

The Digital Railway Courses



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What is NTAR?

Background and Mission

“All change” is a phrase that every rail passenger is used to hearing. But it’s now a phrase that has special resonance throughout the UK rail industry, as the move toward the ‘Digital Railway’ of the future gathers pace – just at the time when many of the industry’s workforce are approaching retirement age.

Both government and industry alike recognise that this combination of technological and demographic pressure needs a very clear strategy. Only by addressing training and recruitment needs now can we ensure that the UK can draw upon a highly-skilled talent pool in rail engineering – and create a truly world-leading 21st century rail network.

With immediate needs on the timetable too, such as expansion of the workforce to maintain new fleets, the response to the challenge has been a unique and ambitious public/private partnership between government agencies and private enterprise: the National Training Academy for Rail (NTAR).

NTAR, with its multi-million pound state-of-the-art facility based in Northampton, will act both as a UK flagship and an international Centre of Excellence for skills development and collaborative working in traction and rolling stock: addressing a skills gap that would otherwise become a barrier to both maintaining and growing the workforce.

How will NTAR work and operate?

NTAR is a joint project between the National Skills Academy for Rail (NSAR), the Department for Business, Innovation & Skills (BIS) and the Department for Transport (DfT), with industry partner Siemens.

The academy plays a leading role in the new railway skills development programmes being driven by NSAR – working with the market to make sure that industry priorities are met.

NTAR specialises in vital traction and rolling stock training: offering unrivalled facilities and courses, with our Northampton centre acting as a hub to support and deliver services to customers across the country.

“Generations of young people will benefit from the apprenticeships and training provided here to find new jobs and get on in life... this academy is well on its way to becoming a much-needed facility to support our railways.”

Transport Minister
Baroness Kramer, 2014

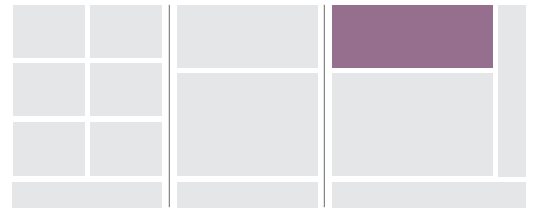
The Digital Railway

“Biggest change in the railway in many generations”

