

# Design management systems —

## Part 6: Managing inclusive design — Guide

ICS 03.100

|                            |
|----------------------------|
| Confirmed<br>December 2011 |
|----------------------------|

## Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee MS/4, Design management systems, upon which the following bodies were represented:

Association for Project Management  
 Association of Innovation Management  
 Association of MBAs  
 British Standards Society  
 BSI Consumer Policy Committee  
 Defence Manufacturers Association  
 Department of Trade and Industry (Design Policy and Services)  
 Design Council  
 Engineering Industries Association  
 Federation of Small Businesses  
 Institute of Quality Assurance  
 Institution of Civil Engineers  
 Institution of Electrical Engineers  
 Institution of Engineering Designers  
 Institution of Mechanical Engineers  
 Ministry of Defence  
 NAFEMS  
 Royal Institute of British Architects  
 UMIST  
 University of Glasgow  
 University of Surrey

### Drafting committee

The drafting committee MS/4/-/10, Inclusive design, comprised of representatives from the following organizations:

Association of Greater London Older Women  
 Association of MBAs  
 BSI-CPC Consumer Representation in Standardization  
 Centre of Policy on Ageing  
 Design Council  
 Helen Hamlyn Research Centre, Royal College of Art  
 Royal National Institute for Deaf People  
 Tesco Stores  
 The Chartered Institution of Building Services Engineers  
 University of Cambridge  
 University of Reading  
 BSI committee OC/13/-/2 liaison via the Royal National Institute of the Blind

### Amendments issued since publication

| Amd. No                    | Date             | Comments                             |
|----------------------------|------------------|--------------------------------------|
| 15638<br>Corrigendum No. 1 | 20 May 2005      | Correction to Committees responsible |
| 15949<br>Corrigendum No. 2 | 18 November 2005 | Correction to Figure 2               |
|                            |                  |                                      |
|                            |                  |                                      |

This British Standard was published under the authority of the Standards Policy and strategy Committee on 4 February 2005

© BSI 18 November 2005

The following BSI references relate to the work on this British Standard:  
 Committee reference MS/4  
 Draft for comment  
 DC04/3008399

ISBN 0 580 44902 5

# Contents

|                                                                                                                     | Page               |
|---------------------------------------------------------------------------------------------------------------------|--------------------|
| Committees responsible                                                                                              | Inside front cover |
| Foreword                                                                                                            | iii                |
| 0 Introduction                                                                                                      | 1                  |
| 1 Scope                                                                                                             | 2                  |
| 2 Normative references                                                                                              | 3                  |
| 3 Terms and definitions                                                                                             | 3                  |
| 4 Managing inclusive design at the organization level                                                               | 5                  |
| 4.1 General                                                                                                         | 5                  |
| 4.2 Responsibility for inclusive and assignment of tasks                                                            | 7                  |
| 4.3 Reviews of current operations, facilities, knowledge and achievements                                           | 7                  |
| 4.4 Formulation of inclusive design mission statement, objectives, strategies and plans                             | 8                  |
| 4.5 Initiating a corporate campaign to introduce a new orientation towards inclusive design                         | 9                  |
| 4.6 Communication of inclusive design objectives, strategies and programme                                          | 9                  |
| 4.7 Introducing inclusivity into corporate identity and culture                                                     | 10                 |
| 4.8 Corporate infrastructure for managing inclusive design                                                          | 10                 |
| 4.9 Inclusive design in the master design programme                                                                 | 10                 |
| 4.10 Totality of products, services, processes and facilities                                                       | 10                 |
| 4.11 Closeness to markets and success of products                                                                   | 11                 |
| 4.12 Product development and marketing strategies                                                                   | 11                 |
| 4.13 Impact of launch on lifetime profitability of product                                                          | 12                 |
| 4.14 Promotion, distribution, customer support and disposal                                                         | 12                 |
| 4.15 Legal aspects of managing inclusive design                                                                     | 12                 |
| 4.16 Innovative alliances                                                                                           | 12                 |
| 4.17 Investment programmes featuring inclusive design                                                               | 13                 |
| 4.18 Reviews and control of inclusive design standards, activities and procedures                                   | 13                 |
| 4.19 Evaluation of corporate performance                                                                            | 13                 |
| 4.20 Summary check list for introducing a professional approach to inclusive design management into an organization | 14                 |
| 5 Managing inclusive design at the project level                                                                    | 16                 |
| 5.1 General                                                                                                         | 16                 |
| 5.2 Overview of managing inclusive design projects                                                                  | 16                 |
| 5.3 Primary stages of inclusive design projects                                                                     | 21                 |
| 5.4 Summary checklist of basics of effective inclusive design management (project level)                            | 33                 |
| Annex A The challenge of leading inclusivity in business                                                            | 34                 |
| Annex B Tools and techniques for managing inclusive design                                                          | 39                 |

