OVERVIEW OF ERTMS/ETCS

Live Online Training: Provides attendees with critical insight into the system, its technologies and operational requirements

Course Parts will commence at 15:00 and end at 18:00 (AEST). There will be short breaks during each course Part.


A full understanding of the basics of ERTMS, what it is, how it originated and why it exists.

A working appreciation of ERTMS’ architecture, including traffic management, operating rules, ETCS and GPRS.

A knowledge of the various ERTMS functions and language.

The different ERTMS levels.

A detailed knowledge of Trackside architecture Level 1/L2/L3 and Train-borne architecture Level 1/2/3.

Understand ERTMS train modes.

Gain knowledge of the driver-machine interface and how this impacts operations and training.

The issues regarding Train-focused and infrastructure-focused implementation strategies.

What Future developments might be and how they will affect design and implementations.

Appreciate the complexity of ERTMS implementation.

Understand the impact that ERTMS has on safety and operations.

Have a means to access relevant information regarding ERTMS standards.

An appreciation of safety assurance challenges.

Any member of staff – decision makers, project managers, engineers, safety specialist, systems engineers, line managers, software specialists, system integrators, designers and others who are dealing with ERTMS implementation.

The course will enable attendees to have the right tools to facilitate a structured and robust approach to implementing and managing ERTMS railway projects.

Recommended Pre-requisites:
Participants should have a general understanding of engineering and project management principles and practice on the railway.

Phone
+61 (02) 9080 4395

Email
training@informa.com.au

Online

OVERVIEW OF ERTMS/ETCS
Course Parts will commence at 15:00 and end at 18:00 (AEST).
There will be short breaks during each course Part.

COURSE OUTLINE

General Introduction to ERTMS
• What is ERTMS?
• Brief History of ERTMS
• Interoperability
• Where is ERTMS used?

ERTMS Functions and ERTMS Levels
• Where the main functions of ERTMS are specified
• Main Functions of ERTMS
• Speed Supervision
• Movement Authority
• ATP Functions
• Levels (1/2/3)

Trackside Architecture L1/L2 Train borne Architecture L1/L2
• Trackside L1 Architecture Balise and LEU
• Trackside L2 Architecture RBC and Balise
• Trainborne Architecture,
  - Driver Machine Interface
  - EuroAntenna
  - Odometeric System
  - European Vital Computer

ERTMS Language and ERTMS Train Modes and the Driver Machine Interface
• Messages
• Telegrams
• Packets
• Variables
• Dynamic Train Modes
• Static Train Modes
• Train Modes (non-leading cab)
• DMI including
  - Full Supervision
  - Speed Limits
  - Targets
  - Supervised Location
  - End of Authority (Target)

Case study on the application of ERTMS in the UK. Learnings and safety assurance implications.

Safety Cases, a session review & conclusion
• Safety Cases and approvals.
• What is the future for ERTMS?
• Limitations?
• Review
• Conclusions

EXPERT COURSE INSTRUCTORS

Dr Howard Parkinson
His project positions at senior levels have included systems assurance manager, senior project manager, lead safety assessor, and head of systems engineering and safety. He has had experience in metro, tram and heavy rail (conventional and high speed) in UK, Australia and other countries.

Howard has expertise in systems engineering, compliance, safety / notified body assessment, safety and reliability engineering, the latest safety standards, European interoperability and UK legislation.

Howard holds a doctorate from the department of mechanical and aeronautical engineering at the University of Manchester and a postgraduate certificate in education. He is a registered chartered engineer in the United Kingdom, a fellow of the Institution of Mechanical Engineers (FIMechE), and a member of the Institution of Railway Signal Engineers (MIRSE).

Clive Osman
Clive is a rail systems engineer and consultant with 36 years of systems development and deployment experience including 27 years in UK and international metro, mainline and high speed rail projects. Experience covers command and control system development, signalling control system delivery, re-signalling scheme development and delivery, metro automation, engineering process development, engineering controls and engineering assurance management.

Clive has a practical and theoretical understanding of railway system integration and have applied UK and international standards to the management of railway system integration activities across the whole lifecycle from concept development through to handover to operations.

He is a capable system design manager and rail system integrator with a record of successfully applying systems engineering principles to design management, rail system integration and interfaces on major projects. Good working knowledge of all systems engineering disciplines and has held system architecture, interfaces, configuration management, requirements management and safety engineering posts.

WHAT OUR CLIENTS SAY
“Nice overview presented. Howard brought a lot of technical experience with him.”
Principal, Shaktl Corp P/L

“Very knowledgeable with significant and relevant experience. Approachable and gave excellent examples of practical application.”
Manager Rollingstock Engineering, Public Transport Services

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4 Part Series
OVERVIEW OF ERTMS/ETCS
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Overview of ERTMS/ETCS

<table>
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<th>Course Code</th>
<th>Location</th>
<th>Course Parts</th>
<th>Month</th>
<th>Standard Price</th>
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<td>All 4 Parts</td>
<td>June 20</td>
<td>$1,995 +199.50 GST</td>
<td>$2,194.50</td>
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Speak with Anton Long or Holly Baldwin on +61 (02) 9080 4455 to discuss your customised learning solution, or email training@informa.com.au