

AccessERA



As the penalties imposed on companies that fail to meet legislative and regulatory safety requirements increase, the optimisation of design to ensure the operational safety of complex systems performing safety-related functions becomes ever more critical. A detailed safety lifecycle management approach to product development is essential. Hazard and risk identification, management, analysis and mitigation are all necessary engineering disciplines to be performed in order to influence design both early on and throughout the product lifecycle.

This course provides a thorough grounding in the product safety lifecycle, and includes information on hazard identification and analysis techniques such as Preliminary Hazards Analysis (PHA) and Hazard and Operability Study (HAZOPS). Analysis of system design is an integral part of the course and techniques such as Fault Tree Analysis (FTA) and Failure Modes and Effects Analysis (FMEA) will be explained. Safety planning requirements, Hazard Log Management, and safety arguments and cases will also be covered, as will the implications of the Haddon-Cave report. Interactive workshops, where results and techniques can be discussed, are an essential element of the course.

## Your Programme

### Day one

**08.45** Registration and refreshments

**09.00** **Introduction**

#### Basic concepts and definitions

- Definitions of hazard, accident, risk and safety.

#### Basic concepts exercise

#### Introduction to risk

- History and legal background
- Tolerability
- Public perception and acceptance.

Refreshments

#### The safety lifecycle

- Steps in the safety lifecycle
- Relation to the development lifecycle
- Safety planning.

#### Safety planning exercise

**12.45** Lunch

#### Preliminary Hazard Analysis (PHA)

- Hazard and accident identification and analysis
- Fixing the system boundary and scoping the analysis
- PHA techniques
- Who should get involved?
- Introducing accident sequences.

#### PHA exercise

Refreshments

#### Safety requirements

- Understanding the different safety requirements
- Safety functions
- Safety integrity
- Safety targets
- Determination of requirements.

#### Summary

**17.00** Close.

### Day two

**08.45** Refreshments

**09.00** **Overview of day two**

#### Risk assessment

- Risk estimation techniques
- Risk matrix
- Limitations and alternatives.

Refreshments

#### Risk assessment exercise

**13.15** Lunch

#### Hazard management

- Assessing risks through the safety lifecycle
- Using a hazard log to manage risk
- Problems with hazard logs
- Hazard closure
- Incident reporting and corrective action tracking.

Refreshments

#### Safety arguments and safety cases

- Basis of a safety argument
- Preparing a safety case document
- The implications of the Haddon-Cave report.

#### Summary and questions

**16.00** Close.

**Logica, Spring delegate 2011**  
"Useful content, well presented."

### Related course

**Software safety: Software development for safety-related systems:** 14-15 September 2011  
For more information or to book a place on this course, please visit: <http://shop.era.co.uk>

### Ever thought about in-company training?

This course can be delivered at your site. To discuss your training requirements, please call the Events Team on +44 (0)1372 367439.



## Your speakers



### David Annas - Senior Safety Consultant, ERA Technology Ltd

Prior to joining ERA Technology, David served for 25 years as an Aircrew Officer in the Royal Air Force gaining over 4000 flying hours on a mixture of operational and training aircraft. David is now a Senior Safety Consultant and has worked on a number of projects within the Defence & Aerospace sector.



### Carolyn Salmon - Senior Safety Consultant, ERA Technology Ltd

Carolyn has undertaken a range of safety engineering activities including leading independent safety assessment projects, providing safety consultancy and conducting safety assessments in a range of different industries including rail, military and aviation. Carolyn provides expert consultancy and support to ensure that applications are not only safe but are being developed in accordance with the appropriate standards.

## Booking form

Please photocopy this form if you wish to register more than one delegate. Send a second person at a discounted price!

### Delegate details

Name <small>Dr Mr Mrs Miss</small>
Job Title
Organisation
Address
Postcode
Telephone
Fax
E-mail
VAT number <small>(EU customers only)</small>
<input type="checkbox"/> Please tick if you are happy to receive further information about ERA Technology Ltd via e-mail. It is our policy NOT to supply your details to third parties.