Mark Carne,
CEO, Network Rail



Introduction to ERTMS



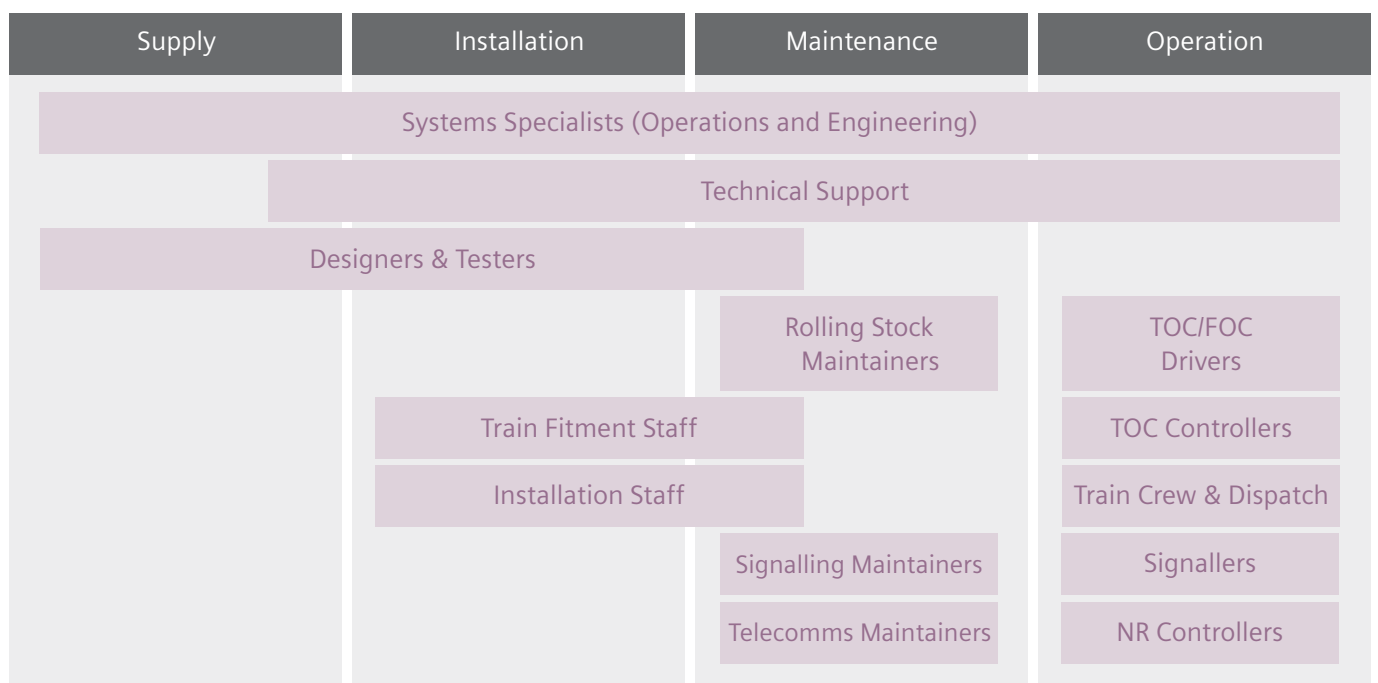
Our Curriculum

The gathering pace of the move toward the ‘Digital Railway’, including the European Rail Traffic Management System (ERTMS) and advanced train control systems, represents what Network Rail’s CEO Mark Carne has called “the biggest change in the railway in many generations.” ERTMS will transform Britain’s railways at considerable scale and with total reach across the network; delivered through an extended programme that will demand wide-ranging training provision to meet these needs – from general appreciation to in depth design and systems engineering courses.

Thirteen ‘job families’ have been identified across a working population of some 55,000 people who will require significant training to do their jobs, whilst many thousands more will need a general appreciation of the new technologies and how they work. The diagram below shows the thirteen job families in more detail.

To respond to this demand, NTAR, drawing on advice of industry representatives, has identified key learning requirements associated with the different types of job roles. From this we have developed the following courses, which will be delivered by experts in their field, to support the essential needs of the industry as the ERTMS programme is deployed:

- Basic Introduction to ERTMS
- Introduction to ERTMS
- ERTMS for Train Controllers
- ERTMS for Train Crew and Dispatch
- Introduction to ERTMS On-board Systems
- Introduction to Maintenance of On-board ERTMS Systems
- Advanced Maintenance of On-board ERTMS Systems



The Digital Railway

Basic Introduction to ERTMS

Qualification

The course is assessed by an on-line knowledge assessment. NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

The use of high technology computer based control systems is currently being deployed throughout the UK and indeed the world, to control safe train movements, and allow additional capacity of the rail infrastructure to be explored by rail operators. These new systems require a step change for all involved in rail operation and maintenance of both on-board and track side systems.

This introductory level course provides an overview of the European Rail Traffic Management System (ERTMS) and the current plans for implementing it across the UK railway. It is designed as an introduction for those with little or no prior knowledge of ERTMS, and takes the delegate on a fast paced journey from the ERTMS concept to the reality that is today modern digital train control.

Key Outcomes

On successful completion of the course the delegate will be able to:

- Understand the concept, history and impact of ERTMS on the UK railway
- Describe the purpose of the ERTMS system
- Outline the different levels of application of ERTMS
- Explain the key components of the system: trackside, on-board and control centre
- Outline the benefits and challenges of ERTMS operating in different modes
- Understand who is responsible for and who is doing what in relation to the introduction of ERTMS across the UK Railway

Requirements

No prior knowledge or experience of ETCS/ERTMS is assumed or required.

Location

Northampton or In-house

Duration

Half Day

Delivery Channel

Face to face

Maximum Attendees

8

Candidate Profile

This course is applicable to anyone working on the railway that requires an appreciation of ERTMS.

Other courses you may be interested in:

- Introduction to ERTMS
- ERTMS for Train Controllers
- ERTMS for Train Crew and Dispatch
- Introduction to ERTMS On-board Systems
- Introduction to Maintenance of On-board ERTMS Systems
- Advanced Maintenance of On-board ERTMS Systems

Developed and delivered in partnership with



The Digital Railway

Introduction to ERTMS

Qualification

The course is assessed by both knowledge and practical assessment. NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

European Rail Traffic Management System (ERTMS) is currently being installed as the first choice of futuristic train control throughout several high profile projects within the UK. The use of this sophisticated modern technology changes the methods of working on the rail network, as in some cases line-side signals will no longer be used. This impacts all involved in operating and maintaining the railway and the rail vehicles that the control system affords safe passage to.

The course provides a broad introduction to the European Rail Traffic Management System (ERTMS) for any person working or managing on the railway including an appreciation of the impact of the technology across the different stakeholders.

Key Outcomes

On successful completion of the course the delegate will be able to:

- Understand the concept, history and impact of ERTMS on the UK railway
- Describe the purpose of the ERTMS system
- Outline the different levels of application of ERTMS
- Explain the key components of the system: trackside, on-board and external
- Outline the benefits and challenges of ERTMS operating in different modes
- Understand the concept of degraded working and the implications for operation of rolling stock
- Explain the process of rollout of ERTMS on UK railway including the issues surrounding interoperability
- Identify the key stakeholders and explain the impact of ERTMS on different organisations including TOCs/FOCs operation, infrastructure and rolling stock management and maintainers
- Understand how ERTMS has already been applied both in UK and in Europe.

Requirements

No prior knowledge or experience of ETCS/ERTMS is assumed or required.

