

# Profiling Tool

**The multilingual competence framework is being made available as an interactive Profiling Tool by tekomp to all users and interested persons.**

With the Profiling Tool, you can make a targeted selection of the requirements specific to you on the levels of knowledge areas, competence fields, topic groups and learning contents and thus create a personal competence profile.

Using the "Professional" and "Expert" buttons, you can pre-select competence and qualification requirements for the respective level.

Select "Professional" if you have no or little professional experience in technical communication. Select "Expert" if you already have more than two years' professional experience.

For a further individual summary of the contents, click on an area level to open it. Using a rating scale of five stars, you can enter a self-evaluation. Once you have made your selection, you can send your summary to your printer using the "Print" button, or save it in PDF format.

[How to Use the Profiling Tool](#)  
[Short Guide to Using the Profiling Tool \(PDF\)](#)

The buttons "Show Teaching approaches" and "Show Learning objectives" switch to the teaching and exam-oriented views for the qualification consultation, the accredited training programs and the tekomp certification examination. Further information can be found in the PDF 'The Teaching and Exam-Oriented Perspective of the tekomp Competence Framework' (coming soon) and on the tekomp website in the "[Certification](#)" area.

## 1. Context analysis

Before creating an information product, it is necessary to analyze the requirements which it must meet. Context analysis determines the underlying conditions and the requirements that are placed on an information product by its context.

Context analysis is a preparatory process phase. One distinctive feature is the fact that not only internal sources but mainly sources outside the company are evaluated. In doing so, overarching aspects such as legal and normative requirements, markets or target groups are investigated. Context analysis does not have to be performed for every documentation product but does need to be performed regularly at scheduled intervals or when modifications have been announced. The results of observing the information product are evaluated in the context analysis and their consequences for creating information products are deduced from these results. Context analysis and its results are interpreted specifically to the documentation, depending on the nature of the information product and the underlying conditions.

A context analysis examines:

- Legal requirements
- Normative requirements
- Target groups
- Country-specific requirements
- Products and technologies
- Media and information technology
- Results of observation of the information product

The results of the context analysis are fed into the concept for an information product and also into aspects such as media development, publication and distribution.

### 1.1 Legal requirements

### 1.2 Normative requirements

### 1.3 Target groups

Target group descriptions characterize the users of an information product in a given usage situation. Every information product must be easily understandable and usable for its target group. One must know the information product's target group and its requirements in order to achieve this. The characteristics of the information product can be determined and derived from this starting point.

Relevant features describe target groups and usage situations. Various methodological approaches make it possible to follow a systematic procedure when analyzing target groups and their usage situation.

A target group analysis produces specific guidance on how to develop a product.



### 1.3.1 Documentation-relevant target-group characteristics



Target-group characteristics that have an impact on the use of an information product and consequences for creating an information product (e.g., age, level of expert knowledge, technological expertise, level of education, culture, language skills, media competence, color blindness, disabilities, users' technical equipment, rights of use, distribution channels)



The target group's usage environment (e.g., in order to determine the most suitable publication medium)



The target group's degree of familiarity with technologies



### 1.3.2 Characterization of target groups



Objectives of characterizing target groups and target-group analysis



Classification and characterization of target groups



Target-group related data gathering, acquisition of "hard data" regarding the target group (e.g., from studies, the company's customer contacts (e.g., from Service, Support) or from usability studies)



Methods of characterizing target groups, e.g. target group analysis (e.g., Persona method, who-does-what matrix)



### 1.3.3 Target group analysis



Planning, executing and assessing a target group analysis, basic principles and systematic problems



Acquiring information using various target-group analysis methods (e.g., methods that aim to describe target-group features as opposed to methods that are geared towards the use of the product/usage situation)



Using results obtained from target group analyses, user profiles and "hard data" for the information product concept



Dovetailing target group analyses with other methods (e.g., analysis of product usage, such as use cases, task analysis)



### 1.3.4 Trends in users' behaviors



Developments and trends in use of media, expectations and requirements placed on media and presentations

## 1.4 Country-specific requirements

Information products for different countries and markets must meet country-specific requirements. These include:

Technical requirements

Culturally-specific aspects of the target group

Legal and normative requirements

Taking these requirements into account in the information product is relevant when it comes to placing the product on the market, product compliance and usability. Information on this can be obtained directly from destination countries, from technical requirements and product specifications, from contracts or by research.

The resulting requirements placed on information products must be taken into account during concept development and be implemented when the product is produced.

#### ☒ **1.4.1 Technical requirements**



- ☒ Country-specific technical requirements (e.g., materials, socket outlets, voltage) that must be taken into account when creating information products for international markets.

#### ☒ **1.4.2 Culturally-specific aspects of the target group**



- ☒ Culturally-specific differences in the way that information is processed (e.g., characters, colors, images, reading direction)
- ☒ Cultural aspects of pictorial and symbolic language
- ☒ Culturally-specific differences regarding expected ways in which information is presented
- ☒ Cultural and country-specific aspects of the target group when using the information product and when using media
- ☒ Cultural and country-specific aspects of the target group which might impact use of the product
- ☒ Culturally-specific methods of working
- ☒ Country-specific aspects and requirements (e.g., linguistic, terminological, technical, organizational) that must be taken into account when creating information products for international markets.

#### ☒ **1.4.3 Legal and normative requirements**



- ☒ Country-specific legal and normative requirements placed on information products

### **1.5 Products and technologies**

Before developing an information product, the characteristics of the product and the resulting requirements placed on the information product must be determined. Conversely, the information product may result in requirements being placed on the product.