|                                                                                                                                                                                |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Figure 1 — Process for adopting a professional approach to inclusive design at the organization level                                                                          | 6  |
| Figure 2 — Map of primary design project stages                                                                                                                                | 17 |
| Figure 3 — Detail relating to primary stages of inclusive design projects, Stage 1: First awareness and understanding of opportunity                                           | 22 |
| Figure 4 — Detail relating to primary stages of inclusive design projects, Stage 2: Feasibility/Clarify opportunity and prepare context                                        | 23 |
| Figure 5 — Detail relating to primary stages of inclusive design projects, Stage 3: Design origination — Identify/generate options address opportunity                         | 24 |
| Figure 6 — Detail relating to primary stages of inclusive design projects, Stage 4: Design origination — Develop preferred solution concept(s)                                 | 25 |
| Figure 7 — Detail relating to primary stages of inclusive design projects, Stage 5: Design development — Detail design                                                         | 26 |
| Figure 8 — Detail relating to primary stages of inclusive design projects, Stage 6: Design implementation — Realize complete product for delivery                              | 27 |
| Figure 9 — Detail relating to primary stages of inclusive design projects, Stage 7: Launch product                                                                             | 28 |
| Figure 10 — Detail relating to primary stages of inclusive design projects, Stage 8: Sustain product in the market through improvements and updates                            | 29 |
| Figure 11 — Detail relating to primary stages of inclusive design projects, Stage 9: Create range/develop integrated system of products to extend market reach over lifecycle  | 30 |
| Figure 12 — Detail relating to primary stages of inclusive design projects, stage 10: Withdraw product from market                                                             | 31 |
| Figure 13 — Detail relating to primary stages of inclusive design projects, Stage 11: Lifetime review of project and product experience, and overall inclusive design approach | 32 |
| Figure A.1 — UK population by age                                                                                                                                              | 34 |
| Figure A.2 — People with special needs in the UK (approximate % of population)                                                                                                 | 35 |
| Figure A.3 — Single and multiple capability loss — Prevalence of capabilities (% of UK 65+ population)                                                                         | 36 |
| Figure A.4 — Single and multiple capability loss — prevalence of capabilities (% of UK 16+ population)                                                                         | 37 |
| Figure A.5 — People likely to experience problems using IT as a percentage of UK population                                                                                    | 38 |
| Figure B.1 — User pyramid                                                                                                                                                      | 43 |
| Figure B.2 — Inclusive design cube                                                                                                                                             | 44 |
| Bibliography                                                                                                                                                                   | 46 |

## Foreword

This Part of BS 7000 has been published under the authority of MS/4.

The BS 7000 series of British Standards currently comprises the following parts:

- *Part 1: Guide to managing innovation;*
- *Part 2: Guide to managing the design of manufactured products;*
- *Part 3: Guide to managing service design;*
- *Part 4: Guide to managing design in construction;*
- *Part 5: Guide to managing obsolescence;*
- *Part 6: Managing inclusive design – Guide;*
- *Part 10: Glossary of terms used in design management.*

The BS 7000 series of British Standards are relevant to all types of products and services, and to the business processes involved in their creation, fabrication, delivery and sustenance in the market, right through to final disposal, including the management of obsolescence. They apply to all levels of staff and management in all types of organizations operating in the manufacturing, process, service and construction industries, as well as in the public and not-for-profit sectors. Those adopting this standard should seek to benefit from all other relevant parts of this series.

BS 7000-6 will be supported by a regularly updated list of useful publications, organizations, links and resources relating to inclusive design. The intention is to guide newcomers to relevant literature and act as an access point to key websites for use at the discretion of readers. This will be hosted by the Design Council at: [www.designcouncil.org.uk/inclusivedesign](http://www.designcouncil.org.uk/inclusivedesign).

In addition, an extended bibliography of related UK, EU and other European standards and more specialist publications will be downloadable in portable document format (pdf). Originally for the joint CEN/CENELEC Working Group CEN/BTWG 113 *Safety and usability of products by people with special needs*, and CENELEC BT/WG 101-5 *Usability and safety of electrical products with reference to people with special needs*.

Users are also advised to consider the desirability of applying the guidance provided by the BS 7000 series of British Standards to fill in the detail relating to managing design when adopting the BS EN ISO 9000, BS ISO/IEC TR 10000, BS EN ISO 14001 and ISO 19000 series, as well as BS 6079, BS 8300 and BS 8800.

Users are invited to submit technical comments, observations and suggestions to the Technical Committee MS/4 Secretary at BSI (see address on back cover). This will assist the Committee when it reviews the standard in due course and considers additional parts to the BS 7000 series.

This publication is available in larger font. Please contact BSI Customer Service for further information (details on the back cover).

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

### Summary of pages

This document comprises a front cover, an inside front cover, pages ii to iv, pages 1 to 47 and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.