Location

Northampton or In-house

Duration

1 Day

Delivery Channel

Face to face

Maximum Attendees

8

Candidate Profile

This course is applicable to all individuals working on the UK Railway. It is particularly relevant to those who have to manage people, projects and assets and those who have interfaces with different job roles to their own or different stakeholders in their day to day role.

Other courses you may be interested in:

- ERTMS for Train Controllers
- ERTMS for Train Crew and Dispatch
- Introduction to ERTMS On-board Systems
- Introduction to Maintenance of On-board ERTMS Systems
- Advanced Maintenance of On-board ERTMS Systems

Developed and delivered in partnership with



The Digital Railway

ERTMS for Train Controllers

Qualification

The course is assessed by both knowledge and practical assessment. NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

European Rail Traffic Management System (ERTMS) is currently being installed as the first choice of futuristic train control throughout several high profile projects within the UK. The use of this sophisticated modern technology changes the methods of working on the rail network, as in some cases line-side signals will no longer be used. This impacts all involved in operating and maintaining the railway and the rail vehicles that the control system affords safe passage to.

This first level course provides a detailed introduction to ERTMS, with particular emphasis on train control and movement authority.

Key Outcomes

On successful completion of the course the delegate will be able to:

- Understand the concept, history and impact of ERTMS on the UK railway
- Describe the purpose of the ERTMS system
- Explain the different levels of application of ERTMS
- Explain the benefits and challenges/impacts of ERTMS operating in different modes
- Understand the process for train awakening, preparation and data entry
- Locate and identify the on-board ERTMS equipment
- Explain what is meant by 'degraded working' and its implications for train movements
- Understand the data communication involved in ERTMS
- Understand the implications of actions/inactions
- Understand the changes to regulations and apply the local rules and procedures
- Have an appreciation of data interrogation and fault finding diagnostics processes and understand the implications of this information
- Understand the ERTMS rollout plan, which trains are fitted with ETCS, which routes are operational and where trains can and can't go and the process for ensuring this information is kept current

Requirements

Have attended the Introduction to ERTMS module and/or previous experience in a Train Controller or similar role.

Location

Northampton

Duration

2 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

This course is applicable to those people with responsibility for managing train movements in TOCs and FOCs.

Other courses you may be interested in:

- ERTMS for Train Crew and Dispatch
- Introduction to ERTMS On-board Systems
- Introduction to Maintenance of On-board ERTMS Systems
- Advanced Maintenance of On-board ERTMS Systems

Developed and delivered in partnership with



The Digital Railway

Introduction to ERTMS for Train Crew and Dispatch

Qualification

The course is assessed by both knowledge and practical assessment. NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

European Rail Traffic Management System (ERTMS) is currently being installed as the first choice of futuristic train control throughout several high profile projects within the UK. The use of this sophisticated modern technology changes the methods of working on the rail network, as in some cases line-side signals will no longer be used. This impacts all involved in operating and maintaining the railway and the rail vehicles that the control system affords safe passage to.

This first level course provides a detailed introduction to ERTMS, with particular emphasis for people working as members of train crew or in train dispatch roles within TOC or FOC companies.

Key Outcomes

On successful completion of the course the delegate will:

- Have an appreciation of the concept, history and impact of ERTMS on the UK railway
- Be able to describe the purpose of the ERTMS system
- Be able to outline the different levels of application of ERTMS
- Be able to outline the benefits of ERTMS operating in different modes
- Be able to identify the key components of the ERTMS architecture and briefly explain their functions
- Be able to identify and explain the function of relevant aspects of station infrastructure
- Be able to explain what is meant by 'degraded working' and its implications for train movements
- Understand the process of data communication
- Understand and be able to apply relevant changes to policies and protocols
- Be able to apply the local rules, regulations and procedures in relation to train dispatch (as required by specific TOCs where a course is TOC specific)

Requirements

Have attended the Introduction to ERTMS module and/or previous experience in a Train Crew/Dispatch role or similar.

Location

Northampton

Duration

1 Day

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

This course is applicable to:

- Train drivers and driver instructors/trainers
- Train managers and on-board crew
- Train dispatch crew

Other courses you may be interested in:

- ERTMS for Train Controllers
- Introduction to ERTMS On-board Systems
- Introduction to Maintenance of On-board ERTMS Systems
- Advanced Maintenance of On-board ERTMS Systems

Developed and delivered in partnership with



The Digital Railway

Introduction to ERTMS On-board Systems

Qualification

The course is assessed by an on-line knowledge assessment. NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

European Rail Traffic Management System (ERTMS) is currently being installed as the first choice of futuristic train control throughout several high profile projects within the UK. The use of this sophisticated modern technology changes the methods of working on the rail network, as in some cases line-side signals will no longer be used. This impacts all involved in operating and maintaining the railway and the rail vehicles that the control system affords safe passage to.

This introductory level course to European Train Control System (ETCS)/ERTMS, is particularly suited as an introduction to the on-board systems for drivers, installation and maintenance staff and project managers.

