**BRITISH STANDARD**

# Design management systems –
# Part 10: Vocabulary of terms used in design management

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## Publishing and copyright information



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# Contents



**Summary of pages**

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 43 and a back cover.

# Foreword

## Publishing information

This British Standard is published by BSI and came into effect on 31 March 2008. It was prepared by Technical Committee MS/4, *Design management systems*. A list of organizations represented on this committee can be obtained on request to its secretary.

## Supersession

This British Standard supersedes BS 7000-10:1995, which is withdrawn.

## Relationship with other publications

BS 7000 *Design management systems*, consists of the following parts:

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

Other parts may be added.

## Information about this document

This 2008 edition of BS 7000-10 has a greatly expanded scope, covering the design management terminology in use across all sectors of industry, commerce, services and the public sector. It applies to all technical, services, software, production and design areas, and also recognizes the importance of intellectual and other rights.

## Presentational conventions

Details of the structure, layout and presentational conventions used in this part of BS 7000 are given in Clause **2**.

## Contractual and legal considerations

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 cannot confer immunity from legal obligations.**

# Introduction

This standard seeks to increase understanding of terms used when managing design and working with design professionals. Design activities normally involve individuals from different disciplines, as well as designers who specialize in different categories of design. Adopting a common terminology, while being aware of different usages of common terms, is important to ensure effective communication and smooth progress of work.

This part collates all the terms and definitions incorporated in the other parts of the BS 7000 series, plus many others in common use in design practice and management. As such, it is a useful reference in all discussions in these fields.

# 1 Scope

This part of BS 7000 defines vocabulary used in design and its management, and includes those that may have particular meanings when used in different areas of industry and commerce. It has been prepared to assist those who have a responsibility for, or an interest in, design and its management. It will also assist those who are considering working with designers but are unfamiliar with the terminology that they are likely to use.

It is recommended that organizations seeking to adopt this standard consider adopting the other standards in the BS 7000 series.

**In accordance with terminology used in BS EN ISO 9001, the term "product" is used throughout this standard to refer to products, services, facilities, processes, environments, interfaces and business models.**

# 2 Vocabulary structure

**2.1** Most words in this vocabulary are accompanied by a letter which demonstrates the stage at which the term or word is most likely to be used in the design process:

M market research

S specification

C concept design

DD detail design

Mn manufacture

Sl selling

I implementation

D disposal or termination

G general terms used in design management

O other useful terms associated with new products and services

**2.2** Bold words within a definition indicate terms that are defined elsewhere in this part of BS 7000. The exception to this are the terms "product" and "design" which have not been emboldened due to their frequency within the document.

# 3 Vocabulary

**3.1 3-Gen product: G**
long-term product or **service** that becomes available, typically two generations after the generation currently being developed

**3.2 acceptance criteria: S**
factors used to determine whether a design meets the specified and agreed **requirements**

**3.3 accessibility: G**
physical and sensory access to buildings, products, **services** and information

*NOTE 1 May be via speaking browsers, sign language animations and Braille, for example.*

*NOTE 2 Improved accessibility is required under the Disability Discrimination Act 2005 [1] in the UK.*

**3.4 accessible design: G**
design focused on principles of extending standard design to people with some type of performance limitation

*NOTE 1 Can be achieved by:*

*a) designing products, **services** and environments that are readily usable by most users without any modification;*

*b) making products or **services** adaptable to different users (adapting user **interfaces**);*

*c) having standardized **interfaces** to be 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.*

**3.5 added value: O**
increased or additional benefit with regard to real and perceived worth, market value, desirability, merit or use

**3.6 aesthetics**
perception through the senses such as look and feel of a product that contribute to the attractiveness of a design

**3.7 analogy**
aid to creativity that compares a **concept** with something that exists elsewhere

**3.8 artefact: G**
tangible result from a **design process**

*NOTE Covers any product, **process**, communication or technique that has been designed.*

**3.9 audience: SI**
group of people or organizations to be reached or taken into account

**3.10 audit: G**
systematic examination to measure conformity with predetermined **requirements**

*NOTE See **design audit**.*

**3.11 audit criteria**
set of policies, procedures or requirements used as a reference against which audit evidence is compared

**3.12 audit evidence**
records, statements of fact or other information which is relevant to the audit criteria and verifiable

*NOTE Audit evidence may be **qualitative** or **quantitative***

**3.13 backcasting: G**
process by which attainment of a desired vision in the long-term future is plotted progressively back to the present through a series of milestone achievements which effectively map out the way forward

*NOTE Could apply to markets, products, **services**, **processes** and organizations.*

**3.14 bar chart: I**
histogram on which activities and their durations are represented by lines drawn to a common scale showing a sequence of operations

*NOTE 1 A **Gantt chart** is a specific type of bar chart and should not be used as a synonym for bar chart.*

*NOTE 2 See also cascade chart.*

**3.15 baseline: Sl**
state of a product, formally established at a specific point in time, which serves as reference for further activities

**3.16 benchmarking: M**
systematic comparison of methods, performance and **processes**, usually with those in other organizations, in order to learn from them and improve ones own **processes**

**3.17 block model: C**
basic three-dimensional representation of a proposed design to provide a clearer impression of size, shape and volume without incorporating other details

*NOTE Also known as a soft model, foam model or space model.*

**3.18 blueprinting: D**
**customer journey** and parallel **processes** mapped out in sufficient detail to identify possible fail points and evaluate performance variables

**3.19 blue-sky thinking: C**
unbounded exploration of ideas without concern as to their practicality, applicability or marketability

*NOTE Thinking that seems impractical and without application can trigger insights that lead to successful innovations.*

**3.20 bottom-up approach: G**
**design method** that starts from consideration of details and proceeds towards consideration of the whole

*NOTE Opposite to a **top-down approach**.*

**3.21 brainstorming: C**
controlled use of free expression in which people interact to produce new ideas

*NOTE See also **lateral thinking**, **think tank**.*

**3.22 brand: G**
distinguishing visual or verbal representation of an **organization** or product

**3.23 brand architecture: G**
mutually-reinforcing components that form the structure of a **brand**

*NOTE Also encompasses how different **brands** of a single organization relate to each other.*

**3.24 brand attribute: S (D)**
functional or emotional association assigned to a **brand** by current and prospective **customers**

*NOTE Can be either negative or positive.*

**3.25 brand DNA: G (D)**
collective and fundamental components of a **brand**

*NOTE Including attributes, character, benefits, differentiation and credibility.*

**3.26 brand identity: G**
expression of attributes that describe the essence of a brand

*NOTE 1 An organization's brand identity seeks to encapsulate its vision, values, philosophy and ways of doing business; a product's encompasses the vision and values that provide its core characteristics.*

*NOTE 2 A brand's visual identity is the visual expression of its identity, normally conveyed by means of a symbol and/or the name rendered in a distinctive typographic form.*

**3.27 brand logotype: D**
distinctive way in which a **brand** name is rendered, principally in typographic form

**3.28 brand values: Sl (D)**
core qualities associated with a **brand**

**3.29 breadboard model: C**
item constructed to investigate or evaluate the feasibility and practicality of a **concept**, device, circuit or system in rough experimental form, without regard to the **configuration**

*NOTE See also **design aid model**.*

**3.30 breakthrough innovation**
change that breaches a previously perceived limit in **configuration**, performance or technology

*NOTE Typically opens up important new options to deliver significant advances in outcomes.*

**3.31 bubble chart: C**
approximate diagram with entities, ideas or activities inside circles and with lines linking the circles to show their interactions

*NOTE Can be used as an aid to thinking or explanation, or as an overall display of a situation.*

**3.32 building blocks: I**
components that constitute a product from the user's perspective

*NOTE For example, insights, **segmentation**, **touch-points**, **channels**, environments and journeys.*

**3.33 build standard: S**
listing of the drawings, schedules and other documents that constitute the technical description of a manufactured item, together with their issue number or modification status

**3.34 buy-in: G**
acceptance of a proposal

**3.35 capacity: Mn**
maximum level of value-added activity that an operation is capable of producing over a specified time period

**3.36 cascade chart: D**
**bar chart** on which the vertical order of activities is such that each activity is dependent on activities higher in the list

**3.37 catalogue design: G**
<design> form of design that involves selection and assembly of proprietary items or deciding which of a particular set of existing design solutions would fit a given situation

<reference material> structure, layout and presentation of reference material that sets out details of items offered for sale

*NOTE These are normally printed though they are increasingly presented in other archival formats such as microfiche and computer software.*

**3.38 cause-effect diagram: O**
technique to identify root cause of a problem, requiring systematic questioning

*NOTE Also known as ishikawa or fishbone analysis.*

**3.39 chain of custody**
**process** whereby an **organization** monitors its products through every stage of the supply chain, including all stages of manufacturing, transportation and distribution

**3.40 change control procedure: Mn**
organized procedure by which proposed **design changes** are described/evaluated, approved/rejected, and implemented

**3.41 change record: Mn**
formal reference documenting authorized changes, reasons why these were made, and their effect on other aspects of work and their outcomes

**3.42 change team: C**
<formal> group of individuals brought together, from within and possibly outside an organization, and given responsibility to effect a specific change

<informal> individuals who work together to get a new idea adopted or act as catalysts within an organization

**3.43 channels: I**
ways in which people can find or use products and different ways by which organizations can deliver products

