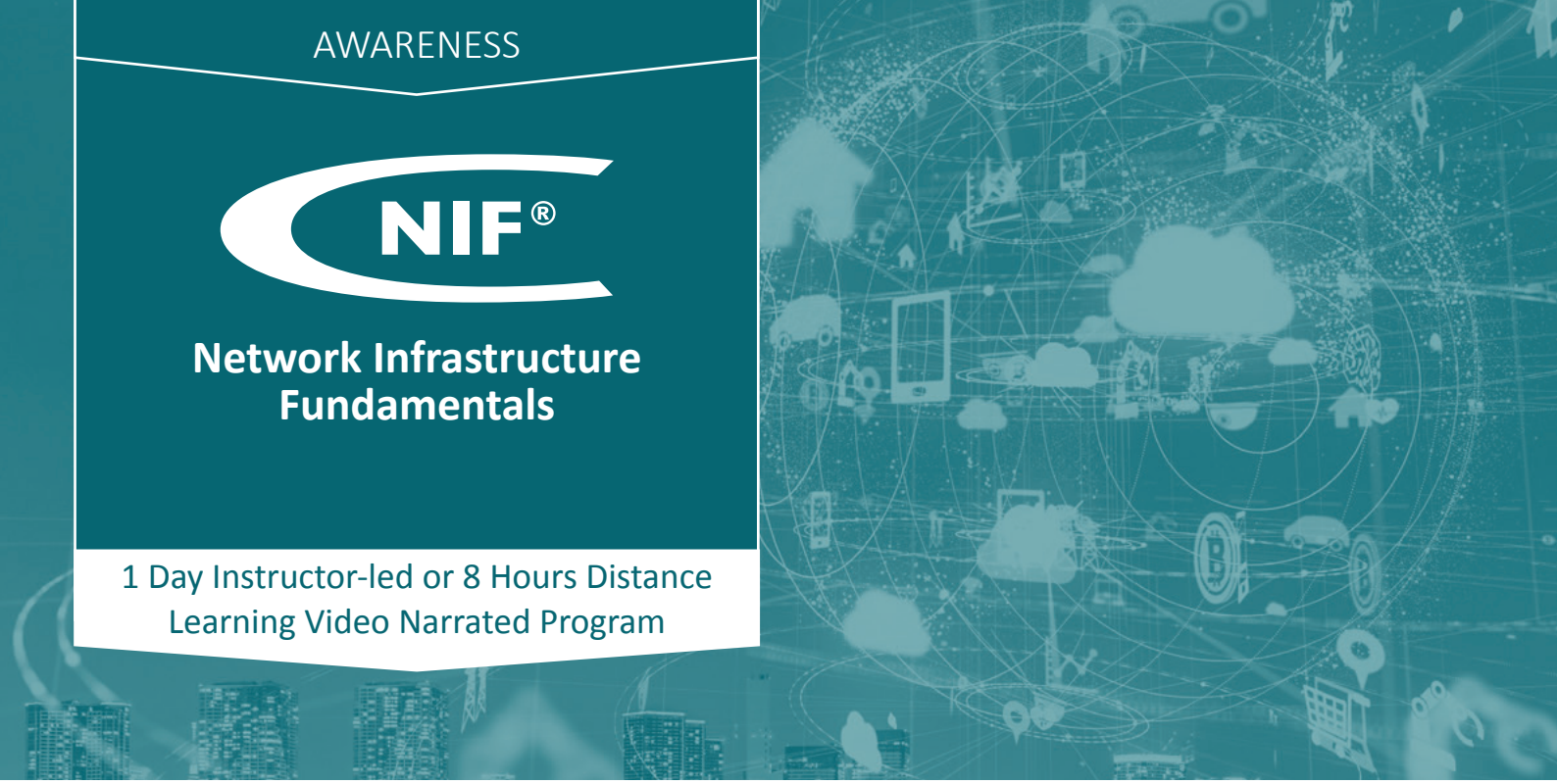
CDCMP® Benefits for Businesses

- Establish confidence that the data centre manager is competent to strategically manage data centre processes and procedures through continual improvement planning to meet the operational demands of the business
- Confidence that the data centre manager can build a strong team to effectively deliver all operational requirements to ensure maximum service uptime
- Ensures that service levels agreements and key performance indicators are consistently met, to establish and improve customer satisfaction

AWARENESS

Network Infrastructure Fundamentals

1 Day Instructor-led or 8 Hours Distance Learning Video Narrated Program



Gain detailed knowledge in the field of telecommunications network infrastructure.

Program Overview

To operate successfully, all methods of communication require a source and a destination with a pathway in between. The source is most often a smart device such as a phone, tablet, scanner, camera, card reader, etc. The destination (the point of processing the data) could be a telephone exchange or storage and processing equipment in a data centre. The media pathway could be fibre optic or copper cables, or quite often wireless links.

