

TABLE OF CONTENTS

Foreword	5
1 Introduction	7
2 Cases and snapshots	21
2.1 Case 1: Good maintenance at BASF; chemical industry	22
2.2 Case 2: Improving maintenance work safety by inherently safe design of a reeling machine	27
2.3 Snapshot 1: Health and safety management system at Romec	31
2.4 Case 3: "Smart" remote-controlled geographical system for maintenance operations: design and development of a prototype	32
2.5 Case 4: Renault, analysis of risk situations	41
2.6 Case 5: Major overhaul of conventional thermal power station	46
2.7 Case 6: Maintenance practice in the printing industry	53
2.8 Snapshot 2: Efforts to reduce accidents related to repair and maintenance of farming equipment in Ireland	57
2.9 Case 7: Safe access system used for the maintenance of a power supply line network	59
2.10 Snapshot 3: Safe maintenance concept for the Oresund fixed link	61
2.11 Case 8: Air France Industries: creating a virtual tool to plan in advance for real-world defects	63
2.12 Case 9: Safe maintenance of hydraulic systems	67
2.13 Case 10: Substitution of dangerous substances in repair and maintenance work	70
2.14 Snapshot 4: How to protect workers from asbestos risks	73
2.15 Case 11: Taking risks with asbestos: What influences the behaviour of maintenance workers?	74
2.16 Case 12: Solutions to reduce stress in occupational maintenance	78
2.17 Snapshot 5: Training based on comprehensive guidelines to improve health and safety in waterways maintenance work	81
2.18 Case 14: A source-oriented strategy to reduce workplace risks during the maintenance of trains	83
3 Conclusions	89
3.1 Lessons learned from good practice	90
3.2 Good safety and health management is at the heart of safe and reliable maintenance	90
3.3 Risk assessment of maintenance tasks	91
3.4 Prevention through design – eliminating hazards at the design stage	92
3.5 Replacing hazardous substances to eliminate or minimise hazards	93
3.6 Training and information as supportive measures	93
3.7 Tackling the stress factors affecting maintenance work	94
4 Key success factors in the prevention of risks during maintenance work	95
5 Reducing the risks: some practical recommendations	99