**3.44 collaborators: G**
parties that agree to work together on a **project**

**3.45 combination**
utilization of two or more existing **design methods** to reach a design solution

**3.46 company culture: O (D)**
company's shared values and behaviours that determine what is valued and what is acceptable

**3.47 commission: G**
instruction from a client requesting a design organization to provide a **service** within agreed **constraints**

**3.48 communication plan: S**
plan that establishes the communication procedures and authority for a specific **project**

**3.49 communities of practice**
people with shared **expertise** or experience that cross conventional organizational boundaries to build the **capacity** of all the organizations involved in order to innovate

**3.50 competitive advantage: Sl**
position or condition adopted in order to differentiate beneficially from other offers and gain favour with **customers**

**3.51 competitor analysis: M**
investigation into the merits of rival organizations and their offerings

*NOTE Comparisons are made relative to, for example, price and **quality**.*

**3.52 concept: C**
outline idea for a design

*NOTE 1 Might be a possible design solution in outline or first order terms.*

*NOTE 2 Generally one of a number.*

**3.53 concept assessment matrix: C**
method for identifying the most viable **concept** of those that meet the **specification**

**3.54 concept design phase: C**
preliminary research and studies to establish design alternatives that merit further development

**3.55 concept scenario: C**
idea for a new product communicated through a story

**3.56 conceptualization: D**
generation of drawings, **models** and **prototypes** of a new product idea prior to committing to a final design

**3.57 concurrent processing: G**
management approach that addresses certain activities in parallel by harnessing necessary skills and **processes** in an integrated manner from the earliest stages of the **project**

*NOTE 1 Can encourage improved communication and teamworking between multi-disciplinary functions, leading to project stages being achieved sooner with less abortive effort and shorter time-to-market.*

*NOTE 2 See also **simultaneous engineering**.*

**3.58 configuration: S**
interrelated functional and physical characteristics of a product defined in **product configuration information**

[BS ISO 10007:2003, definition **3.3**]

**3.59 configuration control: S**
<implementation> activities of **evaluation**, coordination, approval or disapproval, and changes to **configuration** items, after formal establishment of **configuration** documentation

<management> systematic control of changes to drawings and other **configuration** data to ensure that proposed changes are incorporated only when authorized by the controlling authority

*NOTE See **configuration control board**.*

**3.60 configuration control board: S**
group of technical and administrative experts with the assigned authority and responsibility to make decisions on **configuration** and its management.

**3.61 configuration identification: S**
determination of a product's structure, selection of **configuration items** and documentation of their physical and functional characteristics

*NOTE Can include the following:*

*a) **interfaces** and subsequent changes; and*

*b) allocation of identification characters or numbers to the **configuration items** and their documents.*

**3.62 configuration item: S**
entity within a **configuration** that satisfies an end use function

[BS ISO 10007:2003, definition **3.5**]

**3.63 configuration management: S**
co-ordinated activities to direct and control **configuration**

*NOTE Configuration management generally concentrates on technical and organizational activities that establish and maintain control of a product and its **product configuration information** throughout the lifecycle of the product.*

[BS ISO 10007:2003, definition **3.6**]

**3.64 configuration status accounting: S**
formalized recording and reporting of **product configuration information**, the status of proposed changes and the status of the implementation of approved changes

[BS ISO 10007:2003, definition **3.7**]

**3.65 constraint: S**
limiting factor that might inhibit the full realization of objectives

**3.66 contingency: O**
allowance of time or resources made in a **project** to cover unforeseen circumstances or emergencies

**3.67 contingency plan: O**
alternative course of action devised to cope with **project risks**

*NOTE Also known as a mitigation plan.*

**3.68 continual improvement: G**
enhancing systems to achieve improvements in overall performance

*NOTE Need not take place in all areas of activity simultaneously.*

**3.69 cool-hunters: M**
individuals who identify **trends** among young people and report back to an organization so appropriate action might be taken

**3.70 copyright: O**
exclusive property right conferred by statute giving legal protection to the use of a particular design, creative work or other publications

*NOTE 1 Attention is drawn to the Copyright, Designs and Patents Act 1988 [2].*

*NOTE 2 Applies to original literary, musical, dramatic, artistic and cinematographic works including computer programmes, architecture, graphic designs, photographs and videos. Generally, it does not cover three-dimensional **artefacts**, apart from works of artistic craftsmanship and surface decoration.*

**3.71 corporate design management system: G**
formal corporate infrastructure that encompasses design objectives, strategies and **processes**, organizational structures and standards for administering design

**3.72 corporate design manual: S**
reference that sets out the core values, key standards and procedures that dictate or influence the aesthetic and technical treatment of the output of an organization, together with guidelines on how they apply and should be implemented

**3.73 corporate design philosophy: G**
articulation of an organization's stance towards design and its contribution to corporate performance

*NOTE Design equivalent of a business mission which expresses basic beliefs, values, perspective and encapsulates an organization's accumulated wisdom with respect to design.*

**3.74 corporate design programme: G**
comprehensive programme of design-related investments extending over the majority of activities and output of an organization over a specified period

**3.75 corporate design team: O**
wider group of individuals, within or outside an organization, who contribute to its design work, both in a formal or informal capacity

**3.76 corporate identity: G**
articulation of what an organization is, what it stands for, what it does and the way it goes about its business

**3.77 corporate image: S**
sum of impressions and expectations of an organization built up in the minds of its **stakeholders** and the public

**3.78 corporate logo: D**
distinctive way in which an organization's name is rendered, principally in typographic form

**3.79 corporate software: O**
knowledge, skills, experience, **intellectual property** and other intangible attributes within an organization

*NOTE Incorporates corporate memory and the folklore of an organization.*

**3.80 corporate symbol: S**
distinctive representative or abstract emblem used by an organization to identify itself

**3.81 cost benefit analysis: D**
means to determine the relationship between the costs of undertaking an activity and the benefits likely to arise, both initial and recurring

*NOTE The hard, tangible, readily measurable benefits might sometimes be accompanied by soft benefits, which might be difficult to isolate, measure and value.*

**3.82 cost breakdown structure: D**
detailing of identified elements of expenditure under different categories

**3.83 cost effectiveness: G**
ratio of the value received to the cost of resources expended

*NOTE Relative term that defines various options such as the most cost effective choice is either the lowest cost option for a given benefit (or to meet a given objective) or the greatest benefit option for a given expenditure.*

**3.84 critical driver: S**
principal determinant of progression of a **project**

**3.85 critical path: G**
sequence of activities through a **project** network that determines the minimum duration of a **project**

*NOTE Any delay on the **critical path** delays the whole **project**.*

**3.86 critical path analysis (CPA): G**
technique used to determine the minimum time to complete a **project**, by mapping the shortest continuous path through the set of sequential activities within the **project**

**3.87 customer: S**
organization or person that receives a product or **service**

*NOTE 1 Sometimes referred to as a client, end-user, retainer, beneficiary, purchaser or business second party.*

*NOTE 2 May be a unit within the organization.*

**3.88 customer buying systems: S**
sequence of hearing about or seeing a product for the first time, deciding whether to purchase, researching and comparing the product, and buying the product

**3.89 customer experience marketing: S**
strategically managing a **customer's** entire experience with a product or a company

**3.90 customer journey: D**
sequence of events that a **customer** or user experiences when interacting with a product

*NOTE Usually includes events before and after direct interaction with the product, and is often visualised as a storyboard.*

**3.91 customer relationship marketing: S**
best practice of identifying, acquiring and retaining the best **customers** to produce profitable growth

*NOTE Also known as "customer relationship management".*

**3.92 customer satisfaction: S**
**customer's** perception of the degree to which their **requirements** have been fulfilled

*NOTE Customer complaints are a common indicator of low customer satisfaction but their absence does not necessarily imply high customer satisfaction.*

**3.93 customer service blueprint: M**
method for exploring the mainly **qualitative** components during different **customer** or user experiences with a **service**

**3.94 data mining: C**
selecting, exploring and modelling large amounts of data to uncover previously unknown patterns and insights

**3.95 date of acceptance: Mn**
time when all **interested parties** agree that the **technical product specification** is finalized and manufacturing can commence

*NOTE May be identified by other terms such as "date of issue" or "sealing of drawings".*

**3.96 delphi panel: M**
group of experts who are asked questions, individually and iteratively, about the future, and about the levels of confidence that they attach to their forecasts

**3.97 demanufacture: D**
disassembly of the product and the reuse, reprocessing or disposal of piece parts

**3.98 demographics: M**
study of populations of target audiences to gain insights particularly into the characteristics of different segments of consumers

*NOTE 1 Classification will be influenced by factors such as number, distribution, location, age, disabilities, etc.*

*NOTE 2 Consumer types are assumed to share attitudes, beliefs, aspirations and purchasing habits.*

**3.99 descriptive specification: S**
statement of the attributes of a product which enables prospective users to establish its fitness for use

**3.100 design: O**
<noun> <instructions> set of instructions (**specifications**, drawings, schedules, etc.) necessary to construct a product

**3.101 design: O**
<noun> <end result> product itself

<verb> generate information by which a product can become a reality

**3.102 design aid model: C**
**model** of a new design or part of a new design that is used to give experience of some of the features of the intended design e.g. visual, environmental or performance

*NOTE See also **breadboard model**.*

**3.103 design analysis: D**
detailed investigation of the possible outcomes of a certain line of action

**3.104 design appraisal: I**
examination of the output from a **design process** at a particular, probably predetermined, stage to ensure that it meets the stated and agreed **requirements**