This program provides a broad understanding of the principles of communications systems, an understanding of voice and data communications technologies, and how to relate that information to the complexity of the physical network required. It explores the physical infrastructure components that combine to create the pathways, containment systems and network cabling infrastructure.

Program Duration

8 Hours Distance Learning or 1 Day Instructor-led

Program Objectives

This program provides an overview of network cabling infrastructure. The program also demystifies the technical terminology that permeates all extents of network infrastructure, using simple language, clear explanations, and useful analogies.

Learner Profile

This program has been designed for individuals who are either new to the network infrastructure sector or are seeking to develop their knowledge in relation to telecommunications networks. If you would like to discuss your experience or suitability for this program please contact us.

Pre-requisites

There are no specific pre-requisites for this program.

Program Requirements

Instructor-led: Learners are required to have:

- A webcam and microphone enabled laptop with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for opening and reading PDFs. Typically, your device's in-built PDF reader is sufficient

Distance Learning: As a distance learner you have access to an experienced and dedicated online support team during your program. Learners are required to have:

- A laptop or suitable device with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for opening and reading PDFs. Typically, your device's in-built PDF reader is sufficient

Certification

- CNet Training certificate
- Use of the official Network Infrastructure Fundamentals digital badge

Network Infrastructure Fundamentals (NIF®) Topics

- Basic network functions
- Networking technologies
- Ethernet, Passive Optical Networks (PON) and other distribution methods
  - Wi-Fi
  - Cellular infrastructure
  - Audio visual
  - Security
  - Internet of Things (IoT)
  - Smart environments
- Data communications principles
- Networking protocols
- Physical infrastructure
- Service assurance and maintenance
- Sustainability practices

"The NIF® program was thorough and engaging. The material was accessible and pitched at just the right level."

NIF® Learner Comment

AWARENESS

Data Centre Fundamentals

1 Day Instructor-led or 8 Hours Distance Learning Video Narrated Program

De-mystify the complex world of data centres. Gain a structured overview of the data centre environments and key operational aspects.

Program Overview

Data centres play such significant roles in our business and personal lives, yet not many people really know what they are. Often referred to as “the cloud” where our data is stored and processed, they are much more than this; they power the internet giving us the ability to pay bills online, access our emails, obtain money from ATM machines, watch movies, communicate around the world and to carry on what is now considered a normal, fiercely technological lifestyle.

This program has been designed to help de-mystify the complex world of data centres. It provides an overview of what data centres are, what they do and why we need them. Key aspects relating to basic design and design philosophies are also examined and the essential considerations of data centre management such as operational processes, energy management and facility management are explored along with their relationships to overall business strategy. The data centre sector as a whole is also explained including the value of the sector today, the significant growth it has experienced and how this will continue in the future.

This program is available either as a fully video narrated 8 hour distance learning program or as a 1 day Instructor-led remote attendance program. For the distance learning program study can be undertaken at your convenience over a period of time. Once booked, an online link with a password is sent to you which unlocks the relevant material for you to start your study.

Program Duration

8 Hours Distance Learning or 1 Day Instructor-led

Program Objectives

To provide an overview of the data centre sector, the functional requirements of the data centre facilities, the key aspects of data centre working infrastructure and their management, and the facility's relationship to the delivery business strategy.

Learner Profile

This program has been designed for individuals who are either new to the data centre sector (technicians with limited experience or exposure to data centre facilities) or for those who sell products and services to the data centre sector. If you would like to discuss your experience or suitability for this program please contact us.

Pre-requisites

There are no specific pre-requisites for this program.

Program Requirements

Instructor-led: Learners are required to have:

- A webcam and microphone enabled laptop with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for opening and reading PDFs. Typically, your device's in-built PDF reader is sufficient

Distance Learning: As a distance learner you have access to an experienced and dedicated online support team during your program. Learners are required to have:

- A laptop or suitable device with unrestricted wireless internet connectivity and a pre-installed web browser
- A suitable application for opening and reading PDFs. Typically, your device's in-built PDF reader is sufficient

Certification

- CNet Training certification
- Use of the official Data Centre Fundamentals digital badge

Data Centre Fundamentals (DCF®) Topics

What is a Data Centre?