An information product must describe all relevant functions and conditions for users. The product structure and possible versions which must be taken into account in the information product are determined when analyzing the product. The use of a product in every phase of the product's life-cycle is another aspect of product analysis. The product technology that is used is also investigated and conclusions are drawn regarding its degree of familiarity and the expected knowledge of users. Allowance must be made for possible interactions between the information product and the product. The features of the product, such as a display, have, for instance, an influence on how an information product can be provided.

The results of this process step must be taken into account during concept development and be implemented when the product is produced.

#### ☒ **1.5.1 Product analysis**













- ☒ Acquisition of product knowledge (technologies, application, risks, safety aspects etc.) in order to develop information products
- ☒ Analysis of product structure, controls, product features, functions and product usage (including accessories and spare parts) in every phase of the product life-cycle (e.g., commissioning, operation, control, maintenance, service, repair, disposal) and of relevant information for this purpose (e.g., compatibility with previous/subsequent products, modifications, development)
- ☒ Analysis of product versions
- ☒ Analysis of interfaces and integration into systems (plant manufacturing)


- ☒ **1.5.2 Analysis of use of product**     
- ☒ Analysis of use of product (e.g., use-case analysis, task analysis, observation, context interviews)
  - ☒ Planning, executing and evaluating a specific method of analyzing product usage; basic principles and systematic problems
  - ☒ Use results obtained by analyzing product usage for the information product concept
- ☒ **1.5.3 Product features and information product**     
- ☒ Features of the product (e.g., controls, display) and resulting requirements, restrictions and options for the information product (e.g., data transfer, operation and control using apps, interfaces)
  - ☒ Requirements placed on the product by virtue of the information product (e.g., how must the product be constructed in order to provide the information product, e.g., storage of information, codes)
  - ☒ Specific requirements in the case of electronic information products (e.g., integration of context-sensitive Help and/or embedded Help in software user interfaces)
- ☒ **1.5.4 Product technology**     
- ☒ Analysis of technologies used and their degree of familiarity to the target group (e.g., whether a familiar or unfamiliar technology)
  - ☒ Deducing, from such analysis, the consequences of technologies used on the information product's concept (e.g., whether familiar or unfamiliar technology, whether market launch or already established on the market)
- ☒ **1.5.5 Competitor analysis**     
- ☒ Competitor analysis and its use in the field of Technical Communication
  - ☒ Comparing information products with corresponding products from competitors (e.g., benchmarking)

## 1.6 Media

Information products can be made available to the user using various media. When creating an information product, a decision must be made as to which types of media are most suitable under the given underlying conditions. Use by the target group, the product that is to be described, how the information product can be displayed on the various output devices and which media standards can be used are all factors that are relevant to this decision.



The results of this process step are used for media planning.

- ☒ **1.6.1 Types of media**     
- ☒ Types of media that are inherently representational (e.g., text, image, graphic, 3D model, film, audio) or inherently interactive (e.g., hypertext, interactive image, interactive graphic, interactive 3D model, interactive film, animation, simulation)
  - ☒ Classification of media types (e.g., categorization according to type of representation) and use of classification (e.g., as meta data and attributes)
- ☒ **1.6.2 Publication media and output devices**     

- ☒ Publication media (e.g., print, Internet browsers, viewers, audio, sensors)
- ☒ Output devices (e.g., PC screen, smartphone, tablet, data medium, loudspeaker, projector, glasses, headset, paper) and their characteristics for integrating information products, e.g., in terms of storage, archivability, readers, mobility, availability, usage environment (e.g., dust, temperature, soiling, humidity, mobility, online connection)
- ☒ **1.6.3 Media standards** 
- ☒ Technical source and output formats and standards for encoding content (e.g., PDF, HTML5, EPUB, XML, JSON, 3D-PDF, U3D, WebGL, 3D-XML, MPEG4, MPEG3, web apps, hybrid apps, native apps)
- ☒ Restrictions imposed by media standards with regard to their use for information products and dependence on publication media, output devices or operating systems

## 1.7 Results of observation of information product

As part of the context analysis, the way in which information products that have already been successfully developed and placed on the market and what scope there is for potential improvements are investigated. The results of monitoring the market for the information product must therefore be analyzed and taken into account when planning, designing and creating new information products.

- ☒ **1.7.1 Analysis of observation of the information product** 
- ☒ Analysis and assessment of feedback and observations
- ☒ Error culture in the company
- ☒ **1.7.2 Continuous improvement process** 
- ☒ Continuous improvement processes (e.g., Deming Cycle, Lessons Learned, Kaizen)
- ☒ Remedial and precautionary measures (including planning, responsibility, deadlines, implementation and monitoring)

## 2. Planning

The entire information development process must be planned in advance. Information products are created, as a rule, through workflows that are organized in a project-like manner. Because no two information products are the same, although there are standard processes for information development, the creation of information products must be planned as a project.

The project engineering process, which is itself organized as a project, is the trigger for information creation as a rule. In this case the information product development project is a subproject in a higher-level product development project. Modifications to products that have already been launched or changes to underlying conditions may also make it necessary to adapt to information products.

In every case, planning must take into account necessary resources such as funds, personnel and time as well as workflows and relevant interfaces, e.g. with suppliers.

Planning involves:

Product life-cycle support  
Information creation planning  
Project Management

Information from various sources, e.g., from context analysis but also from internal documents e.g., product specifications, requirements specifications, functional specifications and empirical values from previous projects, have an impact on planning. Fundamental content and design-related definitions are also fed into planning.