Key Outcomes

On successful completion of the course the delegate will be able to:

- Understand the function of ETCS equipment within the broader ERTMS architecture
- Identify on-board ETCS equipment and what is required for different levels of ETCS application
- Outline the principles for the installation, testing and maintenance of on-board ETCS equipment including interoperability with trackside equipment
- Explain the function of on-board ETCS equipment including interfaces with the vehicle and with GSM-R equipment
- Understand the impact of ETCS on new processes and procedures

Requirements

Have attended the Introduction to ERTMS module and/or have a basic understanding of the European Rail Traffic Management System (ERTMS) and its application to the UK railway.

Location

Northampton

Duration

Half Day

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

This course is applicable to:

- Designers (by way of background only)
- Installers
- Rolling stock maintainers
- Train drivers

Other courses you may be interested in:

- ERTMS for Train Controllers
- ERTMS for Train Crew and Dispatch
- Introduction to Maintenance of On-board ERTMS Systems
- Advanced Maintenance of On-board ERTMS Systems

Developed and delivered in partnership with



The Digital Railway

Introduction to Maintenance of ERTMS On-board Systems

Qualification

The course is assessed by both knowledge and practical assessment. NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

European Rail Traffic Management System (ERTMS) is currently being installed as the first choice of futuristic train control throughout several high profile projects within the UK. The use of this sophisticated modern technology changes the methods of working on the rail network, as in some cases line-side signals will no longer be used. This impacts all involved in operating and maintaining the railway and the rail vehicles that the control system affords safe passage to.

This first level course provides a detailed introduction to ERTMS, with particular emphasis on first line preventative and corrective maintenance techniques required for European Train Control System (ETCS) and ERTMS on-board systems.

Key Outcomes

On successful completion of the course the delegate will be able to:

- Identify and describe the function of the various components of ETCS on-board equipment
- Understand specific requirements in relation to installation and maintenance of on-board ETCS equipment e.g. safety regulations
- Understand and follow vehicle maintenance instructions (VMIs) re ETCS equipment and systems
- Access and download information from the on-board systems
- Explain the periodical maintenance requirements and know which tools are used
- Understand the principles of fault finding on ETCS equipment
- Perform post maintenance systems start up procedures and tests

Requirements

The course assumes that delegates have:

- Attended the Introduction to ERTMS module or equivalent
- A basic knowledge of railway signalling principles
- A working knowledge of computer software packages for rail vehicle maintenance and diagnostics
- Prior knowledge and experience of removing and exchanging electronic/electrical equipment on rolling stock

Location

Northampton

Duration

1 Day

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

This course is applicable to rolling stock maintenance personnel and anyone with responsibility for rolling stock maintenance.

Other courses you may be interested in:

- ERTMS for Train Controllers
- ERTMS for Train Crew and Dispatch
- Introduction to ERTMS On-board Systems
- Advanced Maintenance of On-board ERTMS Systems

Developed and delivered in partnership with



Advanced Maintenance of ERTMS On-board Systems

Qualification

The course is assessed by both knowledge and practical assessment.
NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

European Rail Traffic Management System (ERTMS) is currently being installed as the first choice of futuristic train control throughout several high profile projects within the UK. The use of this sophisticated modern technology changes the methods of working on the rail network, as in some cases line-side signals will no longer be used. This impacts all involved in operating and maintaining the railway and the rail vehicles that the control system affords safe passage to.

This second level course provides more detailed skills and knowledge to carry out maintenance on European Train Control System (ETCS) on-board equipment. The course is not equipment specific to a single manufacturer as it covers the principles required to maintain ETCS equipment.

However should particular a manufacturer's equipment be required, then we have the flexibility to adapt the training as required, if suitable access to appropriate specific systems can be made available by the client organisation.

Key Outcomes

On successful completion of the course the delegate will be able to:

- Identify and describe the function of the various components of ETCS on-board equipment
- Understand any specific requirements in relation to installation and maintenance of on-board ETCS equipment e.g. safety regulations
- Access and download information from the on-board systems
- Download and configure software on different on-board units
- Use and interpret ETCS drawings
- Explain the periodical maintenance requirements, select correct tools for various tasks
- Understand the principles of fault finding on ETCS equipment
- Carry out practical fault tracing and corrective maintenance
- Identify and correct errors and failures on the on-board system
- Perform post maintenance systems start up procedure and tests
- Undertake preventive maintenance on on-board equipment
- Calibrate the Balise Transmission Unit
- Safely remove ETCS on-board systems and correctly replace



Requirements

The course assumes that delegates have:

- attended the Introduction to ERTMS module or equivalent
- a basic knowledge of railway signalling principles
- a working knowledge of computer software packages for rail vehicle maintenance and diagnostics
- prior knowledge and experience of removing and exchanging electronic/electrical equipment on rolling stock

“I’m a passionate believer in the opportunity we have to lay out the blueprint for a technological transformation of rail in this country; a railway where in just 15 years or so we could lead the world in digital train control, delivering more capacity, reliability, speed and safety all at lower cost and with a smaller environmental footprint.”