- Define a data centre
- Identify the main data centre types
- Identify the business service options
- Emerging delivery and future demands

The Role and Objectives of a Data Centre

- Driving factors for a data centre
- Data centre standards
- Data centre availability models and considerations
- Location and building considerations

Design Overview

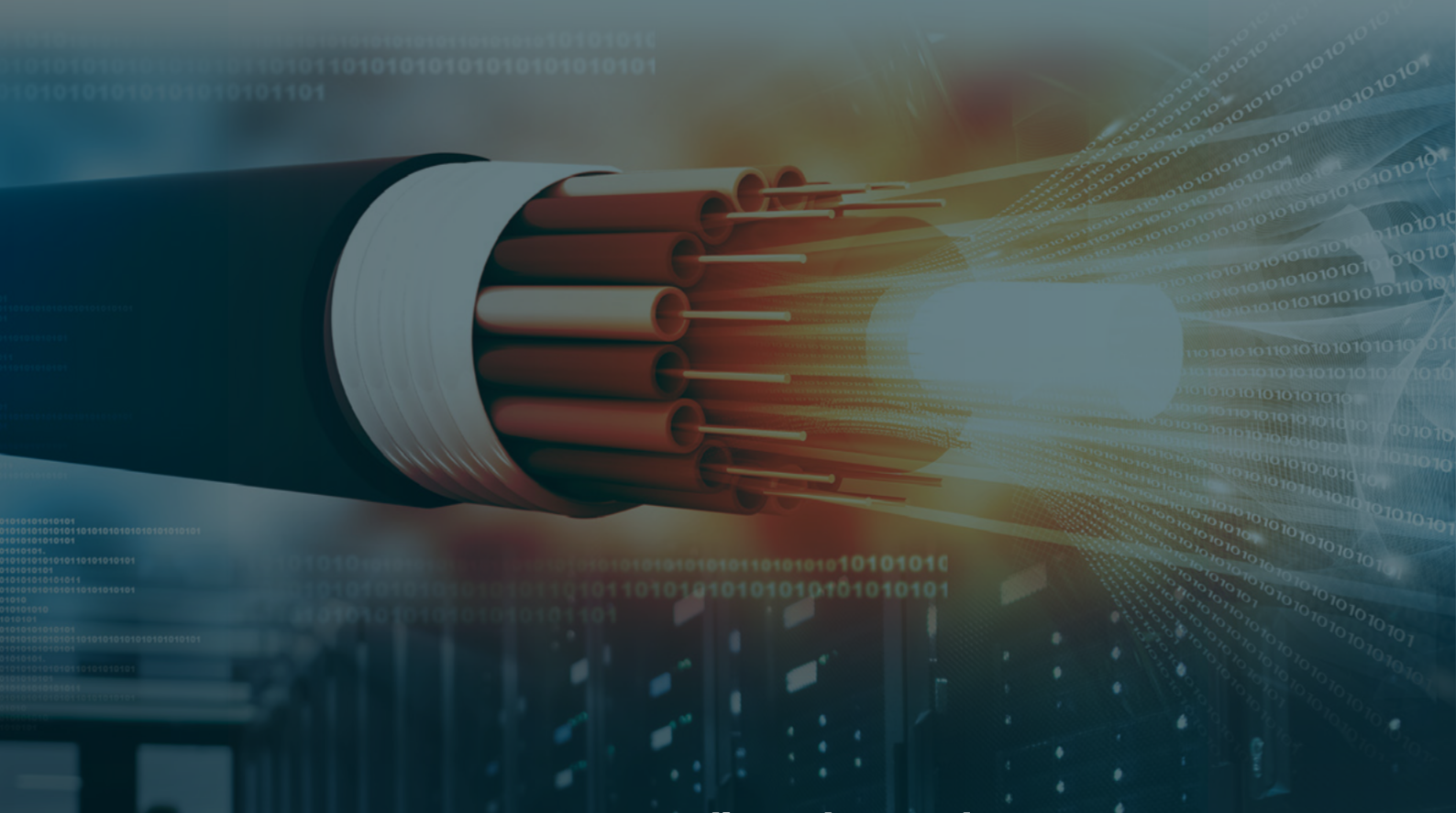
- Criticality considerations and their relationship to business strategy
- The four key constraints (4Cs) - power, cooling, IT infrastructure and space

Managing a Data Centre

- Regulations, best practices and operational processes
- Move, adds and change processes
- Efficient energy management
- Decommissioning processes
- IT and physical security

The Data Centre Industry and Market

- The size of the market
- Market drivers and trends
- Powering the internet



CNet's Dedicated Resettlement Team

CNet's history in offering resettlement training, coupled with the fact that many of our technical Instructors and Development team are ex-Forces themselves, means we understand the resettlement process and realise that it is a big step for Service Leavers to choose the best way to spend their resettlement grant to meet their future career goals.

The experienced CNet resettlement team can help every step of the way as Service Leavers work towards making their important decision. We always have someone on hand to speak with and answer any questions and, of course, there's no obligation and no pressure selling.

Meet the team:

Olly Day

Clint Sherratt

For more information please contact CNet's dedicated Resettlement Advisor Olly Day.

CNet Training
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