The planning phase results in a specific schedule and milestone plan for creating information products which also provides information about capacity, costs and interfaces.

## 2.1 Product life-cycle support

Information products offer the user assistance in various phases of a product's life-cycle, e.g. installation, commissioning, use, maintenance and disposal.

Distinctions are made between planning the creation of an information product based on product development, product changes and the need to modify an information product without modifying the product.

The content of an information product is inextricably linked to information from other business units, e.g., Development, Marketing, Training and Customer Service. In order to create information products effectively and efficiently, the need to coordinate timings with these other business units must also be taken into account.

Project planning results are used in the next phases.

- ☒ **2.1.1 Basic principles of product life-cycle** ★ ★ ★ ★ ★
  - ☒ Presentation and workflow description of the product's life-cycle
  - ☒ Interrelationship and interplay between product life-cycle and creating information products (e.g., documentation needs, necessity, development processes and delivery of information products)
- ☒ **2.1.2 Dovetailing the development of information products with product development** ★ ★ ★ ★ ★
  - ☒ Product development processes and development of information products having industry-specific differences (e.g., processes in mechanical engineering, plant construction, automotive engineering or software development)
  - ☒ Integration of requirements placed on information products (e.g., necessity of a display) into the product specification (e.g., availability of a display)
  - ☒ Dovetailing the process of developing information products with the process of product development (e.g., by setting milestones)
  - ☒ Information flows between Technical Communication and Product Development
- ☒ **2.1.3 Planning information products when products are launched** ★ ★ ★ ★ ★
  - ☒ Planning the necessary information products for a product
  - ☒ Planning the information architecture
  - ☒ Change Management during product development
- ☒ **2.1.4 Planning information products in the event of product changes** ★ ★ ★ ★ ★
  - ☒ Determining the information products and contents affected by a modification (e.g., content modules, tables)
  - ☒ Determining the scope of a modification (e.g., additional information or inventory change) and extent of modification (e.g., minimal change, alterations or complete overhaul, e.g., terminology)
  - ☒ Determining change histories and versions
  - ☒ Change Management in the event of product changes after completion of product development
  - ☒ Planning translation in the event of changes
- ☒ **2.1.5 Planning the correction of information products (without any modifications to the product)**



- ☒ Determining the extent of corrections or additions and contents that are to be corrected
- ☒ Prioritizing and evaluating the urgency of corrections
- ☒ Informing the target group about corrections
- ☒ Distribution of corrections
- ☒ Replacement of corrected information product and ensuring delivery (e.g., updates via the Internet, downloads)
- ☒ Arranging recalls
- ☒ Planning translation in the event of corrections

#### ☒ **2.1.6 Dovetailing the development of information products with other business units**



- ☒ Dovetailing Technical Communication with other business units (e.g., Marketing, Product Management, Sales, Training)
- ☒ Distribution channels and resulting requirements placed on technical documentation (e.g., formats, media, data formats)
- ☒ Differences in distribution channels (e.g., B2B, B2C, C2C) and their relevance to Technical Communication
- ☒ E-commerce and its relevance to Technical Communication

## 2.2 Information creation planning

The requirements placed on every information product differ in each project. This is why planning the creation of information for individual detailed tasks must be set up specifically. This includes defining how the process is organized and which resources are needed in order to achieve implementation.

It includes defining how the process is organized, which resources are needed in order to achieve implementation, what knowledge the executing employees must have, which interfaces must be taken into account and which requirements have to be met in order for all the individual substeps in the information development process to run smoothly. The basis of planning is usually provided by empirical values obtained from previous projects.

The entire information development process (time, tasks, contents and workflow) is devised in advance during information creation planning.

#### ☒ **2.2.1 Basic principles of information planning**



- ☒ Presentation of the information development process and detailed description of phases and work packages when developing information products
- ☒ Different variants of the information development process with individual phases or phase-related tasks (e.g., industry-dependent, product-dependent, depending on Project Management method)
- ☒ Options for organizing general and specific processes for creating information products

#### ☒ **2.2.2 Content planning**



- ☒ Specifying and selecting information products (for the various phases of a product's life-cycle)
- ☒ Specifying and selecting media for the target group
- ☒ Specifying all the information that accompanies a product (e.g., for documentation summary, for delivery list)
- ☒ Specifying information products for product variants



- ☒ Creating a content plan (e.g., list, structure)
- ☒ Specifying and selecting presentation mode and degree of detail
- ☒ Defining the concrete requirements placed on external information products (e.g., supplier's documentation) and contract design
- ☒ Planning contents of product information that can be created in-house
- ☒ Integration planning for various internal (possibly external) content or information products (e.g., integration of supplier's documentation)
- ☒ Taking requisite explanations, certificates and approvals into account

### ☒ **2.2.3 Implementation planning**



- ☒ Planning the implementation of the individual results of a context analysis
- ☒ Defining the concrete content concept
- ☒ Defining the concrete media concept
- ☒ Media-specific production planning (e.g., illustrations, films, animations)
- ☒ Planning the implementation of international requirements

### ☒ **2.2.4 Creation planning**



- ☒ Specifying the volumes created and resource planning
- ☒ Production planning for information products
- ☒ Planning of procurement and commissioning of service providers (e.g., media developers, terminology translators, graphic artists, TD service providers)
- ☒ Time and task scheduling (e.g., work packages, schedule for, e.g., authoring tasks, supplier's documentation, service provider's documentation, creating graphics and media, translation tasks)
- ☒ Process design, interfaces and task coordination
- ☒ Planning liaison with support processes (e.g., translation, terminology)
- ☒ Handling confidential information
- ☒ Planning the use of tools

### ☒ **2.2.5 Information procurement planning**



- ☒ Planning procurement of information (e.g., objectives, questionnaire, location, interlocutors, materials, preparation)
- ☒ Planning the information procurement process: Process steps and planning variables (e.g., scheduling, effort planning)
- ☒ Defining the requirements placed on sources within the company (e.g., on data formats, template) and documents
- ☒ Determining requirements resulting from open-source software

## **2.3 Project Management**

Project Management involves organizing, executing and monitoring the information product's development process and process steps, working tasks and resources.