Mark Carne, CEO, Network Rail
George Bradshaw Address (February 2015)

Location

Northampton

Duration

5 Days

Delivery Channel

Face to face

Maximum Attendees

8

Candidate Profile

This course is applicable to:

- Rolling stock maintainers and technicians

Other courses you may be interested in:

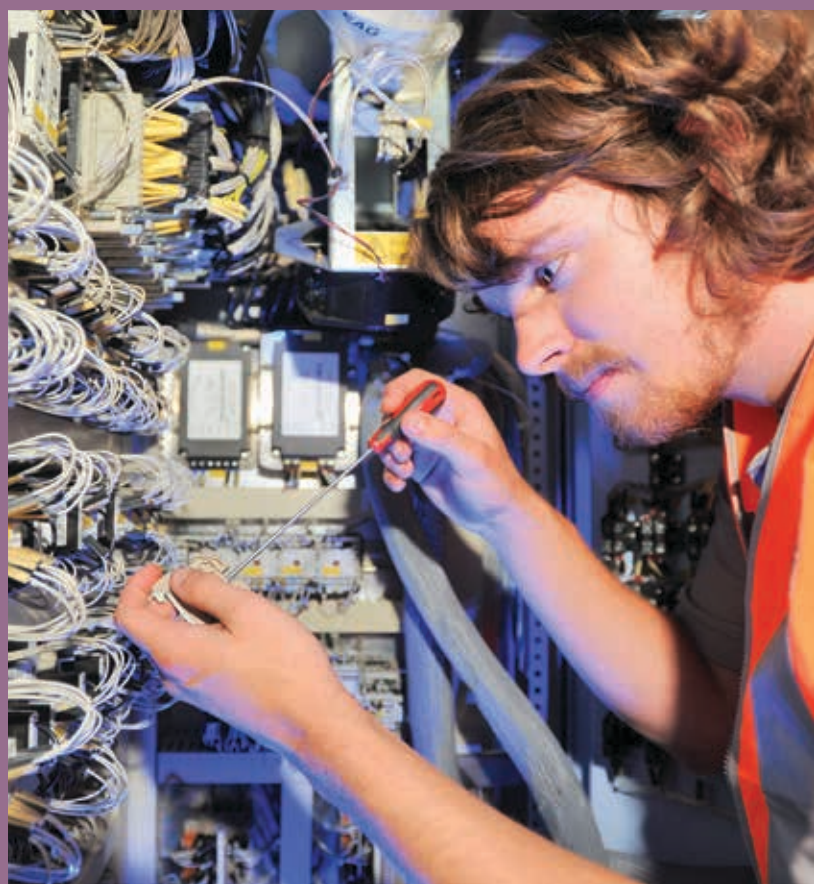
- ERTMS for Train Controllers
- ERTMS for Train Crew and Dispatch

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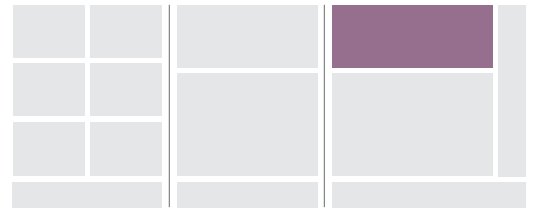


The Digital Railway

“Sophisticated telecommunications networks quietly form the technical arteries of the UK rail infrastructure”



Advanced Telecoms Introduction



Our Curriculum

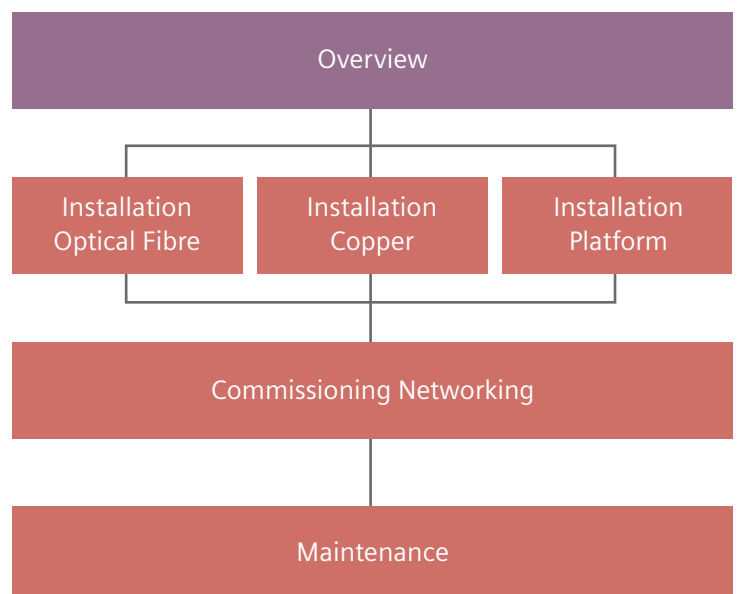
When most of us think about telecommunications networks, what we usually have in mind are voice calls, text messaging and internet access. On the railway network however, telecoms technology is far more advanced: it controls the equipment that keeps trains on the tracks and passengers safe. Whenever high speed trains are involved, accuracy matters.