**3.105 design attributes: S**
features and characteristics of a design

**3.106 design audit: G**
systematic **evaluation** of the result of an activity to establish the extent to which the original objectives have been fulfilled

*NOTE 1 Usually linked to a specific activity, e.g. system evaluation or **project** evaluation. Results are usually measured in terms of time, cost and achievement.*

*NOTE 2 Generally takes place at the end of an activity, though progress can be maintained by carrying out intermediate or stage evaluations, particularly where intermediate stage achievements have been planned.*

*NOTE 3 Internal audits, sometimes called first-party audits, are conducted by, or on behalf of, the organization itself for management review and other internal purposes, and may form the basis for an organization's self-declaration of conformity. In many cases, particularly in smaller organizations, independence can be demonstrated by the freedom from responsibility for the activity being audited.*

*NOTE 4 External audits include those generally termed second- and third-party audits. Second-party audits are conducted by parties having an interest in the organization, such as **customers**, or by other persons on their behalf. Third-party audits are conducted by external, independent auditing organizations, such as those providing registration or certification of conformity to BS EN ISO 9001 or BS EN ISO 14001.*

*NOTE 5 Findings of a **design audit** may form one of the inputs for consideration at a subsequent **design review**. See also **design management audit** and **design technology audit**.*

**3.107 design awareness: G (D)**
degree to which people within an organization realize the value of the contribution design can make

**3.108 design brief: S**
documentation that informs on the primary purpose, context and required performance of design work

*NOTE 1 Guidance may relate to such matters as its style, grade, performance, appearance, conditions of use including health and safety considerations, characteristics, packaging, conformity, **reliability** and maintenance.*

*NOTE 2 The design brief often results from a **feasibility study** and forms the basis of the design generated.*

*NOTE 3 With the exception of the construction industry, the design brief includes the time and cost to complete the design. Product cost and investment targets are also included.*

*NOTE 4 See also **test specification** and **target specification**.*

**3.109 design change: S**
change in the **specification** of a product that results in the issue of an amended drawing but does not result in a new product

*NOTE 1 Such changes might include, for example, the introduction of a different thread form in a particular product, or an alteration in tolerances on a machined part.*

*NOTE 2 See also design change control.*

**3.110 design change control: S**
system for ensuring that **design changes** are identified, recorded, assessed, communicated and enacted

*NOTE 1 Its purpose is to:*

*a) ensure that the change does not affect the primary purpose of the product so that it still conforms to the **design brief**;*

*b) confirm feasibility of the change;*

*c) ensure compatibility with interfacing parts or systems;*

*d) ensure that material prior to change is modified or segregated for specific use, rework or disposal; and*

*e) ensure where necessary that the item can be identified and traced.*

*NOTE 2 See also **design change**.*

**3.111 design clinic: M**
periodic meeting, normally between staff with design **requirements**, executives charged with corporate responsibility for design and appropriate design specialists (internal and external), to check design and **market research** input against proposed design solutions

*NOTE 1 Its purpose is to enable participants to:*

*a) seek guidance on matters such as the formulation of **design briefs** and work programmes, selection of design specialists and allocation of budgets;*

*b) confer on **design strategies** that might be pursued and **concepts** generated;*

*c) report back on progress in developing solutions for implementation; and*

*d) review particular aspects of work undertaken over a period of time.*

*NOTE 2 When held with the general public, a clinic seeks responses to one or more design proposals against a range of existing competitive solutions, with the identity of the company running the clinic withheld from the participants.*

*NOTE 3 An internal clinic is organized when various design **requirements** and concept solutions to a problem are brought together for guidance and consideration. This may include advice from external consultants.*

**3.112 design concept**
see **concept**

**3.113 design control**
component of a **quality system** that ensures the integrity of a design throughout its **lifecycle**

**3.114 design evaluation**
assessment covering configuration, conformance, performance and success, typically against an agreed specification

**3.115 design exclusion: O**
inability to use a product, **service** or facility most commonly because the needs of people who experience motor, sensory and cognitive **impairments** were not taken into account during the **design process**

**3.116 design facility: O**
resources, equipment, procedures, management, infrastructure and accommodation providing the capability to undertake design work

**3.117 design for the environment: O (D)**
general term for designing products in such a way as to minimize their environmental impact

*NOTE 1 Strategies include making a product more energy efficient, easier to **recycle**, remanufacture or repair, or by using materials that are less toxic, **renewable** or **recyclable**.*

*NOTE 2 Sometimes called **eco-design** or green design.*

**3.118 design freeze: D**
beginning of a stage in the **design process**, during which changes to drawings and other **configuration** data are subjected to some form of control

*NOTE Levels of control are not as rigorous as those involved in **configuration control**.*

**3.119 design guardian: G**
individual or party responsible for ensuring an organization uses design to maximum effect

*NOTE 1 Normally encompasses monitoring and promoting the effective use of design as well as coherence between the organization's vision and corporate **design** guidelines.*

*NOTE 2 Sometimes known as "design champion".*

**3.120 design integrity: O**
<characteristics> property of a design that retains its essential characteristics, especially in the **concept**, visual and structural unity, from creation through to implementation and use, without unnecessary or inappropriate compromises.

**3.121 design integrity: O**
<production> property of a design that has been created by proven **processes** and fully evaluated and tested for suitability

**3.122 design leader: G**
<organization> trend-setter in design approach or style, or acknowledged to be at the forefront of design practice and performance

<individual> person who takes the lead in design activities or is accepted as being the key authority who harnesses design **expertise** and infrastructure to exploit the full potential of design's contribution to an organization's performance

**3.123 design management: G**
totality of design activity, its administration and contribution to an **organization's** performance

**3.124 design management audit: G**
detailed examination of an organization's design activities and **design management** practices at corporate and **project** levels

*NOTE 1 Generally to help determine the following:*

*a) how the **design facility** contributes to corporate performance and profitability;*

*b) whether activities and practices are suitable and effective in addressing corporate design **requirements**; and*

*c) conformity with corporate policy, standards and guidelines.*

*NOTE 2 Audits may encompass all operations, facilities and outputs, as well as all principal categories of design.*

*NOTE 3 See also **design audit** and **design technology audit**.*

**3.125 design method: C**
aid that improves, increases the number of, or reduces the time to find a new **concept**

**3.126 design model: G**
representation of the desired design outcome

*NOTE 1 Could be a flow chart.*

*NOTE 2 Can take many forms such as physical, mathematical, computer generated, or graphical.*

*NOTE 3 See **model**.*

**3.127 design philosophy**
articulation of an organization's stance towards design and its contribution to corporate performance

*NOTE Design equivalent of a business mission which expresses basic beliefs, values, perspective and encapsulates an organization's accumulated wisdom with respect to design.*

**3.128 design policy: G**
general rules relating to design discipline within an **organization**

*NOTE Can help to guide corporate behaviour in circumstances that tend to recur, though it might not prescribe for every eventuality*

**3.129 design process: G**
activities necessary to convert design input into design output, incorporating a specific series of events, actions or methods by which a procedure or set of procedures is followed

*NOTE Stages are generally shown in chronological order but the process is highly iterative in practice.*

**3.130 design programme: G**
specific activities and investments to be undertaken over a specified period, broken down into stages, with resources and associated timescales

**3.131 design project proposal: S**
reference that sets out the basis on which a **project** might be sanctioned

*NOTE Comprehensive proposals set out:*

*a) the business brief;*

*b) the **design brief**;*

*c) a staged **design programme** with deadlines;*

*d) the individuals to be involved and where responsibility is assigned for different aspects of the work; and*

*e) the commitment of financial and other resources.*

**3.132 design review: G**
formal, documented, comprehensive and systematic periodic examination of a design held at key stages of the **design process** to examine the extent that it conforms to the **design specification**

*NOTE 1 Reviews can take the form of meetings constituted of those most closely concerned with the disciplines affected by the design (marketing, design, finance, manufacture, sales, packaging, etc.), ideally chaired by an individual not directly connected with the design **project**.*

*NOTE 2 This is to evaluate its **capacity** to fulfil the **requirements** for **quality** and fitness for purpose, identify problems, if any, and propose the development of solutions.*

*NOTE 3 Design reviews may take place several times during the progress of the design project. The objectives of the review are to:*

*a) ensure the design continues to conform to the **design brief**;*

*b) modify the **design brief**, if necessary;*

*c) identify problems, if any, and propose the development of solutions;*

*d) make the decision to progress to the next stage of the **process**, redesign or even abandon the **project** altogether.*

*NOTE 4 Can be conducted at any stage of the **design process**, and should be conducted at the completion of the process.*

**3.133 design right: O**
property right conferred by statute

*NOTE 1 Applies, with some exceptions, to original designs for (generally) three-dimensional artefacts.*

*NOTE 2 Attention is drawn to the Copyright, Designs and Patents Act 1988 [2].*

**3.134 design specification: S**
reference that defines the **requirements** and **constraints** of the design

*NOTE Differs from a **design brief** in that it contains only definitive design **requirements**, whereas a **design brief** also contains **project requirements**, e.g. time scale, and is usually less prescriptive.*

**3.135 design standard: G**
authorized measure, a set of principles or an established level of **quality** and achievement, serving as a **benchmark** for an acceptable outcome

**3.136 design strategy: G**
chosen path formulated to achieve business and design objectives, supported by an indication of how resources will be committed

