



## Marcus Punch Pty. Ltd. *Risk and Reliability*

(in co-operation with TÜV Rheinland)

**Presents, in 2015**

### **FS Technician (TÜV Rheinland) 3-day Course and Examination**

This three (3) day course provides a pathway to a FS Technician (TÜV Rheinland) certificate in the Machinery area of the functional safety discipline with a particular emphasis on mining (and allied) industry applications within the Australian and New Zealand legislative context.

Students will learn how AS61508, AS62061, ISO13849 and allied standards influence the specification, design, installation, commissioning, validation, operation, maintenance, modification and decommissioning of safety-related systems in order to reduce risk from mining (and allied) industrial plant and machinery hazards and ensure the safety of people.

Furthermore, it covers the principles and topics of the Process / Safety Instrumented Systems (AS IEC 61511 / SIS) area, for those who may be working in an industry (such as mining) where both machinery and process / SIS applications may occur.

#### **Who Should Attend?**

Technicians and others working in the field of functional safety in the mining (or allied) industries in Australia and New Zealand.

The pre-requisites are a technician's qualification in a relevant discipline (eg. electrical, electronics, mechanical, IT, PLC's, instrumentation) and a minimum of two (2) years experience working with mining (or allied) industrial plant or machinery.

The course will be of particular benefit to:

- maintenance planners and supervisors,
- instrumentation / control / electrical / electronics / mechanical technicians, and
- field and control room operators.

And those involved in:

- installation, commissioning & testing,
- verification and validation,
- operation and maintenance,
- modification / change management, and decommissioning.

#### **Course Content.**

1. Introduction to the TÜV Functional Safety programme.
2. Introduction to Functional Safety.
3. Australian / New Zealand Legislative Context.
4. Overview of the Standards.
5. Functional Safety Management.
6. Safety Lifecycle.
7. Authorisations.
8. Installation & Commissioning.
9. Safety Validation.
10. Operation.
11. Reporting.
12. Over-rides.
13. Maintenance & Proof-testing.
14. Diagnostics.
15. Alarms.
16. Modifications & Management of Change.
17. Decommissioning
18. Case Studies
19. Revision
20. Exam

#### **Workshop Presenter.**

Marcus Punch, Director, Marcus Punch Pty. Ltd.  
FSExpert (TÜV Rheinland, #154/10, Machinery)

#### **Workshop Materials.**

Course materials, lunch and morning and afternoon tea will be provided to the participants. The course materials will include:

- A hard-copy of the student notes, covering the course material and key concepts.
- An electronic copy of functional safety templates, covering the application of the course materials.
- A hard-copy of the presenter's textbook "Functional Safety for the Mining and Machinery-based Industries", Edition 2.

#### **Examination**

An optional exam is scheduled at the end of the last (third) day. Students seeking a Functional Safety Technician (TÜV Rheinland) certificate must pass this exam and meet all other eligibility requirements.

This is a one-hundred (100) minute closed-book examination consisting of 20 multiple-choice and 10 short-answer (approximately 25-50 words) questions. The pass mark for FS Technician (TÜV Rheinland) eligibility is 70%.

Students may also attend the course without taking the exam.

#### **Course Locations, Dates and Timing.**

A course schedule will be promulgated in early 2015.

#### **Cost (including examination and TÜV certificate fees)**

€1600.00 (approx. \$AUD2400 + GST), per attendee

#### **Contact for Information and Bookings.**

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