Sophisticated telecommunications networks quietly form the technical arteries of the UK rail infrastructure. Highly skilled telecommunications engineers use ultra-modern processes, techniques and equipment to install, commission and maintain one of Europe's most robust safety-critical telecoms networks. A Railway Telecommunications Engineer needs to be able to draw on an extensive catalogue of skills to deliver engineering projects to the impeccable standards required for high speed rail.

Railway telecommunications systems use three main transmission mediums – copper wiring, optical fibre cable and radio transmission – to carry a whole range of different services, including signalling; on train information systems; station information and dispatch systems; and GSM-R communications: all combining to make the concept of the digital journey a reality.

NTAR will take delegates seeking a career in this field through the whole asset lifecycle: from overview to installation to commissioning and finally maintenance of the installed system.

To start your employees on their digital journey, talk to us about our technical modules set out in this directory.



The Digital Railway: Overview Courses

Railway FTN / GSMR Network Overview

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will give the student a high level understanding of how the FTN/GSMR network works and what services it provides within the Rail environment and will include:

- A practical walk round within our indoor rail telecoms environment
- Entry into real life Railway FTN/GSMR equipment rooms & track side enclosures
- An explanation of how all components fit into the network and the services it provides
- Reference diagrams of all network components with detailed notes

Key Outcomes

An understanding of the telecoms network for UK railways.

Requirements

There are no specific requirements for this course.

Developed and delivered
in partnership with



Location

Northampton or In-house

Duration

2 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T) Managers, S&T Engineers, S&T Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Overview Courses

Railway FTN / GSMR REB DC Power

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when working with DC power
- Health and safety considerations when working with heavy loads
- Health and safety considerations when working with electrical test equipment
- Battery Chemistry and Safety Implications
- Chargers, Power Supplies and Solid State Switches
- Circuit breakers, Fuses and Surge Protection
- Operational Testing, Load Testing and Fault Finding

Key Outcomes

An understanding of the power requirements for Fixed Telecoms Network and GSMR networks on UK railways.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered
in partnership with



Location

Northampton or In-house

Duration

2 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T)
Managers, S&T Engineers, S&T
Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Overview Courses

Railway IP Systems Commissioning

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Ethernet and TCP-IP Introduction
- ADSL, Routers, Switches and IP Addresses
- Introduction to Structured Cabling
- Patch Panels and Connectors
- Testing Structured Cabling
- Fibre Cabling, Patch Panels and Connectors
- Testing Fibre Link Cables

Key Outcomes

An understanding of the Internet Protocol Systems currently operating on UK railways.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered
in partnership with



Location

Northampton or In-house

Duration

5 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T)
Managers, S&T Engineers, S&T
Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Overview Courses

Railway Customer Information Systems

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when working at height on platforms
- Health and safety considerations when working with electrical test equipment
- Fire Alarm Links and Implications
- Display Types
- Display Cabling
- Introduction to Structured Cabling
- Introduction to Local Fibre Cabling and Connectors
- Back Office Systems
- Local Control
- Remote Control & PA Links

Key Outcomes

An understanding of the Customer Information Systems operating on UK railways.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered
in partnership with



Location

Northampton or In-house

Duration

3 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T)
Managers, S&T Engineers, S&T
Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Overview Courses

Station PA Systems

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when working with high power amplifiers
- Health and safety considerations when working at height on platforms
- Health and safety considerations when working with electrical test equipment
- Underground or Section 12 Systems
- Fire Alarm Links and Implications
- Local and Long Line PA System
- Amplifiers and Power Ratings
- Local Control Panels and fixed point Microphones
- Wireless Microphones
- Speaker Types and Speaker Wiring
- Recorded Message Machines
- Voice Recorders

Key Outcomes

An understanding of the Stations PA systems currently operating in UK railways.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered in partnership with



Location

Northampton or In-house

Duration

3 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T) Managers, S&T Engineers, S&T Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Overview Courses

FTN Networking and Connectivity for Commissioning Staff

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

During this module the student will have the opportunity to use our fully functional replica of FTN covering the following areas:

- Health and safety considerations when working with Alcatel FTN equipment
- PDH Sampling Rates and Pulse Code Modulation
- PDH multiplexing and higher order multiplexing
- SDH international standards
- Basic AD Drop Multiplexing
- STM Network types
- STM 1, 4 and 16 signals
- The STM Frame structure
- The concepts of the Container, Virtual Container, Tributary Units, Tributary Unit Groups and STM-1 Aggregate Signal
- Error Monitoring Bytes and where they are found
- First Line Maintenance functions of FTN equipment
- Use of craft terminal software to access the fault indicators
- Log onto and interrogate the SCADA to assist in fault analysis
- Describe the layout of a TEH
- Describe and manipulate FTN connectivity over 1.5km fibre and copper network
- Integrate services over fibre, copper & RF