*NOTE Could relate to particular categories of design, types of* ***project****, sections of an organization and/or use of resources.*

**3.137 design team: G**
group of individuals brought together formally to undertake specified design work

**3.138 design technology audit: G**
*review of all aspects of technology relating to design, particularly hardware, software, standards and procedures*

*NOTE See also* ***design audit*** *and* ***design management audit****.*

**3.139 design thinking: O (D)**
type of **process** or approach primarily centred around four aspects: **customer** focus and intimacy, experimentation, prototyping and emotional connectedness

**3.140 detail design: DD**
stage of **design process** during which the precise shape, dimensions and tolerances are specified, the material selection is confirmed and the method of manufacture is considered for all parts of the product

*NOTE 1 Output consists of information that defines, and can be used in the manufacture of, the product or part of the product.*

*NOTE 2 The outcome can be conveyed by means of detailed drawings,* ***models****, reports and digital information.*

**3.141 disposal specification: D (S)**
documentation describing in detail the method and precautions to be observed in discarding or otherwise disposing of the product when it has failed or is no longer required for any reason

*NOTE The essential features of this documentation are usually given in the form of a warning notice displayed on the product.*

**3.142 disruptive innovation**
**innovation** with a significant adverse effect within and/or outside an organization that cannot be influenced or controlled in the short term

*NOTE Often relates to organizations that exploit low-cost technologies, techniques and procedures in ways unfettered by conventional thinking and perspectives to enter a new field/market and displace established players.*

**3.143 disruptive technology: O**
technology that significantly alters the status quo of a product

**3.144 dynamic design: C**
**design** where changes are frequent, rapid and often innovative

**3.145 early adopters: S**
person who follows the pioneering first users and/or purchasers of a new approach, technology or product

*NOTE Also applies to organizations though these tend to be called "fast followers" after "first movers".*

**3.146 earned value analysis**
determination of the monetary value of work performed in any stage of the **design process** through assigning a value to the achievement of **project** work completed and comparing this with the actual and planned costs of the **project**

*NOTE Also known as "budgeted cost of work performed" (BCWP).*

**3.147 eco-design: O (D)**
see **design for the environment**

**3.148 efficiency: Mn**
relationship between the results achieved and the resources used

**3.149 element: S**
area that needs to be considered when compiling a **design specification**

**3.150 embodiment design: D**
**design process** in which a structured development of the preferred **concept** is carried out showing all the main functions to be performed by the product and where the physical processes are clearly established

**3.151 empathetic design**
variant of **user-centred** design where the ideas for change and **innovation** arise from careful **observation** of how target **customers** use currently available products in actual live situations

*NOTE The findings of ethnographic research can form key inputs of such design.*

**3.152 envisioning**
capacity to conceive a future state

**3.153 ergonomics: D**
<use> ease of use of a product

<environment> **interface** between humans and the environment

*NOTE Also known as "human factors engineering".*

**3.154 evaluation: I**
systematic examination of the outcome of an activity to determine the extent to which specified objectives have been fulfilled

*NOTE 1 Usually linked to a specific activity, e.g. system evaluation, **project** evaluation and **design evaluation**. Results are usually measured in terms of time, cost and achievement.*

*NOTE 2 Generally takes place at the end of an activity, but progress can be maintained by carrying out intermediate or stage evaluation, particularly where intermediate stage achievements have been planned.*

**3.155 evidencing: I**
creating touch points that characterize aspects of a product experience

*NOTE Also known as service evidencing.*

**3.156 evolutionary design: C**
continuous product improvement to meet changing market needs, and/or advances in science and technology, aimed at sustaining or expanding existing markets

*NOTE Also known as **incremental design**.*

**3.157 experience metrics: M**
measurement of the performance of a **service** against what people value

**3.158 experience prototype: D**
dynamic representation of a future product for testing and **evaluation** that may include a **simulation** of the anticipated experiences of those who deliver and use it

*NOTE 1 May include multiple points of contact.*

*NOTE 2 Experience prototypes are used to do rapid **simulation** involving **customers**, experts and clients in developing and refining a **service**.*

**3.159 expertise**
accumulation of knowledge, skills and experience relating to a specific topic or field

**3.160 fail safe: G**
designed property of an item or system that ensures that in the case of failure, the item/system will always revert to a safe state

**3.161 fail safeing: Mn**
building in simple devices or features which make it difficult to make mistakes that could lead to failure

*NOTE Also known as Poka Yoke (mistake proofing) in Japanese.*

**3.162 failure mode and effect analysis (FMEA): D**
technique to identify features of a product which are crucial to determine effects of failure

**3.163 failure mode and effect and criticality analysis (FMECA): D**
technique to identify features of a product to determine effects of failure that might occur in any part of a system on all other parts of the system and on probable operational success, the results of which are ranked in order of seriousness

**3.164 fast-tracking: G**
concentrating attention and resources on a particular aspect of a **project** to reduce completion time

*NOTE Usually achieved by overlapping phases or activities that were originally planned to be done sequentially.*

**3.165 feasibility study: C**
examination of a possible **design concept**/proposal to determine whether it can realistically meet the specified **requirements**

**3.166 finished model: D**
**model** whose appearance and handling is accurate in every respect to the finished product

*NOTE 1 Normally produced to finalize details of appearance and handling, test **customer** reactions and prepare publicity material prior to launch.*

*NOTE 2 This may not be a **working model**.*

**3.167 foresight: G (D)**
**process** to predict what new technologies will have most impact some years into the future

**3.168 formative research: M (D)**
research as part of an iterative **design process** used to pilot, test drive or otherwise provide consumer feedback

**3.169 functional specification: S**
reference that describes in detail the characteristics of the product with regard to its intended capability

*NOTE It is recommended that, as far as possible, a functional specification be written in **quantitative** terms.*

**3.170 futures scanning: M**
investigating **trends** as a **trigger** for new products for the longer term

**3.171 Gantt chart: G**
type of **bar chart** showing planned activity against time and their relationship to each other

*NOTE Although a Gantt chart is a particular type of **bar chart**, it is frequently used as a generic term for **bar charts**.*

**3.172 general arrangement**
overall scheme, usually a drawing, which shows the main components of a design

*NOTE Also known as "design layout".*

**3.173 general rule document: S**
**specification** used as a reference in many applications

**3.174 geometrical product specification: S**
system for defining the shape (geometry), dimensions and surface characteristics of a workpiece

**3.175 heuristic procedure: D**
procedure that involves some degree of experimentation, each successive stage towards the solution taking into account the error determined in the previous stage

**3.176 human-centred design: D (DD)**
approach that focuses on the needs, abilities, tendencies and limitations of the intended users

*NOTE See also **user-centred** design.*

**3.177 "if only" analysis**
prescription of what could or would be done if certain materials, **processes** or technologies were available, or specified events were to take place

*NOTE 1 "If only" propositions are critical enablers of, or pathways to, the achievement of a new vision.*

*NOTE 2 Differs from **"what if" analysis** in that the starting point is a specified desired future state, not the present.*

**3.178 impairment: O**
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 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****.*

**3.179 incident: I**
any event that is not part of the standard operation of a **service** and has an adverse effect on its performance

**3.180 inclusive design: G**
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

**3.181 incremental design: D (DD)**
improvement to product design that does not involve the generation of a new **concept**

*NOTE Most extensions of product lines would fall into this category.*

**3.182 incremental innovation**
change that involves one or more relatively minor innovations that are predictable extrapolations from the present state

**3.183 industrial design: D**
design that focuses on function, value, appearance and how products and systems are made and used

*NOTE The term tends to be used by those who graduate from design colleges.*

**3.184 initial brief: S**
preliminary statement of the client's **requirements**

**3.185 innovation: G**
<ideas> successful exploitation of new ideas

*NOTE 1 Definition widely promoted by the UK Government Department for Business, Enterprise and Regulatory Reform.*

<process> introduction of changes that are significant departures from the usual way of doing things

<product> transformation of an idea into a novel product, operational **process** or new **service**

*NOTE 2 Consists of all scientific, technological, commercial and financial steps necessary for the successful development and marketing of novel manufactured products, or the commercial use of new or improved processes and equipment.*

<techniques, materials> employment of design or construction techniques, or materials, that do not have a proven history of performance or are not covered by an organization's current practice

*NOTE 3 Applies mainly to the construction industry.*

**3.186 innovation brief**
statement that describes the purpose, development and required characteristics (including performance) of a product, **service** or **process**, particularly how these will differ significantly from what exists currently

**3.187 innovation champion: G**
person dedicated to the promotion of, and strategic thinking behind, innovative initiatives

*NOTE Such individuals will be involved in, or influence, the formative stage of the process as well as the final decision-making. However, they might not be responsible for any aspect of work.*

**3.188 innovation climate: G (D)**
conditions within an organization that either support or hinder **innovation**

*NOTE Key drivers are clarity and pervasiveness of strategy and vision, the leadership style, the company's culture and the physical work environment.*

**3.189 innovation highway: G**
permissible route over which long-term future products and **services** will be planned

**3.190 innovation leader**
<activities> person who takes the lead in innovative activities

<authority> person accepted as being the key authority where matters relating to **innovation** are concerned

<driving> person who consistently drives **innovation** and has an acknowledged record of achievement through **innovation**