### Bookings

I wish to make a firm booking for:

#### Hazard and Risk Analysis for Safety-Related Systems

4-5 October 2011 Ref: 31132  20-21 March 2012 Ref: 31206

### Fees\*

Fee rate	Fee	VAT@20%	Total	Please tick
Early Booking Rate	£720.00	£144.00	£864.00	
Standard Rate	£800.00	£160.00	£960.00	

\*AccessERA subscribers and additional delegates receive a 10% discount on these rates. If you subscribe to AccessERA and would like to use your AccessERA credits to attend, please contact The Events Team on: +44 (0)1372 367439. For more information on booking rates, please go to: <http://shop.era.co.uk>.

### Payment method

Purchase order no.....
Payment of £..... is enclosed <b>OR</b> please charge to: Access/American Express/Delta/Diners Club/Eurocard/Mastercard/Switch/Visa
Name of cardholder.....
Card number <input type="text"/>
Expiry date <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Issue No <input type="text"/>
Payment has been made by bank transfer <input type="checkbox"/>
VAT registration no: GB 100 2026 06

For AccessERA use only

Invoice  Paid  AccessERA credits

BC12..... Date.....

Project No 40003.....

### Venue:

Your course will take place at ERA Technology Ltd, Cleeve Road, Leatherhead, Surrey KT22 7SA, UK. It is a 15 minute walk from Leatherhead main-line station. Visitor car parking is available on-site. A location map and directions are available at: [www.era.co.uk/location](http://www.era.co.uk/location).

### Early booking rates:

Early booking rates are valid up to one calendar month before the date of the course and can only be claimed at the time of booking.

### Additional booking rates:

Additional booking rates are applicable to second and subsequent delegates and may only be claimed at the time of booking.

### Did you know?

An AccessERA subscription is an excellent way of accessing technical advice and information in the right format at the right time. All AccessERA subscribers receive a 10% discount on the current course price at time of booking when the booking is made directly with the Events Team. To find out more, please call us on: +44 (0)1372 367439 or e-mail: [events@era.co.uk](mailto:events@era.co.uk).

### Ways to book:

- <http://shop.era.co.uk>  
Total security is assured and normal booking conditions apply.
- +44 (0)1372 367439 - please be prepared to quote a purchase order number or supply us with credit card details.
- +44 (0)1372 367321\*
- The Events Team, ERA Technology Ltd, Cleeve Road, Leatherhead, Surrey KT22 7SA.

\* Please note that booking forms received without payment will be considered binding and invoiced automatically.

### Enquiries:

Please contact the Events Team by calling: +44 (0)1372 367439 or e-mail: [events@era.co.uk](mailto:events@era.co.uk).

### How to pay:

Payment must be made before attendance at the event and must be made in £ sterling only. Acceptable methods of payment are by cheque (payable to ERA Technology Ltd), credit card or bank transfer. Bank transfers, free of all charges, can be made to ERA Technology Ltd via: HSBC, 9 The Boulevard, Crawley, RH10 1UT; sort code: 40-18-22, account no. 22178095. When paying by bank transfer, please quote the relevant course, reference number and the delegate and company name.

### Cancellations and transfers:

Cancellations and transfers must be received in writing to the following address: The Events Team, ERA Technology Ltd - AccessERA, Cleeve Road, Leatherhead, KT22 7SA. Cancellations and transfers received up to the 15th working day prior to the event will be subject to a charge of 20% of the invoiced course fee + VAT or 20% of the AccessERA credits charged. After this 15 day deadline, transfers cannot be accepted and cancellations will be subject to payment in full or 100% of the AccessERA credits charged. Substitutions can be made at any time.

### ERA Technology Ltd:

ERA Technology Ltd works at the leading edge of advanced technology consultancy and design. The business provides specialist, high value-added, technology-based services including design and development, testing, assessment and expert advice. For further information visit: [www.era.co.uk](http://www.era.co.uk).

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