Key Outcomes

An understanding of the TN networking and connectivity in UK Rail.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered
in partnership with



Location

Northampton or In-house

Duration

5 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T)
Managers, S&T Engineers, S&T
Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Installation Courses

Railway Optical Fibre Cable Joint Preparation and Splicing

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when working with Optical fibre cables
- Routing of Optical fibre cables in Rail approved containment (both armoured & DISAC)
- Preparation of Optical fibre cables for jointing (using rail approved tyco fist enclosures)
- Bare fibre management within the tyco fist enclosure (including DISAC colour codes)
- Cleaving & splicing techniques for Single mode Optical fibre cable
- Sealing and correct labelling of railway telecoms enclosures

Key Outcomes

An understanding of the techniques employed in Railway Optical Fibre Cable joint preparation and splicing.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered in partnership with



Location

Northampton or Specialist Centre

Duration

3 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T) Managers, S&T Engineers, S&T Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Installation Courses

FTN Optical Fibre Spur Joining and Termination

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when working with Optical fibre cables
- Routing of Optical fibre cables within FTN/GSMR buildings
- Preparation of Optical fibre cables for spur joining (both armoured & DISAC)
- Preparation of Optical fibre cables for distribution frame termination
- Bare fibre management within the Optical distribution frames
- Cleaving & splicing techniques for Single mode Optical fibre cable
- Correct labelling of railway telecoms enclosures

Key Outcomes

An understanding of the techniques employed in FTN Optical Fibre Spur joining and termination.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered
in partnership with



Location

Northampton or Specialist Centre

Duration

2 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T)
Managers, S&T Engineers, S&T
Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Installation Courses

Multimode Optical Fibre Cable for Railway Application

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when working with Optical fibre cables
- Routing of Multimode Optical fibre cable
- Preparation of Multimode Optical fibre cables for termination in distribution frame
- Bare fibre management within the distribution frame
- Cleaving & splicing techniques for multimode Optical fibre cable
- Multi-mode optical fibre testing - insertion loss fibre network testing
- Applications for multimode fibre within rail (CCTV, LAN, DOO system)

Key Outcomes

An understanding of the techniques employed in Multimode Optical Fibre Cabling.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered in partnership with



Location

Northampton or Specialist Centre

Duration

2 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T) Managers, S&T Engineers, S&T Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Installation Courses

Railway Optical Fibre Testing to FTN / GSMR Standards

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when working with Optical fibre cables
- Optical transmission safety for LASER & LED systems
- Optical test equipment care and cleaning of test equipment & connectors
- Recording of optical loss measurements
- Bi-directional loss measurement analysis (using desktop OTDR software)
- Loss parameters for FTN/GSMR network
- Wavelength and pulse width selection including full OTDR setup procedure
- Fault finding using ODTR distance markers and fault rectification procedure
- Network fibre tracing with visual LASER light using our FTN replica network

Key Outcomes

An understanding of the techniques employed in Railway Optical Fibre Testing to FTN / GSMR standards.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered in partnership with



Location

Northampton or Specialist Centre

Duration

3 Days

Delivery Channel

Face to face

Maximum Attendees

6

Candidate Profile

Signalling & Telecoms (S&T) Managers, S&T Engineers, S&T Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Installation Courses

Railway Optical Fibre Testing Result Analysis for Managers

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the an office environment with regards to:

- Use of OTDR analysis software for Managers that want to validate optical test results. In this module each student will be taught how to measure losses of optical cables, including units of measurement, jargon busting and FTN/GSMR loss standards.

Key Outcomes

An understanding of the techniques employed in Railway Optical Fibre Testing result analysis.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered in partnership with



Location

Northampton or Specialist Centre

Duration

1 Day

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T) Managers, S&T Engineers, S&T Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Installation Courses

Railway Copper Cable Jointing and Termination

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when working with telecoms cables
- Preparation of 0.63mm & 0.9mm Railway telecoms cables for jointing
- Termination of Railway telecoms cables within FTN buildings and track side enclosures
- Correct jumpering and labelling of telecoms circuits

Key Outcomes

An understanding of the techniques employed in Railway Copper cable jointing and termination.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered
in partnership with



Location

Northampton or Specialist Centre

Duration

2 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T)
Managers, S&T Engineers, S&T
Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Installation Courses

Railway Copper Cable Testing for FTN

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when working with electrical test equipment
- Conductor resistance determination
- Aluminium moisture barrier insulation resistance
- Copper conductor insulation resistance
- In-band attenuation measurement
- Attenuation at 1kHz & 150kHz measurements
- Near end cross-talk at 1kHz & 150kHz measurements
- Psophometric noise measurements
- Test result recording procedure's using desktop software

Because of the complexity of this training the tutor to pupil ratio can be not greater than 4:1