This is where project details are specified and planned. The required Project Management techniques and tools are also described.



The result of Project Management highlights the scope and effort required for the information product creation project and is implemented in subsequent phases.

### ✓ **2.3.1 Basic principles of Project Management**



- ✓ Projects and project features (typical project phases, setup and workflow organization in projects, differences and shared features of projects and processes, Technical Communication projects)
- ✓ Tasks, objectives and need for Project Management
- ✓ Project communication tasks and objectives
- ✓ Creating requirement specifications, functional specifications, specifications
- ✓ Organizational roles in projects, competence requirements placed on a Project Manager and the project team

### ✓ **2.3.2 Project planning**



- ✓ Project context analysis and definition
- ✓ Task and performance planning
- ✓ Estimated effort and resource planning
- ✓ Cost planning
- ✓ Defining and monitoring key project figures
- ✓ Project risk planning
- ✓ Project documentation
- ✓ Workflow, deadline and resource planning

### ✓ **2.3.3 Project execution and controlling**



- ✓ Project controlling tasks, methods and procedures
- ✓ Assessment and prioritization
- ✓ Determining and managing critical paths
- ✓ Time management in products and typical "time guzzlers"
- ✓ Measures in the event of deviation from plans
- ✓ Coordinating tasks and activities and information management within the project and with the world outside the project
- ✓ Project communication
- ✓ Change Management methods
- ✓ Risk Management methods
- ✓ Methods of managing interfaces and deliveries

### ✓ **2.3.4 Project reporting**



- ✓ Defining and monitoring key project figures
- ✓ Target/actual analysis
- ✓ Preparing status reports
- ✓ Project presentation (e.g., to Steering Committee and outsiders)

### ✓ 2.3.5 Project Management tools and techniques



- ✓ Project Management models (e.g., waterfall model, agile models, V-model)
- ✓ Project Management techniques (e.g., Gantt chart)
- ✓ Requirements placed on a project management tool
- ✓ Project Management tools (e.g., MS Excel®, MS Project®, Mindjet MindManager®)

## 3. Concept development

Concepts that overarch several information products are defined during the process phase of concept development. These include, for instance, which information products are produced with which functions and which information architecture.

A concept is intended to ensure the consistency and uniform quality of information products. This is especially important if several people are involved in creating information products.

Concepts must be reviewed routinely at appropriate intervals. A review is also required in case of special events such as, e.g., launching new products, new variants or new media.

Concepts have a direct impact on content creation and on subsequent process phases.

### 3.1 Information products

Different information products may differ fundamentally in terms of their characteristics and function. The first task when developing a concept is, at the highest level, to define which type of documentation is involved, which type of information product is being created and what its communicative function is. The product life-cycle is an important starting point for this purpose. For each phase of the product life-cycle, the user needs different information that has to be documented for the user.

The concept for information products defines the features and characteristics of the information products.

#### ✓ 3.1.1 Internal and external documentation



- ✓ External documentation
- ✓ Internal documentation
- ✓ Special types of documentation (e.g., API (Application Programming Interface) documentation during software development)

#### ✓ 3.1.2 Types of information products



- ✓ Classification and types of information products (e.g., installation instructions, operating instructions, maintenance instructions)
- ✓ Connection between product life-cycle and information products

#### ✓ 3.1.3 Function of information products



- ✓ Communicative functions (e.g., instructions, information)
- ✓ Design principles for information products that fulfill specific communicative functions (e.g., depending how the information product is used, e.g., for installing, operating, training, e-learning)

### 3.2 Information architecture

The information architecture specifies which contents are incorporated in the information product with which structure, which function and at what depth. The fundamental principles for the information architecture, such as target group analysis and usage situation, are evident from the context analysis. The way in which other contents are to be integrated, e.g., into supplier's documentation, must also be defined. Necessary meta data for managing contents must be defined.

The information architecture provides the structural and content-related concept for developing information products.

### ✓ 3.2.1 Developing the information architecture



- ✓ Information architecture
- ✓ Content-related aspects for defining the information architecture (e.g., target groups, for which information products, media, structure, information types, communicative function)
- ✓ Creating an information architecture
- ✓ Assessing an information architecture

### ✓ 3.2.2 Structuring the information



- ✓ Structuring the information
- ✓ Design layout of a content structure
- ✓ Techniques and aids for structuring information and establishing a content structure (e.g., mind maps)
- ✓ Media-dependent structures and breakdowns (e.g., document: chapters, hypertext: topics)
- ✓ Structural and dividing elements of an information product (e.g., safety, installation)
- ✓ Placing and sequencing of structural elements within the outline of the document (e.g., safety chapter at the start)
- ✓ Types of information (information in Information Mapping®, e.g., step-by-step instructions, concept, task, reference, warning note)
- ✓ Structuring principles (e.g., structuring geared towards product, type of user, usage situation, task, degree of difficulty)
- ✓ Structuring methods (e.g., topic-oriented structuring, hierarchical structure, flat structure, information hiding) for presentation and output devices
- ✓ Structuring standards (e.g., Funktionsdesign®, Information Mapping®, Class Concept Method®, DITA, Topic, Reference)
- ✓ Technical realization of a structuring standard (e.g., technical implementation, methodology and content related implementation, organizational launch)
- ✓ Technical standards that make statements regarding the structure of information products and/or suggest prototyping outlines (e.g., IEC/EN 82079; VDI 4500; DITA; functional authoring without layout stipulations, structuring methods)