## 0 Introduction

### 0.1 General

It is increasingly recognized that disability is not a simple consequence of an individual's impaired capability, but results from a failure to take proper account of the needs, capabilities and preferences of all potential users when designing products and services. Internationally, significant legislation, regulations and changing attitudes within society have created a framework for a more inclusive society.

NOTE See definition of "product" 3.14.

Organizations that fail to ensure that their products meet the needs of the wider population will be exposed to the possibility of litigation and damage to their reputations. Those adopting a pro-active approach based on a better understanding of consumer needs and aspirations stand to benefit from an improved quality of products; increased sales and customer satisfaction and loyalty; stronger brand values and enhanced brand recognition; greater profitability and improved returns on investment. Everyone benefits.

### 0.2 What is inclusive design?

Inclusive design is comprehensive, integrated design which encompasses all aspects of a product used by consumers of diverse age and capability in a wide range of contexts, throughout the product's lifecycle from conception to final disposal.

Its ultimate goal is to meet the needs of all such consumers and is based on the principle that appropriate access to information, products and facilities is a fundamental human right.

Inclusive design needs to be a key element in an inclusive business strategy. This standard provides a strategic framework and associated processes by which business executives and design practitioners can understand and respond to the needs of diverse users without stigma or limitations.

Inclusive design recognizes diversity by addressing the ability and preferences, for example, of people who:

- have impaired vision and/or hearing (including colour blindness, etc.);
- are from different cultures (with different languages, values and/or customs);
- have language and/or speech impairments (resulting in difficulties with reading, comprehension and in expressing oneself);
- have physical limitations (whether due to temporary or permanent reductions in strength, movement and/or co-ordination; allergies, sensitivity to electromagnetic radiation, etc.);
- are of different ages;
- have varying cognitive abilities;
- have different dietary requirements for medical reasons or through choice;
- have different requirements because of their gender.

By determining the capability demands of a product on users, it is possible to identify and quantify those who have difficulty with, or cannot use it. Designing products to lessen such demands can attract valuable additional market sectors often excluded by competitors. Indeed, satisfaction is more likely throughout the customer base when usability is ensured for all in the target market population.

The true accessibility of products is determined by the accessibility of their weakest component whether packaging, instructions, interface, after sales service and so on. Concentrating attention on one component while neglecting others is likely to result in a product that is weak overall.

### 0.3 Why inclusive design?

The business case for adopting an inclusive approach to design is built around five key drivers and opportunities:

- 1) A better understanding of changing consumer needs, lifestyles, expectations and aspirations: to expand the consumer base, extend product lifecycles and develop brand loyalty.
- 2) A better alignment of an organization's consumer offer with its customers and markets (such as those due to population ageing, new legislation, technological change and the adoption of inclusive design by competitors): to boost turnover, market shares and returns on investment, hence profitability.
- 3) A distinctive competency that creates competitive advantage: to create effective user-centred designs and better-integrated product ranges through the application of human factors principles. These encourage repeat purchases, guard against dissatisfaction due to limitations in usability and accessibility, and minimize the cost of servicing and returns.
- 4) An enhanced ability to identify and exploit opportunities for innovation and the benefits of products: to build and sustain corporate reputation and brand value during social and technological change by surmounting greater design challenges, developing distinctive user-friendly products and generating greater goodwill from powerful overlooked sectors.
- 5) A closer association between staff, investors, corporate values and mission: to maintain workforce loyalty (particularly in the context of a longer working life for employees, an ageing population and changing expectations with regard to retirement); to improve efficiency, enhance motivation and ensure that essential skills are retained within the company.

In sum, inclusive design makes business sense, reflects on the social responsibility of organizations, and provides visible signals of compliance with legislation.

Annex A provides further information on the challenges of leading inclusivity in business.

## 1 Scope

Though the inclusive approach ultimately encompasses the whole of business and management, this part of BS 7000 provides guidance on managing inclusive design at both organization and project levels. It seeks to link design thinking with the core concerns of organizations in other established business disciplines.

This standard is aimed at:

- a) top executives of all organizations offering products and services. It helps them to lead the introduction of an inclusive approach and evolve an appropriate corporate culture that nurtures inclusive success.
- b) middle executives who set up and administer product and service development projects. It helps them formulate better-focused and more enlightened briefs. It also assists in motivating project teams as well as the evaluation of solutions generated.
- c) junior executives and specialists who are assigned to project teams that create and develop products and services. It helps them adopt more appropriate perspectives and approaches to inclusive design.
- d) executives responsible for procuring outsourced product design services and supplies, and for adhering to agreed specifications. It helps them to sustain the inclusive approach throughout the supply chain.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 3811:1993, *Glossary of terms used in terotechnology*.

BS 4778-3.2:1991, *Quality vocabulary — Part 3: Availability, reliability and maintainability terms — Section 3.2: Glossary of international terms*.