<initiation> person who is first to introduce a particular **innovation**

*NOTE 1 Definition could also refer to organizations.*

<trend-setting> person who sets **trends** in markets and industries and is acknowledged to be at the forefront of **innovation** practice

*NOTE 2 Definition could also refer to organizations.*

**3.191 innovation management system: G**
formal infrastructure encompassing objectives, strategies and **processes**, organizational structures and values by which an organization administers **innovation**

**3.192 innovation philosophy**
general stance of an organization towards **innovation** and the value attached to the contribution it makes to business performance

*NOTE The "**innovation**" equivalent of a business mission that articulates the basic reason for innovating within the organization and formalizes its role.*

**3.193 innovation pipeline (or funnel)**
supply of innovative ideas and opportunities that have been through a formal generation, vetting and sanctioning/filtering system for subsequent exploitation

*NOTE A full pipeline, continuously replenished, is usually considered a healthy state.*

**3.194 innovation plan: G**
sub-section of the overall business or corporate plan that brings together all **elements** relating to **innovation** whether dealing with inputs, outputs, **processes** or parts of an organization

**3.195 innovation review**

formal, documented, comprehensive and systematic examination of an **innovation** to evaluate its **capacity** to fulfil stated **requirements**, identify problems (if any) and propose the development of solutions

*NOTE 1 Can take the form of meetings constituted of those most closely concerned with **innovation**, or affected by the **innovations** that arise, and ideally chaired by an individual not directly connected with the **project**.*

*NOTE 2 Might take place several times during the progress of an innovative **project**. Aims are to:*

*a) ensure the **innovation** continues to conform with set briefs;*

*b) modify (through the originator) the **innovation brief** to meet reasonable economic or practical difficulties wherever they might be perceived.*

*NOTE 3 Can be conducted at any stage of the **innovation** process, and should definitely be conducted on completion of this **process**.*

**3.196 innovation spiral**

**process** of building **innovations** effectively on their predecessors

*NOTE This requires that:*

*a) the **innovations** are exploited fully;*

*b) subsequent **innovations** develop from a more advanced foundation;*

*c) resources are not wasted retracing ground covered before.*

**3.197 innovation strategy**

chosen path formulated to achieve business and **innovation** objectives supported by an indication of how resources will be committed

**3.198 innovative alliance**

formal collaboration between two or more individuals and/or organizations in order to generate innovative ideas and/or exploit the opportunities that follow

**3.199 intellectual property: G**

collective term encompassing the products of intellectual effort

*NOTE The two main sub-branches are:*

*a) industrial property (including inventions, trademarks, **industrial designs** and appellations of origin); and*

*b) **copyright** (covering literary, dramatic, musical, artistic and cinematographic works).*

**3.200 intellectual property rights (IPR): G**

rights, generally conferred by statute, that give their owner exclusive control over the reproduction of the protected work and the right to authorize or prohibit certain other uses of the work

*NOTE 1 Some of these rights (**patents**, **registered designs**, trademarks) are subject to registration; others (**design right**, **copyright**, **passing off**) arise automatically with the creation of the work. In the UK, these are rights of property and may be dealt with accordingly.*

*NOTE 2 The law generally establishes the extent of the rights, their duration and first ownership. Other matters, such as transfer and subsequent ownership of rights, are subject to contractual arrangements (including conditions of engagement and contracts of employment). In addition, there are a number of ancillary areas, such as confidential information, trade secrets, know-how and technology transfer, that are closely related to the **intellectual property** field and that may need to be borne in mind when making agreements covering intellectual property rights.*

**3.201 interaction design: C**
way of designing such that the **customer**, user or viewer is actively involved in the product, **service**, **process** or experience being designed, in a way that both parties "act upon" each other

**3.202 interested party**
individual or group concerned with, or affected by, an organization or its activities

**3.203 interface: O**
boundary common to two or more systems, or other entities at which information flow takes place, or that have physical contact

*NOTE Systems may be different by nature (e.g. man/machine) or with regard to prime objectives (e.g. speed of delivery/**quality**).*

**3.204 internal customer: G**
person inside an organization for/with whom one works, or is affected by the outcome of work undertaken

**3.205 invent: C**
<verb> conceive, originate, devise, discover or improvise or produce a new product or device

**3.206 inversion**
aid to creativity that considers the idea inside out or upside down

**3.207 ISO 9000: G**
term generally used to describe the set of worldwide standards for **quality management** systems, last updated in 2000

*NOTE The correct term is BS EN ISO 9000.*

**3.208 iteration: G**
revisiting an earlier stage of an activity to update information and approaches in the light of new knowledge, experiences and changing circumstances

*NOTE Could relate to particular **processes** or whole **projects**.*

**3.209 job design: Mn**
way in which the content and environment of a job are structured within a workplace and its **interface** with technology and facilities

**3.210 just in time (JIT): Mn**
method of planning and controlling that aims to meet demand instantaneously with no waste

**3.211 kaizen: Mn**
continual improvement

*NOTE This term has Japanese origins.*

**3.212 kanban: Mn**
signal or card used to authorize the release of materials for production in control systems like **JIT**

*NOTE This term has Japanese origins.*

**3.213 lateral thinking: C**
mode of thought characterized by attempting to find new standpoints from which to view the problem, not constrained by conventional logic

*NOTE See also **brainstorming** and **think tank**.*

**3.214 launch champion: I**
person with responsibility for organizing, driving and overseeing all aspects of a product's introduction onto the market

**3.215 lead (or expert) user**
individual considered to be among the most competent users of a product, or who exploits the potential of a product most

*NOTE 1 Potential could be as conceived by the originating organization, or extend beyond that with applications and ways of operating that were never imagined at launch.*

*NOTE 2 Could be an organization.*

**3.216 lean design: D**
design created using a minimum of items or resources, preferably without generating any new items

**3.217 length of the innovation highway**
period of time over which new long-term products and services are planned

*NOTE 1 Extends from the time when existing products and **services** go into decline forward to three **product generations** ahead.*

*NOTE 2 See also **innovation highway** and **incremental innovation**.*

**3.218 lifecycle: S**
behavioural pattern of a product from introduction to withdrawal/**recycling**

*NOTE Encompasses four stages:*

*a) introduction of the product to the marketplace;*

*b) growth with increased demand;*

*c) maturity where the product has reached its peak performance in terms of **customer satisfaction** and retention; and*

*d) decline with reduction in sales, an appropriate time to introduce next-generation products.*

**3.219 logotype**
distinctive rendition of a name, principally in typographic form

*NOTE Could be created for organizations, brands and products.*

**3.220 logistics: Mn**
**supply chain management** term for moving goods

**3.221 mainstream product: I**
product for the general population

*NOTE 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.*

**3.222 management system: G**
expertise, people, processes, standards and infrastructure required for effective administration

**3.223 market forecasting: M**
estimation of size and characteristics of future business and consumer demand

*NOTE Typically encompasses volume, values, **channels**, segments, competitor and regulator behaviour*

**3.224 market-pull: M**
demand-led **requirement** that initiates specific design activities

*NOTE Arises from strong external pressures such as seasonal factors, fashion changes, legislation or* ***market research*** *findings.*

**3.225 market research: M (D)**
enquiry into the existence, size, characteristics and viability of one or more markets

*NOTE Not to be confused with marketing research which relates to enquiries into the means by which markets can be reached and served more effectively.*

**3.226 master digital references: S**
master references kept in digital form from which all copies should be taken and against which all reproduced examples are judged

**3.227 master innovation programme: G**
programme that integrates all **innovation** activities and investments to be undertaken over a specified period, broken down into stages, with resources to be committed and associated timescales

**3.228 material specification: S**
documentation detailing the materials, components or supplies used in producing an item

**3.229 methodology: G**
set of working procedures, methods, practices or rules used when engaged on a particular **project** or process of inquiry

**3.230 method study: Mn**
systematic recording and critical examination of ways of doing things in order to make improvements

**3.231 milestones: G**
agreed points for the completion of important events or key **project** responsibilities and deliverables

**3.232 model: O**
<identification> products identified by name or mark number

<data> set of mathematical formulae, logical procedures, graphical representations, verbal descriptions or physical artifacts or a combination of these that can act in some way analogously to an aspect of real life to develop understanding.

<display> person or object used to assist in displaying a product.

<example> simplified representation of a situation which can be examined, manipulated and evaluated.