### ✓ 3.2.3 Meta data



- ✓ Meta data
- ✓ Use of meta data (e.g., for content, production, publication, delivery, archiving)

### ✓ 3.2.4 Integration concept



- ✓ Standards and requirements placed on supplier's documentation (e.g., delivery formats, contents, specifications, formats, rights of use)
- ✓ Creating a catalog of criteria and standards for supplier's documentation
- ✓ Concept for integrating other external documents and contents (e.g., certificates and declarations)

## 3.3 Access

Straightforward, quick access by the user is an essential prerequisite for effective, efficient use of an information product and its contents. This is why, before starting to create an information product, it is necessary to define how such access is to be made possible and what methods and technical options are to be used. It must also be ensured that the information product and its contents can be allocated to the respective product or product function in an error-free manner.

The concept for access defines accessibility and hence the usability of the information product.

- ☒ **3.3.1 Retrievalability of information**
★ ★ ★ ★ ★
  - ☒ Navigation and search functions (e.g., tables of contents, indexes, glossaries, searchability, cross-reference structures)
  - ☒ Cross-reference structures (e.g., where are cross-references created, where do cross-references point to, footnotes, internal links, external links)
  - ☒ Principles for using cross referencing and linking of information (e.g., linking vs redundancy, cross-reference markers)
  - ☒ Optimization of texts to ensure better retrievalability using search engines (e.g., keywords, headings, use of synonyms)
- ☒ **3.3.2 Availability of information products**
★ ★ ★ ★ ★
  - ☒ Requirements dictating which information, e.g., from a legal viewpoint, must be made available to the user (e.g., print, online)
  - ☒ Aspects that must be taken into account when delivering information products (e.g., usability of information products, e.g., whether the target group can or cannot use the information product under the given conditions)
  - ☒ Requirements regarding security (e.g., access, access rights, protection against duplication and revision)
- ☒ **3.3.3 Allocation of information to the product**
★ ★ ★ ★ ★
  - ☒ Allocating information products to products (physical and logical, e.g., by barcodes, embedded Help, context-sensitive Help)
  - ☒ Allocating information and contents to product functions (e.g., augmented, context-sensitive), decision-making criteria for implementation (e.g., according to information product, information type or communicative function)
  - ☒ Specifying which information must be made available using what media (e.g., print or electronic, augmented, embedded, data medium, online) and decision-making criteria for implementation (e.g., according to information product, information type or communicative function)
- ☒ **3.3.4 Accessibility concept**
★ ★ ★ ★ ★
  - ☒ Accessibility categories (e.g., technical accessibility, linguistic accessibility for target group)
  - ☒ Cognitive barriers and obstacles to information processing (e.g., users with reading and writing difficulties (dyslexia) or other specific learning difficulties)
  - ☒ Main areas of accessibility (e.g., presentation, content, structure and navigation)
  - ☒ Effects of various barriers, when, where and for whom there are barriers hindering the uptake of information products
  - ☒ Directives for barrier-free understanding and guidelines for optimization (e.g., basic principles of simplified language, for German/English; guidelines issued by the Simplified Language Network; European Directives for producing easily readable information for individuals with mental disabilities; Mencap's guidelines for accessible writing; Barrier-free Information Technology Act - BITV 2.0; Web Content Accessibility Guidelines (WCAG) 2.0)

- ☑ Methods of achieving accessibility (e.g., simplified language, images, Braille, font size, zooming)

### 3.4 Content presentation

The intelligibility, acceptance and fitness for purpose of information products depend largely on the way in which their content is presented. Information products with a consistent look and uniform structure have a positive impact on users and also improve the effectiveness and efficiency with which information can be developed.

Information products can contain various types of media, e.g., graphics or audio.

A design and deployment concept in which the main underlying conditions and targets are defined must be created for each type of media. These definitions are valid for several information products as a rule. An editorial guide is a frequent form of such stipulations.

The content presentation concept defines the design of the information product in terms of media.

#### ☑ 3.4.1 Text design concept

- ☑ Types of fonts and font families (e.g., depending on the publication media and output devices, information-conveying function, legibility, readability)
- ☑ Micro and macro typographical design possibilities (e.g., print space, font size, line width, line spacing, kerning, e.g., depending on the publication media and output devices, information-conveying function, legibility)
- ☑ Visual and graphical means of emphasizing text (e.g., color), methods of visualizing text structures and markup conventions (e.g., displaying links), e.g., depending on publication media and output devices, information-conveying function, legibility

#### ☑ 3.4.2 Table concept

- ☑ Types of tables
- ☑ Creating and incorporating tables: Design principles, design elements, concepts and setup (e.g., depending on output devices, information-conveying function, legibility)