BS 6079 (all parts), *Project management*.

BS 7000-1, *Design management systems — Part 1: Guide to managing innovation*.

BS 7000-2:1997, *Design management systems — Part 2: Guide to managing the design of manufactured products*.

BS 7000-10, *Design management systems — Part 10: Glossary of terms used in design management*.

BS EN ISO 9000:2000, *Quality management systems — Fundamentals and vocabulary*.

BS EN ISO 9999:2002, *Technical aids for persons with disabilities — Classification and terminology*.

BS ISO 10007:2003, *Quality management systems — Guidelines for configuration management*.

PD ISO/IEC Guide 71:2001, *Guidelines for standards developers to address the needs of older persons and persons with disabilities*.

## 3 Terms and definitions

For the purposes of this standard, the terms and definitions given in BS 7000-1, BS 7000-2, BS 7000-10, BS 3811:1993, BS 4778-3.2:1991, BS 6079-1:2002, BS EN ISO 9000:2000, BS ISO 10007:2003 and PD ISO/IEC Guide 71:2001 and the following apply.

### 3.1

#### accessibility

physical and sensory access to buildings, products, services and information

NOTE 1 This may be via, say, speaking browsers, sign language animations and Braille.

NOTE 2 Improved accessibility is now supported by legal requirements under the Disability Discrimination Act 1995 [1] in the UK, etc. (see A.1.2).

### 3.2

#### accessible design

design focussed on principles of extending standard design to people with some type of performance limitation to maximize the number of potential customers who can readily use a product, building or service

NOTE 1 This can be achieved by:

- designing products, services and environments that are readily usable by most users without any modification;
- making products or services adaptable to different users (adapting user interfaces, etc.);
- having standardized interfaces that are compatible with special products for people with disabilities.

NOTE 2 Terms such as “design for all”, “barrier-free design”, “inclusive design” and “trans-generational design” are used similarly but in different contexts.

NOTE 3 Accessible design is a subset of universal design where products and environments are usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. [PD ISO/IEC Guide 71:2001]

### 3.3

#### ageing

process associated with changes in capabilities including the acquisition of progressive multiple minor impairments predominantly related to sight, hearing, dexterity, mobility and cognition

NOTE 1 Ageing, by itself, is not a disability.

NOTE 2 In combination, relatively minor impairments can lead to high levels of disability and dependency.

### 3.4

#### **capability demand**

level of capability, (for example, manual dexterity, visual acuity, colour vision, hearing at specific frequencies, intellectual capability, ambulant mobility) demanded of the user by a product or service in all its aspects including packaging, instructions, interfaces, interaction with service personnel, and promotional literature

### 3.5

#### **champion**

person who is dedicated to, promotes and helps steer an activity to successful completion though not necessarily responsible for any aspect of the activity

### 3.6

#### **change team**

- a) group of individuals formally brought together, from within and possibly outside an organization, and given responsibility to effect a specified change
- b) individuals who work together informally to get a new idea adopted or act as catalysts within an organization

### 3.7

#### **corporate**

- a) top level perspective within all organizations (private, public and not-for-profit)
- b) issues that span an entire organization

### 3.8

#### **design exclusion**

inability to use a product, service or facility most commonly because the needs of people who experience motor, sensory and cognitive impairments have not been taken into account during the design process

### 3.9

#### **disability**

any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being  
[BS EN ISO 9999:2002, definition 3.2 (less footnote)]

### 3.10

#### **impairment**

reduction in a person's functional capability: that is, the ability to perform actions or accomplish tasks

NOTE 1 Such reductions have many causes including, but not limited to, specific medical conditions, trauma (accidents), the ageing process, or environmental factors (such as wearing protective clothing or being shaken about on board a train).

NOTE 2 Health conditions, ageing, and traumatic events can all result in impaired capability. Whether this gives rise to disability is determined by social and environmental factors, and importantly the design of environments, products, systems and services.

NOTE 3 For a more detailed definition see PD ISO/IEC Guide 71:2001, definition 3.4.

### 3.11

#### **inclusive design**

design of mainstream products and/or services that are accessible to, and usable by, people with the widest range of abilities within the widest range of situations without the need for special adaptation or design

### 3.12

#### **mainstream product**

product developed for use by the general population

NOTE 1 Until recently, such products have not been designed with the abilities and preferences of the wider range of users in mind; the inability of these potential users (principally those with impairments) to use such products might lead them to feel excluded from the mainstream of society.

NOTE 2 Social inclusion requires that, in future, mainstream products give due consideration to the needs of the whole population to combat social discrimination, marginalization and conflict due to age, disability, poverty or ethnicity.

**3.13****principal**

owner-manager, partner, board director and other top executive in the private sector, as well as executive officer in public sector and not-for-profit organizations

**3.14****product**

result of activities or processes

NOTE 1 A product might include services, hardware (including any core container and protective covering provided), processed materials, software, or a combination thereof.

