

**AS IEC 62508—2011**  
IEC 62508, Ed.1.0 (2010)

AS IEC 62508—2011

**Australian Standard<sup>®</sup>**

**Guidance on human aspects of  
dependability**



This Australian Standard® was prepared by Committee QR-005, Dependability. It was approved on behalf of the Council of Standards Australia on 19 October 2011. This Standard was published on 14 November 2011.

---

The following are represented on Committee QR-005:

- Asset Management Council
  - Australian Industry Group
  - Australian Organisation for Quality
  - CSIRO Information and Communication Technologies Centre
  - Department of Defence (Australia)
  - Energy Networks Association
  - Engineers Australia
  - Independent Transport Safety & Reliability Regulator
  - Risk Management Association of Australia
  - Risk Management Institution of Australasia
  - The University of New South Wales
  - University of Wollongong
- 

This Standard was issued in draft form for comment as DR AS IEC 62508.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

---

### **Keeping Standards up-to-date**

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued.

Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting [www.standards.org.au](http://www.standards.org.au)

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at [mail@standards.org.au](mailto:mail@standards.org.au), or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

---

AS IEC 62508—2011

Australian Standard<sup>®</sup>

## **Guidance on human aspects of dependability**

First published as AS IEC 62508—2011.

### **COPYRIGHT**

© Standards Australia Limited

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968.

Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 0 7337 9959 4

## PREFACE

This Standard was prepared by the Standards Australia Committee QR-005, Dependability.

The objective of this Standard is to provide guidance on human aspects of dependability and the application of human centred design methods throughout the system lifecycle to improve dependability performance. The standard applies to any industry where human machines relationships exist and is intended for technical personnel and their managers.

This Standard is identical with, and has been reproduced from IEC 62508, Ed.1.0 (2010), *Guidance on human aspects of dependability*.

As this Standard is reproduced from an International Standard, the following applies:

- (a) Its number appears on the cover and title page while the International Standard number appears only on the cover.
- (b) In the source text ‘this International Standard’ should read ‘this Australian Standard’.
- (c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian Standard</i>	
IEC		AS IEC	
60300	Dependability management	60300	Dependability management
60300-1	Part 1: Dependability management systems	60300.1	Part 1: Dependability management systems
60300-2	Part 2: Guidance for dependability programme management	60300.2	Part 2: Guidance for dependability programme management
60300-3-15	Part 3-15: Application guide—Engineering of system dependability	60300.3.15	Part 3.15: Application guide—Engineering of system dependability

The term ‘informative’ has been used in this Standard to define the application of the annex to which it applies. An ‘informative’ annex is only for information and guidance.

## CONTENTS

1	Scope .....	7
2	Normative references .....	7
3	Terms, definitions and abbreviations .....	7
3.1	Terms and definitions .....	7
3.2	Abbreviations .....	10
4	Human aspects.....	10
4.1	Overview .....	10
4.2	Components of the system and their interactions.....	11
4.2.1	Introductory remark .....	11
4.2.2	Goals.....	11
4.2.3	Humans .....	12
4.2.4	Machine (interactive system) .....	12
4.2.5	Social and physical environment.....	13
4.2.6	Output .....	13
4.2.7	Feedback from the machine to the person .....	13
4.3	Human characteristics .....	14
4.3.1	Introductory remark .....	14
4.3.2	Human limitations .....	14
4.3.3	Comparison of humans and machines .....	14
4.4	Human performance shaping factors .....	15
4.4.1	External performance shaping factors.....	16
4.4.2	Internal performance shaping factors.....	16
4.5	Human reliability analysis (HRA) .....	16
4.5.1	Overview .....	16
4.5.2	Identifying the potential for human error .....	17
4.5.3	Analysing human failures to define countermeasures .....	17
4.5.4	Quantification of human reliability.....	18
4.6	Critical systems .....	18
4.7	Human-centred design guidelines.....	19
4.8	Human-centred design process .....	20
4.8.1	Human-centred design principles within the design process .....	20
4.8.2	Human-centred design activities .....	21
5	Human-oriented design in the system lifecycle .....	21
5.1	Overview .....	21
5.2	The system life cycle .....	22
5.3	Integrating human-oriented design in systems engineering.....	23
6	Human-oriented design at each life cycle stage .....	24
6.1	Overview .....	24
6.2	Concept/definition stage .....	24
6.2.1	Concept.....	24
6.2.2	Human-centred design planning .....	24
6.2.3	Understanding needs.....	25
6.2.4	System requirements .....	25
6.2.5	Human-centred design requirements .....	25

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- Looking for additional Standards? Visit Intertek Inform Infostore
  - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-