#### ☑ 3.4.3 Graphics concept

- ☑ Types of graphics (e.g., 2D and 3D graphics, illustrations, dimensioned drawings, raster images, exploded drawings, vector graphics, pixel images, pictograms, symbols, icons)
- ☑ Creating and incorporating graphics: Design principles (e.g., image complexity, visual organization, spatial representation, attracting attention and visual evaluation, visual representation of actions, text-image relation, alphanumeric cross-references (e.g., legends), labeling), design elements (e.g., use of color, color scheme, line width, visibility of parts), design and composition (e.g., image density, degree of detail), e.g., depending on publication media and output devices, function, intelligibility
- ☑ Possible ways of showing information graphically (e.g., by schematic diagrams, charts, drawings, symbols) and various types (e.g., types of charts)
- ☑ Creating and incorporating graphical representation of information: Design principles, design elements, concepts and setup (e.g., depending on output devices, function, intelligibility, legibility)
- ☑ Possible ways of presenting data (e.g., tables, diagrams) and various types (e.g., types of diagrams)
- ☑ Creating and incorporating represented data (e.g., tables, diagrams): Design principles, design elements, concepts and setup e.g., depending on output devices, function, intelligibility, legibility
- ☑ Visual sign systems (e.g., pictograms, iconic signs, indexical signs, symbolic signs, hybrid forms)
- ☑ Creating and incorporating visual sign systems: Design principles, design elements, concepts and setup (e.g., depending on culturally-specific factors, function, intelligibility, legibility)

- ✓ Media-dependent file formats for graphics and illustrations as well as conversion of formats

#### ✓ 3.4.4 Image concept



- ✓ Types of images (e.g., photos, screenshots)
- ✓ Creating and incorporating images: Design principles, design elements, concepts and setup (e.g., depending on output devices, function, intelligibility, legibility)

#### ✓ 3.4.5 Layout concept



- ✓ Types of layout (e.g., depending on publication media and output devices)
- ✓ Page composition and page layout: Design features, design principles, design elements, concept and design layout (e.g., depending on publication media and output devices)
- ✓ Technical production aspects that layout must take into account

#### ✓ 3.4.6 Concepts for safety notes and warning messages



- ✓ Safety notes and warning messages
- ✓ Creating and incorporating safety notes and warning messages: Design principles, design elements, concept and composition
- ✓ Prohibition symbols, warning symbols and mandatory action symbols
- ✓ Standards for safety notes and warning messages (e.g., ANSI Z535, tekomp Guide to Safety Notes and Warning Messages)
- ✓ Danger levels and signal words for danger levels, international standardization of signal words and danger levels, pictograms for danger levels in accordance with specific standards (e.g., IEC/EN 82079-1, ANSI series of standards)

#### ✓ 3.4.7 Media concept



- ✓ Selecting a media type (e.g., depending on content and restrictions imposed by technical formats, publication media and output devices and on basis of requirements placed on content creation as a result of the type of media used)
- ✓ Selection of a publication medium and output device (e.g., depending on content, restrictions imposed by technical formats, requirements placed on contents as a result of the publication medium and/or output device and as a result of the target group or target group characteristics)
- ✓ Requirements placed on information and data for integration into products and output devices (e.g., texts for software user interfaces, apps, user interface, mouseover information, tooltips), displays and other electronic indications (e.g., online Help)
- ✓ Requirements when combining and integrating different media types into the publication medium

#### ✓ 3.4.8 Media design



- ✓ Basic principles of information processing, cognitive psychology and psychology of perception as a basis for design principles for representational and interactive types of media and for presenting information products
- ✓ Design principles and design elements for presenting information products (e.g., for screen layout: typography for screens, screen division, arrangements, color scheme, integration of graphics, films, animations)
- ✓ Principles of interplay between various types of media (e.g., fundamental rules and aspects of text-image relation)

- ✓ Presenting and integrating various types of media (e.g., text, graphics, images, films, and animation, audio) in publication media and on output devices

### ✓ 3.4.9 Concepts for interaction and navigation



- ✓ Interaction models and possible ways of establishing interactiveness
- ✓ Interactive elements
- ✓ Creation and incorporation of interactive elements (e.g., controls or buttons): Design principles, design elements, concepts and composition (e.g., depending on function, usability and navigation)
- ✓ Navigation concepts (e.g., linking, topic structures)
- ✓ Creating and incorporating navigation concepts: Design principles, design elements, concepts and composition (e.g., depending on function, usability and navigation)
- ✓ Navigation elements
- ✓ Creating and incorporating navigation elements: Design principles, design elements, concepts and composition (e.g., depending on function, usability and navigation)

### ✓ 3.4.10 Concepts for animations



- ✓ Types of animation and animation techniques (e.g., 3D vs 2D, animated PDFs, vector graphics vs raster graphics, animation techniques)
- ✓ Developing animations: Design principles, design elements, concepts and composition (e.g., depending on function or intelligibility)
- ✓ Developing screenplays for producing animations and content of animations (scripts)
- ✓ Technical aspects of creating animations
- ✓ File formats for animations (e.g., HTML5, UDF)

### ✓ 3.4.11 Concepts for films



- ✓ Types of films (e.g., videos, utility films, screen recording)
- ✓ Creating films: Design principles, design elements (e.g., film design resources, degree of abstraction, choice of perspective, time sequencing, cutting, image sequences, aspects of visual credibility of individual representations), design and composition (e.g., depending on function or intelligibility)

### ✓ 3.4.12 Concepts for audio and sensory media



- ✓ Audio and sensory media (e.g., voice output, sound, vibration, haptics (Braille))
- ✓ Creation of audio and sensory media: Design principles, design elements, concepts and composition (e.g., depending on function, output device or environment where used)

## 3.5 Methods

Methods are especially important in order to standardize contents, composition and creation processes. Established methods include, e.g., controlled language, document templates or DTDs. Various technologies and software-supported processes can assist implementation and application.