NOTE 2 A product can be tangible (e.g. assemblies or processed materials) or intangible (e.g. knowledge or concepts), or a combination thereof.

NOTE 3 A product can be either intentional (e.g. offering something to customers) or unintentional (e.g. pollutant or unwanted effects).

NOTE 4 This definition is similar to BS EN ISO 8402:1995, 1.4.

NOTE 5 In accordance with terminology used in Quality Management Standards (BS EN ISO 9000:2000 series), the term “product” is used throughout this standard to refer to products, services, facilities, processes (including business processes), environments and interfaces.

**3.15****usability**

extent to which a product can be used by specified individuals to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use

[BS EN ISO 9241-11:1998, definition 3.1]

**3.16****user-centred**

design approach that places users at the heart of the design process, and involves and engages with users in ways that make them part of, or integral to, the design process itself

NOTE Sometimes called “user-focused”, “human-centred” or “co-design” (especially in architecture and planning).

**3.17****user-friendly**

outcomes that are marketed and promoted in ways highlighting user-friendly features and operations

NOTE Sometimes called “age-friendly”, “user-sensitive” or “disability-friendly”.

## **4 Managing inclusive design at the organization level**

### **4.1 General**

Clause 4 addresses major issues that relate to the management of inclusive design from the perspective of organizations as a whole. It focuses on the direction and guidance all those involved in undertaking or administering inclusive design activities should expect from Principals (see 3.13).

A four-phase process should be followed when introducing a professional approach to inclusive design into an organization. This is encapsulated in Figure 1 and 4.20.

Such an approach requires more than an adjustment of processes and guidelines. The resulting changes of focus can have far-reaching effects across an organization and extend beyond design to other mainstream disciplines. Preparatory groundwork and changes are required to organizational culture and infrastructure which, to be effective over the longer term, need to be driven and supported by top executives.

