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EDSM According to EN50126

The Essential Guide to Risk & Safety Management In Rail

BLENDDED LEARNING/ONLINE PROGRAM | 6 Self-Paced Modules + 3 Live Interactive Sessions

3 June - 12 July 2024 | 21 October - 29 November 2024



Online Program

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Course Information

Key Learning Objectives

- Demonstrate a sound understanding of the principles of EDSM
- Appreciate risk in the context of the railway, design and safety management
- Describe how design and the safety lifecycle interact and influence each other
- Relate current best practice including latest safety standards EN50126-1/2:2017, EN50129:2018, and EN50716:2023 (Infrastructure & Software for rolling stock), EN50155:2017 (Hardware for Rolling stock), to your own business
- Identify and use relevant standards to aid management of design risk
- Identify hazards, assess risks and understand risk assessment and its approaches
- Discover relevant standards and illustrate how risks in general should be managed
- Describe different approaches to risk acceptance and SFAIRP and learn to apply the current and developing legislative requirements for rail design risk
- Contribute to a safety plan and communicate safety-related information including hazard logs and other safety records
- Understand the need for a risk-based system engineering lifecycle approach to enable built-in safety, value and performance
- Make decisions which optimise system safety and engineering design requirements in a business context
- Explain the concept of the designer as a 'rail safety worker' and its implications
- Use case studies to understand the potential for things to go wrong and develop practical risk management skills
- Understand project management, systems engineering and integration, validation and stakeholder management in the overall rail business context.

Who Will Benefit

Any member of staff – decision makers, project managers, line managers, engineers, designers and others – involved with changes to the railway need an understanding of the latest best practice. EDSM According to EN50126 course provides a structured and robust approach to managing complex railway projects safely that is aligned with the LATEST CENELEC standard EN50126-1/2:2017, EN50129:2018 and EN 50716:2023 and AS4292.2006 for infrastructure, rolling stock, hardware and software.

Recommended Prerequisites

Participants should have a general understanding of engineering and project management principles and practice.



"Very knowledgeable with significant and relevant experience. Approachable and gave excellent examples of practical application."

Manager Rollingstock Engineering, Public Transport Services

About the Course

The EDSM According to EN50126 course provides engineers, managers and others involved in Rail safety-related projects with a detailed understanding of the fundamentals of EDSM supported by competency-based structure.

The opening module provides background to EDSM and a brief overview of its application in the railway drawing upon best practice. The following modules introduce a number of EDSM fundamentals and the approach suggested by good practice and standards for putting them into place.

Comprehensive guidance on implementing safe work systems in the railway is provided and all participants will have the opportunity to gain hands-on experience of the main techniques involved.

The course content is mapped to:

- Industry standard competencies, skills and evidence requirements relevant to rail safety work
 - Industry regulations
 - Australian and international standards
- Information is interspersed with practical exercises. There is a short multiple-choice examination at the end to assess the identified learning outcomes.

Meet Your Course Director



Howard Parkinson

Howard is a chartered engineer with over 20 years of experience in the international railway industry, more recently as an independent consultant, researcher and trainer. He has experience in signaling, rolling stock, infrastructure and railway systems projects at a senior level and has just finished an assignment in Australia working on systems integration for automatic train protection.

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).

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

His current research interests include safety engineering in the railway, accident investigation and systems engineering. Howard has been deployed internationally in countries including: Australia, Korea, Germany, The Netherlands, UK, Croatia, Saudi Arabia, Canada and China. In addition to his consulting and research work, Howard designs, develops and delivers training to industry in the areas of engineering, safety and risk management.

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) including the Australasian branch.

Course Outline

MODULE 1

- Introduction to EDSM & Acronyms
- Understanding risk
- Examples of engineering and design safety risk in rail
- Intro to EN50126-1/2:2017

MODULE 2

- Case studies of accidents related to design: Learning from the mistakes of others
- Accident case study: Detailed case study caused by design errors and inadequate EDSM

MODULE 3

- Standards for engineering safety
- Software and Electronics hardware and EN50128:2011 and EN50129:2017 and SIL Concepts. EN50155, EN 50716:2023
- Identify, Assessing and Mitigating risk
- Reliability and Maintainability (RAM), Verification and Validation (V&V)

MODULE 4

- What does legislation say about rail design/ engineering safety risk? Demonstration of SFAIRP and compliance

Case study: A practical application of the concept of SFAIRP

MODULE 5

- Safety management systems and quality management
- Safety organisational issues
- Safety acceptance and approval processes
- Security from cyberthreats

MODULE 6

- Railway systems engineering and integration
- Sum up and the way forward – The new Digital railway
- Course examination

June - July 2024

Live Interactive Session:	13 June	17:00 AEST (13 June - 07:00 GMT)
Live Interactive Session:	27 June	17:00 AEST (27 June - 07:00 GMT)
Live Interactive Session:	11 July	17:00 AEST (11 July - 07:00 GMT)

October - November 2024

Live Interactive Session:	31 October	18:00 AEDT (31 October - 07:00 GMT)
Live Interactive Session:	14 November	18:00 AEDT (14 November - 07:00 GMT)
Live Interactive Session:	28 November	18:00 AEDT (28 November - 07:00 GMT)

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Easy Ways to Register



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EDSM According to EN50126

Course Code	Location/ Format	Course Dates	Standard Price	
P24GO07ON	Online Program	3 June -12 July 2024	\$2,695.00 + \$269.50 GST	\$2,964.50
P24GO07ON02	Online Program	21 October - 29 November 2024	\$2,695.00 + \$269.50 GST	\$2,964.50

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