The particular methods that can be applied for particular information products are defined in the methodological concept.



Information concerning standardization through terminology can be found in the separate description of the support process.

- ☒ **3.5.1 Standardization methods**
★ ★ ★ ★ ★
  - ☒ Standardization
  - ☒ Standardization-relevant aspects of an information product (e.g., language, structure, terminology, graphics concept, modules, Corporate Identity (CI))
  - ☒ Stipulations and rules for the information development process (e.g., with regard to processes, internal and external interfaces, automation)
  - ☒ Documentation of stipulations and rules (e.g., editorial guide, style guides, manuals, process guidelines)
  - ☒ Standardization resources (e.g., document templates, format templates, design templates, style guides, templates, DTDs, variables, field functions)
  - ☒ Creating and using standardization resources (e.g., document templates, format templates, design templates, style guides, templates, DTDs, variables, field functions)
  - ☒ Introduction of standardization
  - ☒ Language standardization (e.g., depending on intelligibility, translatability, reproducibility)
  - ☒ Company-specific language standardization (e.g., standardized language, writing and spelling rules, style rules, phrases, boilerplate text, safety notes, controlled language)
  - ☒ Rule-based writing and controlled language
  - ☒ Appropriate contents for applying rule-based writing and controlled language, sentence structure in rule-based writing and in case of controlled language
  - ☒ Media-neutral writing style
- ☒ **3.5.2 Terminology**
★ ★ ★ ★ ★
  - ☒ Terminology work
  - ☒ Basic principles of terminology and terminology work: Principles (e.g., semiotic triangle) and concepts, e.g., permitted and prohibited terms, classification of terms (e.g., synonyms, homonyms, antonyms)
  - ☒ Principles for building a terminology database (e.g., concept-oriented rather than term-oriented)
  - ☒ Building a multilingual terminology
  - ☒ Extracting terminology
  - ☒ Organization of terminology work (e.g., basic process for terminology work (e.g., terminology circle, approval, translation), roles and tasks, especially for Technical Communication)
- ☒ **3.5.3 Language technology**
★ ★ ★ ★ ★
- ☒ **3.5.4 Markup languages**
★ ★ ★ ★ ★
  - ☒ Markup languages (e.g., XML, HTML)
  - ☒ Tagging methods (e.g., visual and logical tagging)
  - ☒ Data modeling using markup languages
  - ☒ Composition and components of markup languages (e.g., well-formedness, validity)
  - ☒ Connection between markup languages and the Internet
  - ☒ Standardized processing of markup languages

- ☒ Creating a publication using markup language data
- ☒ Document Type Definition (DTD)/schemas
- ☒ Cascading Style Sheets (CSS): Syntax, structure and rules
- ☒ Integration of scripts and macros (e.g., JavaScript)
- ☒ Security aspects of scripts and macros in media (e.g., JavaScript)
- ☒ Software for creating markup language data (editors)

### ☒ **3.5.5 Intelligent content delivery**



- ☒ Multi-channel publishing
- ☒ Information modeling and system planning for Dynamic Content Delivery
- ☒ Meta data for Dynamic Content Delivery
- ☒ Interaction between various systems in case of multi-channel publishing (e.g., Component-based Content Management System (CCMS) and Translation Memory Systems (TMS))

### ☒ **3.5.6 Automation methods**



- ☒ Automation of creation processes
- ☒ Automation of publication processes

## **3.6 Information flow**

There are various methods of creating an information product efficiently and, in doing so, taking into account the different requirements placed on an information product as well as differences between various information products: Component-based Content Management, Information Management and Document Management.

The concept for the information flow must ensure that content and documents can be easily found and re-used.

### ☒ **3.6.1 Component-based Content Management and modularization**



- ☒ Component-based Content Management
- ☒ Modularization principles (e.g., management of content and modules) and criteria for modularizing documents and information of modules (e.g., granularity, size, principles for archiving of modules, e.g., storage of modules in databases)
- ☒ Relationship between modularization, meta data and standardization
- ☒ Re-use of texts and/or graphics: (Internal/external) possibilities, problems and errors in case of re-use and generating documents
- ☒ Meta data for Content Management, use, significance, typical meta data, variant management (e.g., using variables)
- ☒ Relationships between modularization, meta data, re-use and archiving and publication

### ☒ **3.6.2 Information Management**



- ☒ Information Management, principles and organization of Information Management (e.g., push and pull processes) depending on information needs in Technical Communication
- ☒ Setting up an information infrastructure for Technical Communication, information flows and information control in a company, e.g., media (e.g., email, circulation procedures, Wikis, intranet SharePoint®), principles (e.g., push and pull processes), procedures

- ☒ Availability of company-wide data sources (e.g., ERP, PIM or PDM systems, web CMS) and interfaces with Technical Communication
- ☒ Requirements placed on internal information sources

### ☒ **3.6.3 Document Management**



- ☒ Document Management, principles (e.g., archiving, working directories, storage scheme, file names, meta data, legality, storage concepts, storage structures, file naming and identification, meta data, versioning)
- ☒ Document guidance and distribution processes
- ☒ Document Management Systems

## **3.7 Internationalization and localization**

Multilingual development of information products is increasingly gaining importance thanks to globalization. An information product is usually developed for various countries and must therefore also usually be translated into several target languages. The country-specific requirements and cultural differences that are associated with an information product's different target markets will have been determined as part of a context analysis. A multilingualism concept and country-specific concepts are derived from this context analysis. Above all, legal requirements and safety-relevant aspects must be taken into consideration.