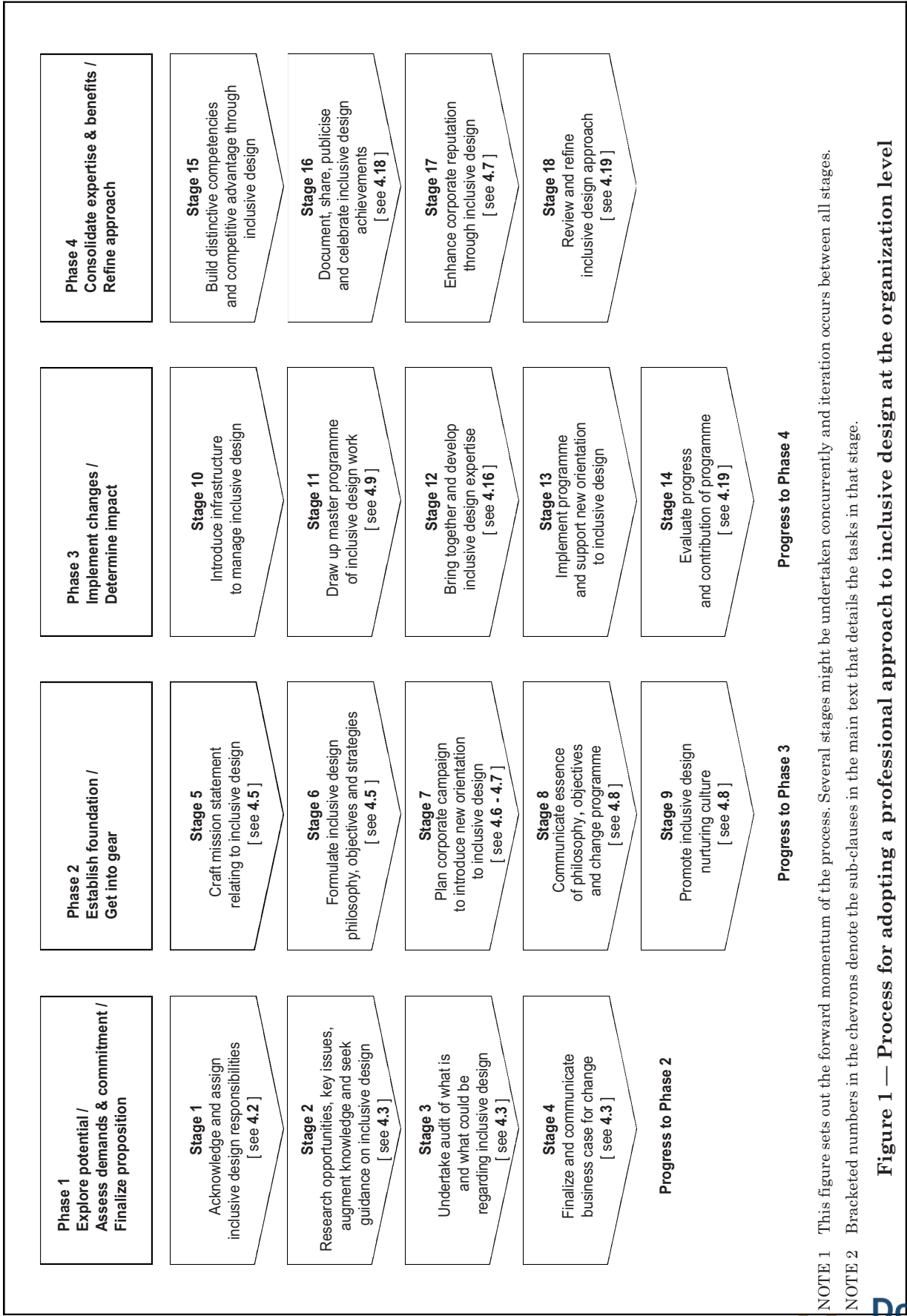


Figure 1 — Process for adopting a professional approach to inclusive design at the organization level

## 4.2 Responsibility for inclusive and assignment of tasks

The quality of design achieved is influenced far more by those who manage design than the specialists who undertake the creative work. Therefore, it is essential that competent, experienced executives are assigned responsibility for inclusive design.

Ultimate responsibility for the quality of design produced by, or on behalf of, organizations rests with Principals who fulfil the roles of Chairman or Chief Executive.

Principals are also collectively responsible for ensuring that their organizations have a clear stance with respect to inclusive design (not least by challenging prejudices and stereotypes), the stated direction is followed effectively, and all resources are harnessed to their full potential so inclusive design makes a significant contribution to corporate performance. This includes promoting, building and sustaining an appropriate organizational culture. They should ensure that all their executives and staff know whom to turn to for guidance, authorization and direction regarding initiatives and other decisions relating to inclusive design.

Chief Executives might assign day-to-day executive responsibility to senior colleagues who report directly to them. All individuals with responsibilities for design should demonstrate a clear commitment to inclusive design through their statements and actions. Job descriptions should state clearly their roles and responsibilities in promoting inclusive design; these should be reviewed periodically and updated. Their performance should be assessed against set inclusive objectives and responsibilities.

## 4.3 Reviews of current operations, facilities, knowledge and achievements

### 4.3.1 General

Objectives should be set for all reviews to help build the business case for adopting an inclusive approach to design.

Such reviews often require the assistance of experts (and expert users), to identify and raise understanding of key issues, develop the necessary skills, support internal champions and complete the necessary assessments. The greater independence of outside experts and users should also raise the credibility of (and confidence in) the findings.

The outcome of these reviews should be used to formulate and communicate the business case for adopting an inclusive approach to design. This gives the prime reasons for change and the likely costs of maintaining the status quo. It also provides preliminary assessments of the opportunities to be exploited, likely commitment of resources and anticipated benefits.

NOTE BS 5760-14:1993 and BS EN ISO 19011:2002 provide further guidance on general review procedures.

### 4.3.2 Internal reviews

Internal reviews of an organization's current designs, operations, resources and facilities form one of the crucial foundations to a professional approach to inclusive design. Internal reviews should cover the following:

- a) products, associated outputs and services (for example packaging, promotional literature and user manuals, point-of-sale material), assistance with installation, use, and servicing;
- b) facilities (such as exterior and interior environments of workshops, showrooms, offices, warehouses, sites) covering ease of access (approaching, entering and leaving) and navigating around facilities, access to information, opportunities to use the full range of amenities provided and cope with security;
- c) equipment, other design aids (hardware and software) and ancillary support covering intuitive operation, interaction, ease of use, adaptation and support;
- d) nature and extent of prejudice within organization;
- e) range of design and design management skills, knowledge and experience available in-house or bought in; gaps relating to inclusive design and implications for recruitment and training;
- f) design and design management procedures;
- g) technologies (currently used in operations, output and facilities);
- h) legislation and standards (internally generated or externally imposed, documentation, compliance, sanctions applied to ensure conformity), as well as their impact on organization's operations, output and reputations.

Products, services, associated outputs, resources and facilities should be checked to determine whether any of the targeted audiences are excluded unnecessarily. Where such exclusion is revealed, it should be established whether the product should be comprehensively redesigned or adaptations provided. Similarly deficient bought-in equipment and design aids should be changed.

#### **4.3.3 External reviews**

External reviews constitute another crucial foundation to a professional approach and should cover:

- a) body of knowledge relating to inclusive design;
- b) competitors' products, associated outputs and services, facilities, equipment and other design aids;
- c) stance, standards, skills, practices, experiences and achievements of "best in class" organizations;
- d) existing and emerging technologies (to check new developments and trends);
- e) likely changes in legislation and standards (and sanctions on non-conformity) in the foreseeable future;
- f) potential candidates for strategic alliances.