Key Outcomes

An understanding of the techniques employed in Railway Copper cable testing.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered
in partnership with



Location

Northampton or Specialist Centre

Duration

3 days

Delivery Channel

Face to face

Maximum Attendees

4

Candidate Profile

Signalling & Telecoms (S&T)
Managers, S&T Engineers, S&T
Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Installation Courses

Railway Data Cabling for LAN's, CCTV and DOO Systems

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when working with data cabling
- Routing of data cables in rail environment containment
- Termination of Category 5&6 data cables
- Termination of coaxial cables
- Testing and fault finding of data cable networks

Key Outcomes

An understanding of the techniques employed in Railway Data cabling for LANs, CCTV and DOO systems.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered in partnership with



Location

Northampton or Specialist Centre

Duration

2 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T) Managers, S&T Engineers, S&T Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Installation Courses

Railway Blown Fibre Installation

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when working with blown fibre equipment
- Installation of micro ducts and chambers within a blown fibre system
- Install a blown fibre system within the Rail telecommunications infrastructure
- Use of compressed gases to install fibre into ducting
- Termination and Jointing of blown Optical fibre within the Rail Environment

Key Outcomes

An understanding of the techniques employed in Railway Blown Fibre installation.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered
in partnership with



Location

Northampton or Specialist Centre

Duration

2 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T)
Managers, S&T Engineers, S&T
Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Installation Courses

Railway Cable Avoidance Tool (C.A.T & GENE)

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when excavating around buried services
- Use of the Rail approved Radio Detection C.A.T3 & C.A.T4 with GENE
- Cable avoidance techniques when excavating in a Rail environment

Key Outcomes

An understanding of the techniques employed in Railway Cable Avoidance tools.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered
in partnership with



Location

Northampton or Specialist Centre

Duration

1 Day

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T)
Managers, S&T Engineers, S&T
Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Aerial Rigging for Railway GSMR Structures
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Maintenance Courses

Aerial Rigging for Railway GSMR Structures

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations when working on a GSMR structures
- RF awareness training for GSMR structures (public & workforce exposure limits)
- Advanced climber initial certification or re-certification
- Tower rescue & casualty care at height
- Aerial rigging of GSMR structures using 29m lattice mast & 15m mono pole
- Lowering of Mono poles using hydraulic ram
- Leaky feeder installation & tunnel repeater installation
- Rapid repeater antenna replacement
- Connectorization of radiating cables & other RF cables used within GSMR
- Testing of feeder & leaky feeder cables

Key Outcomes

An understanding of the techniques employed in Aerial rigging for Railway GSMR Structures.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered in partnership with



Location

Northampton or Specialist Centre

Duration

3 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T) Managers, S&T Engineers, S&T Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
- Multimode Optical Fibre Cable for Railway Application
- Railway Optical Fibre Testing to FTN / GSMR Standards
- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Railway FTN / GSMR Enclosure Maintenance

The Digital Railway: Maintenance Courses

Railway FTN / GSMR Enclosure Maintenance

Qualification

NTAR bespoke qualification in Advanced Digital Technology.

Learning Objective/Course Overview

This module will prepare the student for work in the rail environment with regards to:

- Health and safety considerations for personnel maintaining Railway REBs
- Air conditioning maintenance procedures
- Equipment Racking replacement
- Building maintenance including locking solenoid replacements

Key Outcomes

An understanding of the techniques employed in maintaining Railway FTN / GSMR Enclosures.

Requirements

An understanding of rail telecoms and an overview of the telecoms technology on UK railways.

Developed and delivered
in partnership with



Location

Northampton or Specialist Centre

Duration

2 Days

Delivery Channel

Face to face

Maximum Attendees

12

Candidate Profile

Signalling & Telecoms (S&T) Managers, S&T Engineers, S&T Maintenance Staff, S&T Project staff

Other courses you may be interested in:

- Railway FTN / GSMR Network Overview
- Railway FTN / GSMR REB DC Power
- Railway IP Systems Commissioning
- Railway Customer Information Systems
- Station PA Systems
- FTN Networking and Connectivity for Commissioning Staff
- Railway Optical Fibre Cable Joint Preparation and Splicing
- FTN Optical Fibre Spur Joining and Termination
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- Railway Optical Fibre Testing Result Analysis for Managers
- Railway Copper Cable Jointing and Termination
- Railway Copper Cable Testing for FTN
- Railway Data Cabling for LAN's, CCTV and DOO Systems
- Railway Blown Fibre Installation
- Railway Cable Avoidance Tool (C.A.T & GENE)
- Aerial Rigging for Railway GSMR Structures

Contact us

We welcome all enquiries.

If you are a business or individual interested in finding out more about NTAR, and the courses and services that we offer, please do not hesitate to contact us at our state-of-the-art facility in Northampton.

We would also be keen to hear from you if you are a training provider or supplier interested in working with NTAR, to further support our curriculum.

We can be contacted through the enquiry form on our website, by email or by calling us on:

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