*NOTE See also* ***design model*** *and* ***working model****.*

**3.233 moment of truth: S**
defining experience that makes a significant impression on **stakeholders**

**3.234 mood board: C**
board displaying a montage of images drawn from existing sources and conveying different aspects of a design theme, style or visual **trends**

*NOTE 1 Used as a basis for arriving at a common understanding of a style or approach, or as a starting point for exploring various **elements** in greater depth. For example, mood boards may be compiled to illustrate characteristics of "Britishness" in design, or aspects of the 1960s style of design.*

*NOTE 2 See also sample board.*

**3.235 moral rights: G**
rights conferred by statute

*NOTE 1 Attention is drawn to the Copyright, Designs and Patents Act 1988 [2].*

*NOTE 2 Includes the right to claim authorship of and to object to derogatory treatment of a **copyright** work. Applies (with some exceptions) to graphic **designs**, but only selectively to industrially-produced **designs** protected by **copyright**.*

**3.236 morphological analysis: C**
**design method** aimed at systematically searching for satisfactory designs by exhaustively listing the possible ways of achieving each aspect of structure and performance in isolation

**3.237 multidisciplinary team: O**
group of people with an appropriate range of skills and experience drawn from within, and sometimes outside, an organization

**3.238 multi-sourcing: Mn**
obtaining products/components from more than one supplier in order to maintain bargaining power or continuity of supply

**3.239 observation: M (D)**
**methodology** with its roots in anthropology and ethnography, which involves watching how people live, work, play or shop

**3.240 obsolescence management plan: D**
strategies for the identification and mitigation of the effects of obsolescence throughout a product's **lifecycle**

**3.241 opportunity mapping: C**
identifying and visualizing new possibilities

**3.242 optimal: G (D)**
best balance between critical factors

*NOTE Most common factors are cost and time.*

**3.243 organogram: G (D)**
**organization chart**
diagram that sets out an organization's formal hierarchy of people and management structure

**3.244 outsourcing: Mn**
contracting work to third parties to be undertaken outside the **organization**

*NOTE 1 May involve work being undertaken by local or foreign suppliers in the same country as the commissioning **organization**.*

*NOTE 2 Not to be confused with off-shoring which may involve an **organization** setting up separate facilities in a different country, as well as work being commissioned out to local or foreign suppliers in a third country.*

**3.245 parametric product brief**
limitations as specified in the length and width of an innovation highway

*NOTE Includes products to be developed by the organization over a specified time. Also provides the primary determinants against which long-term new product and **service** ideas are selected.*

**3.246 passing off: S**
attempt to mislead or deceive the trade or **customers** by offering products very similar in name, appearance, description or packaging to those of an established manufacturer

*NOTE Also known as "counterfeiting".*

**3.247 Pareto analysis: Mn**
method of representation in which items are sorted in numerical order or ranking magnitude to show the overall balance or distribution, or to identify priorities

*NOTE Also known colloquially as "80/20 analysis".*

**3.248 patent: O**
form of legal protection that grants exclusive rights to make, produce and sell an invention or **innovation**, for a particular length of time

*NOTE 1 A property right conferred by statute that usually protect the functional and technical aspects of products and **processes**.*

*NOTE 2 Attention is drawn to the Patents Act 2004 [3].*

*NOTE 3 Can apply to novel, inventive and workable ideas reduced to specific methods or **processes** of manufacture, or to the resulting product.*

**3.249 performance specification: S**
formal reference specifying features, characteristics, **process** conditions, boundaries and exclusions necessary for the performance of a product or **process**, including **quality requirements**

*NOTE Sometimes referred to as a **functional specification**.*

**3.250 personas: M**
series of archetypes created from **customer** insights

*NOTE Used to show how people might interact with the **service** or the architectures of the **service environment**, to enable **service** providers to engage emotionally and rationally with their users.*

**3.251 pilot test: S**
**prototype** trial or test marketing

**3.252 post-design services: I**
documented programme of development work undertaken after acceptance into service to ensure that the item of material continues to meet its approved **specification** or to improve the function or **reliability**

*NOTE Could be used to indicate the purpose of each work stage, decisions to be taken and required tasks, and may be provide guidance on those responsible for its limitation.*

**3.253 post launch appraisal: I**
review of the effectiveness of a market launch, assessed against objectives set beforehand

*NOTE Normally encompasses lessons learnt in order to initiate actions to remedy deficiencies and support the offer more effectively.*

**3.254 pre-production prototype: Mn**
**prototype** produced as the last stage before full production or implementation

*NOTE 1 For a product, a pre-production prototype is normally produced in a specially prepared pilot plant and/or by using **processes** and equipment that are effectively the same as those to be used in the production line.*

*NOTE 2 See also **prototype**.*

**3.255 process: O**
set of related or interacting activities which transform inputs into outputs

*NOTE 1 Inputs to a process are generally outputs of other processes.*

*NOTE 2 Generally planned and carried out under controlled conditions to add value.*

*NOTE 3 A process where the conformity of the resulting products cannot be readily or economically verified is frequently referred to as a "special process".*

**3.256 process map: I**
diagram illustrating the series of steps that comprise the **process**

*NOTE See also **blueprinting**.*

**3.257 process specification: Mn**
<discrete items> reference that details the method of assembling, producing or delivering the item

<bulk commodities> reference that details the procedures and operations to be carried out on the materials used

<plant> reference that details the control of facilities used in a treatment or sequence of treatments of the item or commodity

**3.258 procure: Mn**
<verb> obtain, engage or buy goods or **services** for use by an organization

**3.259 product: O**
result of activities or **processes**

*NOTE 1 May include **services**, hardware, processed materials, **software**, or a combination thereof.*

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

*NOTE 3 Can be either intentional (e.g. offering something to **customers**) or unintentional (e.g. pollutant or unwanted effects).*

*NOTE 4* ***In accordance with terminology used in BS EN ISO 9001, the term "product" is used throughout this standard to refer to products, services, facilities, processes, environments, interfaces and business models.***

**3.260 product champion: G**
<general> person dedicated to the promotion and introduction of a new product who helps steer an activity to successful completion, although not necessarily responsible for any aspect of the programme

<specialist> **design leader** who is a constant member of the **design team**, responsible for ensuring that the **design process** is well co-ordinated and the right decisions are taken

*NOTE This person will ultimately make the decision to abandon a failed **project**.*

**3.261 product concept: C**
brief description of a proposed new product

*NOTE May include what it has to do and why it might have potential for the organization.*

**3.262 product configuration information**
**requirements** for product design, realization, **verification**, operation and support

[BS ISO 10007:2003, definition **3.9**]

**3.263 product development: O**
**process** by which a product is brought to the point where it is ready to be manufactured and/or delivered

**3.264 product generation**
<advantage> advance that results in a significant **competitive advantage**

<attitude> advance that forces a significant change in perception and the way things are done

<obsolescence> advance that makes old products obsolete

<organization> step advance for an organization or industry

<platform> advance that establishes a new platform from which to build future output

<progressive change> integration of several changes introduced separately over time to offer a new, upgraded product that is perceived to be of higher value

<simultaneous change> change or cluster of changes incorporated into a product at the same time

<standard> advance that establishes a new standard that others adopt

<transformation> change that transforms a market (changes rules, direction, opens up new avenues, etc.)

**3.265 product liability: O**
onus on a producer or others to make restitution for loss related to personal injury, property damage or other harm caused by a product that is used in accordance with the information supplied with it

*NOTE The legal and financial implications of product liability may vary from one jurisdiction to another.*

**3.266 product plan: S**
sub-section of the overall business/corporate plan that contains all **elements** connected with a particular product or product range

**3.267 product planning: Mn**
translating identified market, product or sourcing opportunities into achievable actions

**3.268 product policy: G**
organizational policy with respect to its product range, grade, style and price

**3.269 product proposal: S**
proposal suggesting development of a particular new or current product

**3.270 product specification: S**
reference specifying the features, characteristics and properties of a product, giving all the information that is required to create it

*NOTE Sometimes referred to as a **technical specification** or brief.*

**3.271 product strategy: G (D)**
chosen path to achieve business and design objectives relating to a product, supported by an indication of how resources will be committed

**3.272 product styling: D**
application of a specific appearance format to a product

**3.273 project: O**
coordinated and controlled activities comprising of an exploratory definition stage, an initial **design concept** stage, a detailed design stage and a construction stage and implementation stage undertaken to achieve specific **requirements**, including the **constraints** of time, cost and resources

*NOTE 1 Individual projects can form part of larger projects.*

*NOTE 2 Sometimes the objectives are refined and the product characteristics defined progressively as the project proceeds.*

*NOTE 3 Projects can result in one or more products.*

*NOTE 4 The stages are not linear, but are recursive and partially concurrent.*

**3.274 project brief: S**
**specification** of the **configuration** of a **project** to be set up to address an agreed **design brief**

*NOTE 1 Also called a project proposal.*

*NOTE 2 Normally encompasses a business brief, **design brief**, and work programme broken down into stages with **milestones** and deadlines, **expertise** and resources to be committed, and assignment of responsibilities. Sometimes includes a solutions brief (especially where certain approaches and solutions have to be avoided).*

**3.275 project plan: S**
documentation defining the work programme and sequences of activities to be undertaken

*NOTE Also known as "plan of work", it can be used to indicate the purpose of each stage of the work, the decisions to be taken, the tasks to be undertaken and may give guidance as to who will be responsible for implementing such stages.*

**3.276 proposition: Sl**
purpose of a product in terms of benefits to users

**3.277 proprietary part: O**
part of a design or product that in design, **copyright** and manufacture is fully owned by a supplier to the organization responsible for and owning the product

*NOTE 1 The product is not considered proprietary if it is tailored in any way to suit the specific **requirements** of the purchaser.*

*NOTE 2 In the case of proprietary parts, the **intellectual property rights** (IPR) remain the property of the supplier.*

**3.278 prototype: D**
<early stage> physical or virtual **model** created to test ideas and designs, and to solicit user-feedback, from which a final product or **service** will then be created

*NOTE Real features can be tested and evaluated on such a **model**.*

<middle stage> partial version of a system is built which seeks to replicate the final product and test aspects of performance

<late stage> fully working version of the product, replicating the future manufactured product and using the actual production parts/facilities as far as practicable

**3.279 public relations (PR): I**
practice of promoting and maintaining the image of an individual or organization, through media and promotions such as press releases, press kits, case studies, interviews, company newsletters and sponsorship opportunities

**3.280 qualitative: M**
analysis or research approach based on the subjective thoughts, feelings, reactions and motivations of **customers**

*NOTE Qualitative results can provide rich insights into people's emotional connections and habitual behaviours with regard to people, places, **products**, **services** or to other contexts.*

**3.281 quality: G**
<characteristics> totality of features and characteristics of a product that bear on its ability to address real needs and to satisfy stated **requirements**

<specification> extent to which a product meets its **design specification**

<customer perception> degree of excellence as perceived by a **customer** or **stakeholder**

*NOTE The term quality can be used with adjectives such as poor, good or excellent.*

**3.282 quality management: G**
<policy> aspect of the overall management function that determines and implements the **quality policy**

<activity> co-ordinated activities to direct and control an organization with regard to **quality**

*NOTE Direction and control with regard to **quality** generally includes establishment of the **quality policy** and **quality** objectives and related resources to fulfil these.*

**3.283 quality manual: G**
reference specifying the **quality management** systems of an organization

**3.284 quality policy: G**
overall intentions and direction of an organization with regard to **quality**, as formally expressed by top management

**3.285 quality system: G**
organizational structure, procedures, **processes** and resources needed to implement **quality management**

**3.286 quantitative: M**
analysis or research approach based on factors that have been measured in relation to amounts, size, etc.