#### **4.4 Formulation of inclusive design mission statement, objectives, strategies and plans**

When formulating the inclusive design mission statement, objectives strategies and plans, Principals should:

- a) formulate an inclusive design mission statement that enhances and gives greater practical meaning to their business mission statement. This should articulate their organization's general stance towards inclusive design, the prime reasons for adopting a rigorous and professional approach to it, as well as the key contributions of it to corporate performance.
- b) ensure that all design activities and investments facilitate the achievement of an organization's overall objectives. This requires that they tie in closely with an organization's strategic intent and activities in other disciplines.
- c) ensure that design implications are carefully thought through and clearly documented, working from the basis of an organization's overall business objectives, culture, future vision and strategies. This analysis should be used to formulate the inclusive design objectives and strategies (preferably quantified) together with criteria against which performance can be gauged. In this way, Principals can ensure that corporate objectives provide the foundation and main thrust for all inclusive design, and resources are harnessed to their full potential to achieve those objectives.
- d) address relevant inclusive design issues during the planning cycle, and ensure that the results of deliberations are documented in all key plans; strategic, business, operating, and departmental. If a separate section for design cannot be created within plans, these issues should be clearly identified in other sections of key plans. Where appropriate, the inclusive design dimension of an organization's planned activities and range of products/outputs could be expanded into a separate document.

NOTE BS 7000-1 and BS 7000-2 provide further guidance in this area.

#### 4.5 Initiating a corporate campaign to introduce a new orientation towards inclusive design

Introducing significant change into organizations, especially when core values and corporate culture are affected, requires rigorous planning to ensure smooth implementation and full benefits are realized. Therefore considerable care should be exercised when managing a change in orientation towards inclusive design. This involves:

- a) raising awareness and establishing a shared need to embrace inclusive design, by building a business case around key issues and opportunities to create competitive advantage and raise corporate reputation;
- b) shaping an inspiring vision and drawing up guiding principles;
- c) formulating a programme to introduce the change;
- d) mobilizing commitment to effect and sustain the change;
- e) leading the change, assisted by a Change Team;
- f) communicating the change widely through different media;
- g) aligning the infrastructure (with formal procedures for approved practice);
- h) sustaining momentum;
- i) celebrating achievements;
- j) embedding change in the organization;
- k) establishing the foundation for further change.

Cultural change should be implemented by creating Change Teams with sufficient authority to ensure that all those affected:

- a) are suitably prepared;
- b) understand the importance of key issues to future success;
- c) are clear about what to expect and how they themselves will contribute.

#### 4.6 Communication of inclusive design objectives, strategies and programme

The inclusive design mission statement, objectives and strategies define the boundaries of what is acceptable to the organization in relation to inclusive design investments and activities.

Principals and staff need to be fully aware of the direction and objectives set for inclusive design so all focus their efforts and work in unison. Considerable benefits should derive from communicating the essence of plans widely through:

- a) team briefings, reports and notice boards;
- b) intranets;
- c) newsletters and magazines;
- d) staff conferences and training.

Staff should understand that they, too, are essential to the successful implementation of these plans.

Stakeholders outside the organization should be kept appropriately informed. This can reassure them that there is clear direction and leadership to turn visions of the future into reality. Principals should take advantage of all channels of communication to publicize and explain objectives, approaches and programme. This can be achieved, for example, through the organization's:

- a) website;
- b) annual reports and corporate literature;
- c) briefings to financial institutions, customers and partners in the supply chain;
- d) advertising, product publicity, trade shows and professional conferences.

The language and terms used in all these instances should be appropriate and acceptable to all stakeholders who might have been excluded previously.

#### **4.7 Introducing inclusivity into corporate identity and culture**

Those who manage inclusive design should take account of the corporate identity and culture of the organization, the physical, operational and human features, as well as values that give an organization its unique personality.

Care should also be taken to ensure that the designs of products reflect and enhance the organization's identity. All these factors, together with design management procedures, should be refined to align with an inclusive design mission statement.

#### **4.8 Corporate infrastructure for managing inclusive design**

Principals should create an infrastructure for the effective management of inclusive design that extend beyond their personal interests and approaches. That system of values, procedures and standards should be promoted to the point where it is fully implemented, operates smoothly, is openly appreciated, lived day-to-day and firmly embedded within the organization.

NOTE Further guidance on the key issues encompassed by design management systems is provided in BS 7000-1 and BS 7000-2.

#### **4.9 Inclusive design in the master design programme**

All approved proposals for investments in inclusive design should be co-ordinated within a master design programme setting out activities, outcomes sought, and contributions to the attainment of the organization's overall objectives.

