DIN SPEC 33440:2013-05 (E)

Ergonomic design of user-interfaces and products for Smart Grid and Electromobility

Contents

Page

Foreword 3

Introduction 4

1 Scope 5

2 Normative references 5

3 Terms and definitions 6

4 Fundamental ergonomic goals and principles 8
4.1 Ergonomics -- General 8
4.2 Ergonomic goals 9
4.2.1 Usability 9
4.2.2 Ease of operation 9
4.2.3 Accessibility/"Zugänglichkeit" 9
4.2.4 User experience (joy of use) (see informative Annex B) 10
4.2.5 Trust (see informative Annex A) 11

5 Application of ergonomic principles and goals to the user interface 11
5.1 User dialogues 11
5.1.1 General 11
5.1.2 Suitability for the task 11
5.1.3 Self-descriptiveness 11
5.1.4 Conformity with user expectations 12
5.1.5 Suitability for learning 12
5.1.6 Controllability 13
5.1.7 Other aspects 14
5.2 Design and layout of interactive elements (input and output) 15
5.2.1 Importance 15
5.2.2 Fundamental procedure 15
5.2.3 Compatibility -- obviousness 15
5.2.4 Selecting the dialogue elements 19
5.3 Presentation of information 20
5.4 User guidance 21
5.4.1 Language 21
5.5 Technical documentation 23
5.5.1 General 23
5.5.2 Language 23
5.5.3 Product description 24
5.5.4 Operating manuals/instructions for use/user information 24

6 Development of ergonomic products and services 25
6.1 Context of use 25
6.1.1 Target population 25
6.1.2 Specification of the functional scope of a product or service 25
6.1.3 Specification of the use environment and possible interferences 25
6.2 Iterative development process 26

Annex A (informative) Trust 27

Annex B (informative) User experience "Joy of use" 28

Annex C (informative) Ease of operation -- Examples 29

Annex D (informative) Recommendations for the design of operating manuals 31

Annex E (informative) Smart meter grids 33

Bibliography 37