*NOTE The data are compiled for statistical analyses and used to predict consumer behaviour, potential markets and future growth areas.*

**3.287 radar mapping: C**
evaluating future opportunities against present performance criteria

**3.288 radical innovation: C (D)**
**innovation** resulting in significant (sometimes step) changes that could not have been extrapolated from present state

*NOTE 1 Could result in large and/or fundamental change in one or two factors; or from smaller changes in several factors that, together, lead to a surprising outcome that breaks the mould or sets a new **benchmark**.*

*NOTE 2 Might relate to products, **services**, **processes**, techniques and technologies; to positioning, practices, performance, expectations and possibilities.*

**3.289 rationale: S**
explanation of the response to a brief, the thinking process and explanation of why something has been designed or produced in a particular way

*NOTE May include decisions made in relation to, for example, form, function, aesthetics, user **requirements** and client needs.*

**3.290 recycle: D**
reprocessing a material or component for re-use, typically after disposal of a product

**3.291 registered design: O**
property right conferred by statute

*NOTE 1 Attention is drawn to the Registered Designs Act 1949 [4], as amended by the Copyright, Designs and Patents Act 1988 [2].*

*NOTE 2 Applies to new, industrially-produced **designs**, protecting features of appearance rather than construction or function.*

**3.292 reliability: S**
probability that an item can perform a required function under conditions over a given time

*NOTE Generally assumed that an item can perform this required function under given conditions for a given time interval.*

**3.293 renewable: G**
replenishable naturally at source at a rate at least the same as consumption

*NOTE Can apply to material and energy.*

**3.294 requirement: G (S)**
need or expectation that is stated, generally implied or obligatory

*NOTE 1 "Generally implied" means that it is custom or common practice for the organization, its **customers** and other **interested parties**, that the need or expectation under consideration is implied.*

*NOTE 2 A qualifier can be used to denote a specific type of requirement, e.g. product requirement, **quality management** or **customer** requirement.*

*NOTE 3 A specified requirement is one which is stated, for example, in a document.*

*NOTE 4 Requirements can be generated by different **interested parties**.*

**3.295 research and development (R&D): O**
systematic and careful investigation of a particular subject, followed by the expansion of investigations and proposals in a chosen direction

**3.296 reverse logistics: Mn (D)**
planning, implementing, and controlling the efficient, cost-effective flow of raw materials, in-process inventory, finished goods, and related information from the point of consumption back to the point of origin

*NOTE For recapturing value or proper disposal.*

**3.297 risk: G**
combined effect of the likelihood of occurrence of an undesirable event and its severity

**3.298 risk assessment: D**
process for identifying and estimating possible adverse project outcomes then, if they cannot be avoided or alleviated, balancing and covering for the impact they might have

**3.299 risk audit: S**
identification and assessment of potential dangers or losses

**3.300 risk management: D**
**process** whereby decisions are made to eliminate, mitigate or accept a known **risk** or hazard

**3.301 road map (or route map): G**
description of an anticipated series of developments and **milestones** that provides guidance on the way forward to an envisioned future

*NOTE 1 Roadmapping can be applied to products, **services**, **processes**, techniques and technologies.*

*NOTE 2 With judicious planning, new products, etc., can be conceived to use anticipated developments (technological, etc.) as they become available.*

**3.302 robust design: D**
<evolution> design created with the intention or possibility of future evolution

<variability> design that is insensitive to variations in its manufacture and use

**3.303 roster: G**
list of favoured consultancies, suppliers and **service** providers, whose references have been checked, financially audited and approved by an organization's procurement authority, prior to consideration for engagement on a **project** and negotiation of terms of engagement

*NOTE Also known as an "approved supplier's list".*

**3.304 safety-critical item: D**
component or system that, on failure, can endanger human life or property

**3.305 safety-critical system: D**
system in which failure could result in severe injury or death to a person dependent on it

*NOTE See also **safety-critical item**.*

**3.306 sample board: D**
board that exhibits the main materials and finishes proposed in a design scheme to give a clear impression of colours, textures, handling and **quality** of finish, compatibility and final effect

*NOTE 1 Sample boards display actual samples of materials and fittings/components. Where there is a problem with size, or impressions of large areas and repeat patterns are necessary, appropriate photographs are incorporated.*

*NOTE 2 See also **mood board**.*

**3.307 scenario: C**
<product> description and **configuration** of what the user is anticipated to do with a product

<use> likely future circumstances in which a product might feature

**3.308 scenario planning: C**
developing several possible versions of the future in order to help predict possible future directions of a product

*NOTE 1 Used to assess likelihood of these futures occurring and to prepare organizations better to deal with them should they unfold.*

*NOTE 2 Helps to highlight potential new needs as well as gaps in current situations, hence a more tangible basis from which to direct **research and development** work relating to existing or new products.*

**3.309 segmentation: M**
grouping of target audiences according to significant identifying or behavioural factors

***NOTE For example,** preferences, attitudes, beliefs and buying patterns.*

**3.310 sensitivity analysis: D**
<constituent factors> determination of the relative impacts of equal variations in different constituent factors on the situation under examination

*NOTE Factors and constraints can be added or removed to produce "best", "worst" and "most probable" cases.*

<degrees of change> estimation of impact of different degrees of change in a particular factor on the overall situation (performance, outcomes, etc.) under consideration

**3.311 serial innovation: C**
group of interrelated **innovations** that need to be effected together in order to achieve desired innovative outcome

*NOTE Often arises as a result of groundwork or follow-through necessary in the **value chain** to enable the target **innovation**.*

**3.312 serial innovator**
person or organization with a successful record of several **innovations** that are not necessarily inter-related

**3.313 service: G**
<activity> result of at least one activity, performed at the **interface** between the supplier and **customer**, which is generally intangible, does not result in the ownership of anything and where its production might or might not be tied to a physical product

*NOTE 1 The supplier or the **customer** might be represented at the **interface** by personnel or equipment.*

*NOTE 2 **Customer** activities at the **interface** with the supplier might be essential to the **service delivery**.*

<feature> a set of functions offered to a user by an organization

*NOTE Delivery or use of tangible products may form part of the **service delivery**.*

**3.314 service core**
central or main body of the **service**

**3.315 service delivery: I**
supplier activities necessary to provide the **service**

*NOTE Delivery or use of tangible products may form part of the service delivery.*

**3.316 service ecology: I**
system of relationships between those that form a **service**

**3.317 service environment: I**
any space or place in which a **service** is delivered

*NOTE Includes websites and mobile phones.*

**3.318 service excellence: G**
configuration and delivery of a **service** acknowledged to be of exceptional **quality** by **customers** and competitors

**3.319 service offering: I**
nature of the **service** being provided

**3.320 service resolution: D**
**elements** that determine the **configuration** of a **service**

**3.321 simulation: C**
rendition of a **process** or experience deemed to be an accurate imitation of what will occur in reality

*NOTE 1 Used to explore how a product or system might perform in different circumstances; also to demonstrate, more tangibly, the performance of a product or system in anticipated circumstances.*

*NOTE 2 The purpose of simulation is to experiment with the behaviour of the **model** in order to determine the value of the parameters of the systems under various conditions of operation.*

*NOTE 3 All parameters, including time, may be scaled in the use of the **model**.*

**3.322 simultaneous engineering: G**
concurrent activities during the course of design and manufacture of a product

*NOTE Also known as **concurrent processing**, concurrent engineering or parallel working.*

**3.323 soft systems methodology: G**
system-based **methodology** for tackling real world problems in which outcomes known to be desirable cannot be taken as given

*NOTE Based upon a phenomenological stance.*

**3.324 specification: S**
reference stating **requirements** that a product has to fulfil

*NOTE 1 A qualifier should be used to indicate the type of specification, such as **product specification**, **test specification**, etc.*

*NOTE 2 Normally includes or mentions drawings, patterns and other references and indicates the means and criteria for checking conformity.*

**3.325 specification element: S**
aspect that needs to be considered when compiling a **design specification**

**3.326 stage gateway: G**
milestone and decision point relating to the continuation, or otherwise, of a **project** in development