The programme should summarize design briefs or specifications, skills and other resources to be committed, outputs generated, and planned work set under clear phases with associated timescales. It should be accessible to all involved in inclusive design in a practical central format for example, working document, compact disk and intranet.

Principals should refine the procedure for generating new project opportunities and nurture a pro-active attitude among colleagues. Staff should have an open invitation to suggest how inclusive design might contribute tangibly to corporate performance, with appropriate support to develop these suggestions into formal project proposals. As a result, more opportunities will be captured, proposals will be formulated with proper consideration of the inclusive dimension and they will be acted on more efficiently.

Inclusive design objectives, strategies and programmes should be reviewed regularly by Principals to check their continuing relevance and effectiveness in taking the organization forward.

#### **4.10 Totality of products, services, processes and facilities**

Customer satisfaction arises out of their experiences with products and organizations from first awareness to final disposal/contact. It is crucial to business success and brand loyalty: all are hard won and easily lost. One defining moment is when consumers first open a product pack or access a service: that formative experience could be marred by frustration and disappointment.

Principals and designers should adopt the viewpoint of users' total experiences, encompassing all factors valued by users that make products inclusive (e.g. access, use and support). No experience should be overlooked. So it is manifestly counter-productive when a well-designed product is installed inappropriately, such as a telephone fixed too high on a wall for people in wheelchairs to reach. Guidance should be provided to ensure that products are disposed of responsibly, especially where users are incapacitated and components can be recycled.

Inclusive design is comprehensive, integrated design which encompasses the complete lifecycle of products from beginning to end. Products should be planned to progress seamlessly through their lifecycles. Product development projects should progress smoothly from stage to stage, from initiation through to completion (see also 5.2.4). Design teams should retain responsibility for the quality of the products they create throughout. In embracing inclusive design, Principals should promote close links and co-ordinate work across all disciplines, dismantle functional barriers and encourage true inter-disciplinary teamwork.

Principals and staff should identify all elements that contribute to these experiences and determine the priority and value set on them by customers and users to raise the attraction and competitiveness of their products and organizations (see Figure 4).

#### 4.11 Closeness to markets and success of products

Keeping close to customers and being aware of the nature of potential markets greatly increases the chances of success with new products. Often, factors that exclude, dissatisfy and alienate are designed into products through untested assumptions about consumer behaviour and preferences. For example, video recorders that are hard to programme might be deficient because controls are difficult to read and manipulate, functions are not intuitive in operation, and manuals confuse.

Observing how users interact with products, from the moment they first become aware of a product (or perhaps take it out of its packaging) to final disposal, can be particularly instructive in revealing opportunities for new products, improvements to existing products and different ways to present products to market. Care should be taken to establish whether expressed needs and views are those that most influence purchase decisions and reinforce satisfaction with repeated use.

Principals can do much to raise performance by insisting that research is undertaken continuously into customer/user attitudes, aspirations, work and life-styles. They should ensure subjects are suitably representative and conclusions are valid, and then act on findings without undue delay.

Colleagues, user group representatives and suppliers should be involved in the active search to improve the quality of consumer offers. Links should be established with previously excluded user groups to gain richer feedback (ideally as part of corporate social responsibility programmes), and strategic partnerships considered with key customers and suppliers.

#### 4.12 Product development and marketing strategies

##### 4.12.1 *Range strategy*

Ideally, organizations should create and market integrated ranges of products that are suitable for all potential users; however this is not always possible. Therefore, a key decision that needs to be made early relates to whether inclusive products will form:

- a) a complete integrated range without the need for adaptive accessories;
- b) new models to be added to a range and adaptive accessories developed for existing products;
- c) a complementary range, co-ordinated visually and technically to some degree with the existing range;
- d) a separate range with no connection to mainstream offers (for example, manufactured by a different company, marketed under a different brand and distributed through a different supply chain).

##### 4.12.2 *Product development strategy*

In product development, three basic strategies should be considered. The least disruptive from an organization's viewpoint is to develop add-on options for current products (through accessible design) to make them effective for previously excluded users. However, the outcomes of this strategy might not be attractive to disabled users because of the visual and practical awkwardness of results, the probable premium price charged, and the inherent messages (or stigma) conveyed to customers regarding their status.

Alternatively, current products might be upgraded relatively quickly and at low cost through superficial changes that increase their suitability for wider target markets (e.g. by amending the design of controls, size of displays, overall weight and colour schemes).

The most extensive and longer-term strategy is to rethink all design aspects of existing products using inclusive principles so as to appeal to all targeted customers and users.

##### 4.12.3 *Marketing strategy*

Inclusive products might feature the existing "mainstream" brand or a brand created specifically for the new range. They would probably be handled by the existing marketing team after appropriate re-orientation and training.

Where specialist expertise is required and a significantly different supply chain indicated consideration should be given to establishing a separate team to serve the additional market sectors. The new team could be employed by the same or an associate company.