**3.327 stakeholder: G**
organization, individual or group of individuals from inside or outside an organization, involved with or having an interest, in the performance of an organization and the environment in which it operates or is affected by it

*NOTE May be related to a variety of benefits, for example, financial, societal, cultural, political, personal, etc.*

**3.328 static design: C**
design where changes are infrequent and are often of an incremental or evolutionary nature

**3.329 stories from the future: C**
potential **scenarios** made tangible and emotive through storytelling

**3.330 story board: C (D)**
illustrated, step-by-step sequence showing a product in use for the purposes of **evaluation**

**3.331 supply chain management: Mn**
management of activities that **procure** raw materials, transform them into intermediate goods and final products, and deliver these products to **customers** through a distribution system

**3.332 sustainable design: G**
study and application of how products, **services**, systems and **processes** could be designed or re-designed to have a positive impact on social, economic and environmental factors (i.e. people, profit, planet)

*NOTE Might include materials, their origins and end disposal; energy and transport policies; product lifespan and waste-reduction strategies.*

**3.333 tangible evidence: Sl**
material aspects used to evaluate effectiveness

**3.334 target specification: S**
reference that records the primary purpose and required performance of a product

*NOTE 1 Includes attributes such as style, grade, performance, appearance, conditions of use (including health and safety considerations), characteristics, packaging, conformity, **reliability** and maintenance.*

*NOTE 2 Often the result of a **feasibility study** and forms the basis of the design. It is sometimes known as the **design brief** or the primary specification.*

**3.335 technical file**
product technical information collated to satisfy the documentation **requirements** of European Directives applicable to the product (e.g. CE Marking)

*NOTE May comprise specifications, drawings, items lists, design descriptions, risk assessments, test reports, copies of instructions for installation, use and maintenance (this is not an exhaustive list).*

**3.336 technical product specification (TPS): S**
collection of technical product references comprising the complete design definition and specification of a product, for manufacturing and **verification** purposes

*NOTE Previously called a technical product document set.*

**3.337 technical review: G**
<organization> appraisal of technical objectives and capabilities of the **design facility** in the context of its overall business and marketing plans

*NOTE To provide management with a clear view of the organization's operations so that new products can be developed, new manufacturing techniques exploited and existing staff trained or new staff recruited to meet the changing technology **requirements**.*

<product> appraisal of performance against required **technical product specification**

**3.338 technology-push: G**
pressure for change prompted by technology

*NOTE Tends to follow a technical perspective and advances in technology, without necessarily referring to customer needs.*

**3.339 technological route map: G**
description of an anticipated series of developments and milestones in identified technologies that provides guidance on the way forward

*NOTE With judicious planning, new products could be conceived to use anticipated technological developments as they come on stream.*

**3.340 terotechnology: O**
combination of management, financial, engineering, building and other practices applied to physical assets in pursuit of economic **lifecycle** costs

*NOTE 1 Terotechnology is concerned with the **specification** and design for **reliability** and maintainability of physical assets such as plant, machinery, equipment, buildings and structures. The application of terotechnology also takes into account the **processes** of installation, commissioning, operation, maintenance, modification and replacement. Decisions are influenced by feedback of information on design, performance and costs, throughout the **lifecycle** of a **project**.*

*NOTE 2 Terotechnology applies equally to assets and products because the product of one organization often becomes the asset of another. Even if the product is a simple consumer item, its design and **customer** appeal will benefit from terotechnology and this will reflect in improved market security for the producer.*

[BS 3811:1993, definition **1101**]

**3.341 test plan**
plan outlining the test work to be undertaken to ensure that the performance **requirements** of the eventual product can be achieved

**3.342 test specification: S**
reference describing in detail the methods of conducting tests including, if necessary, the criteria for assessing the result

*NOTE May contain clauses for conformity and **reliability** assessment.*

**3.343 think tank: C**
group of people brought together to produce new ideas about a specific topic

*NOTE See also **brainstorming** and **lateral thinking**.*

**3.344 time use: O**
changing composition of people's work, transport, leisure and family life, in hours and minutes a day, at nights or over weekends

**3.345 top-down approach: G**
**design method** that starts with consideration of a whole entity then proceeds towards consideration of constituent details

*NOTE See also **bottom-up approach**.*

**3.346 total design: G**
multidisciplinary iterative **process** that takes an idea and/or market need forward and through all stages to disposal

**3.347 touch-points: I**
points of contact and interactions that make up **stakeholders'** experiences of a product

*NOTE Can include a series of critical encounters over time between users and products.*

**3.348 trend**
identifiable pattern of events

**3.349 trend forecasting: M**
act of predicting a tendency, style, fashion, or future market opportunity

*NOTE 1 As identified by marketers, retailers, designers and consumers themselves.*

*NOTE 2 Also known as trend spotting.*

**3.350 trigger: G**
catalyst that prompts action that might lead to a new product or **design programme**

*NOTE Can occur in a variety of ways, including **technology-push**, **market-pull,** or sometimes through serendipity and simply by chance.*

**3.351 type approval: S**
status given to a design that has been shown by a type test to meet all the **requirements** of the **product specification** and which is suitable for a specific application

*NOTE Can be internally or externally imposed.*

**3.352 usability: O**
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+A1:1998, definition **3.1**]

**3.353 use specification: S**
reference that describes in detail the method of bringing into use, operating, controlling and adjusting the product

*NOTE May be in the form of an instruction manual.*

**3.354 user-centred**
<experience> designing a product or **service** experience around the life and behaviour of consumers or users

<people> design approach that engages users and places them at the heart of the **design process**

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

**3.355 user friendly: G**
outcomes incorporating features that are easily comprehensible, and operations that are intuitive and quickly mastered

*NOTE Sometimes called "user-sensitive", "age-friendly" or "disability friendly".*

**3.356 validation: I**
confirmation, through the provision of objective evidence, that the **requirements** for a specific intended use or application have been fulfilled

*NOTE 1 In design and development, validation concerns the process of determining a product's suitability and conformity with user needs.*

*NOTE 2 Validation is normally performed on the final product under defined operating conditions. It may be necessary in earlier stages.*

*NOTE 3 The term "validated" is used to designate the corresponding status.*

*NOTE 4 Multiple validations may be carried out if there are different intended uses.*

**3.357 validation protocol**
statement of the method by which **validation** will be carried out, typically comprising a list of each product specification element, and for each a description of the nature of the **validation**

*NOTE Could be an inspection, test or review.*

**3.358 validation report**
written report describing the results and outcome of conducting **validation**

**3.359 value analysis: D**
systematic interdisciplinary examination of factors affecting the cost of a product, in order to devise means of achieving the specified purpose most economically at the required standard of **quality** and **reliability**

[BS 3138+A1:1992, definition **21090**]

**3.360 value chain: G**
all factors and activities undertaken by, or on behalf of, an **organization** that contribute to the value of its products as perceived by **customers** and users, from first conception through to final disposal and **recycling**

**3.361 value system: O**
morals, principles and beliefs held within an organization and by **customers**

**3.362 verification: S**
confirmation, through the provision of objective evidence, that the specified **requirements** have been fulfilled

*NOTE 1 The term "verified" is used to designate the corresponding status*

*NOTE 2 Confirmation can comprise such activities as:*

- *performing alternative calculations;*
- *comparing a new design specification with a similar proven design specification;*
- *undertaking tests and demonstrations;*
- *reviewing documents prior to issue.*

**3.363 visual identity: D**
visual expression of an organization's **corporate identity**

**3.364 visual identification system: D**
principal means by which an organization manifests visually its **corporate identity**

*NOTE Normally comprises core elements such as symbols, logotypes, colours and typefaces used in combination according to prescribed rules, standards and procedures.*

**3.365 visual identity programme: S**
ongoing commitment to periodically surveying and reviewing the **visual identification system**

*NOTE Should extend to the maintenance and development of the **visual identification system**.*

**3.366 visual imagery: I**
visual rendition of ideas and concepts

**3.367 visual modelling: C (D)**
research **methodology** that uses visual stimuli to express a **concept** or an idea

**3.368 visualization**
process by which ideas and concepts are expressed more vividly using visual imagery

**3.369 "what-if?" analysis: C**
exploration of a problem or opportunity to determine how performance and outcomes might alter should circumstances change, particularly if **constraints** and barriers could be removed

*NOTE Differs from **"if only" analysis** in that it progresses forward from the known present rather than a desired future state.*

**3.370 whole-life costs: I**
costs incurred or arising out of the creation, fabrication, use, maintenance, disposal and final elimination of a product

*NOTE Includes the costs to recruit, train and retrain personnel, as well as other indirect costs in the organization.*

**3.371 width of the innovation highway**
parameters (including financial) to be met that might constrain future plans and the terrain to be covered when developing long term products

**3.372 workflow: O**
progression of tasks and movement of documents during a **process**

**3.373 workflow diagram: O**
diagram illustrating the flow or progress of work

*NOTE Can apply to an organization, department or individual.*

**3.374 working model: C**
**model** that replicates the operation of a product, an individual component or sub-assembly

*NOTE 1 Normally produced to test features such as mechanisms, functions and* ***ergonomics****.*

*NOTE 2 The most basic form of working model consists of "stripped down" mechanisms; more developed models include casings which indicate the appearance of the finished product.*

*NOTE 3 See also* ***model****,* ***design model*** *and* ***finished model****.*

**3.375 yield management: M**
techniques that can be used to ensure that an operation maximizes its profit-generating potential

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