Concepts for internationalization and localization define cultural and country-specific aspects and, where applicable, country-specific versions of an information product.

### ☒ **3.7.1 Multilingualism concept**



- ☒ Developing multilingual information products (e.g., special features of target languages, character sets, reading habits in different languages, organization of several languages in one information product, user interfaces for texts in electronic media)

### ☒ **3.7.2 Country-specific concepts**



- ☒ Taking into account country-specific and/or cultural aspects when creating information products for different markets
- ☒ Criteria for assessing the cultural neutrality of an information product, e.g., depending on text and visual design (e.g., aspects that dictate the cultural neutrality of an information product or localization) and for assessing the need for cultural and/or country-specific versions
- ☒ Relevance and scope of taking country-specific requirements into account in Technical Communication (e.g., in case of contents to be described and safety notes)
- ☒ Realization of culturally and/or country-specific versions of information products

## **4. Content creation**

In the content creation process phase, the contents are created first before the actual information product. The results of the previous planning process phase are an essential prerequisite for content creation. The results of the concept development process phase must be taken into account when creating content.

The content creation process phase includes all the tasks that are necessary in order to determine, capture and store the information. This involves contents such as text, graphics, tables, safety notes, animations, films, audio or sensory content.

The content creation process phase also includes integrating existing or supplied contents, Quality Assurance and localization and/or translation.

Separation of content from output media has become the rule thanks to the possibilities offered by new technologies. Contents that are created media-neutrally can be used for various output media. The result of content creation is converted into an information product in the subsequent media production, publication and distribution process phases and it is provided for the user.

## 4.1 Information sources

Information from in-house company or external sources is needed in order to develop an information product.

It is necessary to know what sources there are and what information they can supply. The reliability of the relevant source and the quality of its information must be estimated.

As a result of this process step, the sources which are available for acquiring information are known.

- ☒ **4.1.1 Higher-level information** ★ ★ ★ ★ ★
  - ☒ Determining and specifying the higher-level themes for which information needs to be obtained (e.g., information from a proprietary editorial guide, legal requirements, norms, standards, product compliance)
- ☒ **4.1.2 Product-specific information** ★ ★ ★ ★ ★
  - ☒ Determining and specifying the product-specific themes for which information needs to be obtained (e.g., technology, product, application, risks, safety aspects)
- ☒ **4.1.3 Internal or external sources** ★ ★ ★ ★ ★
  - ☒ Potential internal and external information sources for Technical Communication
  - ☒ Defining and identifying fundamental and special information sources and information suppliers (e.g., Product Managers, engineers, developers) for various contents (e.g., functional use, operator control and troubleshooting of functions)
  - ☒ Determining exploitable information sources, e.g., independent product usage, product training courses, available information (e.g., specifications, developers' documents, suppliers, archives, databases, flyers, catalogs, company brochures)
  - ☒ Criteria for distinguishing between confidential and non-confidential information and for assessing sources, their reliability (e.g., relevance, up-to-dateness) and information quality

## 4.2 Acquisition and selection of information

The information that is used as the basis for creating content can be obtained by using various methods. In order to design this effectively and efficiently, an implementation process must be planned and organized and the technologies that are used for this purpose must be made available.

Information thus acquired must be assessed for its relevance and selected accordingly.

This process step produces the information needed for content creation.

- ☒ **4.2.1 Organizational aspects** ★ ★ ★ ★ ★
  - ☒ Information acquisition processes and process steps (e.g., push or pull)
  - ☒ Information acquisition processes in case of internal and/or external information suppliers, at interfaces between departments and between various areas of responsibility and/or positions
  - ☒ Technologies for delivering and acquiring information (e.g., ERP systems, CMS, Wiki, file and server systems, email)
- ☒ **4.2.2 Methods** ★ ★ ★ ★ ★
  - ☒ Information acquisition (e.g., online, paper-based, by phone, face-to-face)
  - ☒ Problems encountered in acquiring information (e.g., time management, information availability) and possible strategies to solve them
  - ☒ Questioning strategies and types of questions (e.g., open, closed, "W" questions) for information acquisition objectives

- ✓ Information acquisition follow-up (e.g., structuring of results, e.g., by using mind mapping), filing and archiving

### ✓ **4.2.3 Selection of information**



- ✓ Selection of information (e.g., use cases, customer journey)
- ✓ Criteria for preparing information (e.g., perspective, depth of information, degree of detail)
- ✓ Preparing information (e.g., selection, assessment, weighting)

## **4.3 Content creation**

The contents of the information product are assembled from the procured, selected information based on the concept development approach adopted. The created contents must take into account the specific requirements imposed by the type of media used. Knowledge concerning information processing and imparting knowledge is taken into account.

The contents for the information product that is to be created are available as a result of content creation.

### ✓ **4.3.1 Basic principles of information processing and imparting knowledge**



- ✓ Information processing model and cognitive conditions (e.g., mental models; perception and assimilation; working memory; prior knowledge; motivation)
- ✓ Text processing levels: basal perception (assimilation), semantic-syntactic processing (coherence), collaborative processing (understanding and prior knowledge), reductive processing (selection), reconstructive processing (use of knowledge), reading modes
- ✓ Basic principles of visual perception and processing (pre-attentive, attentive, collaborative and reconstructive processing, Gestalt laws)
- ✓ Theories and explanatory approaches to intelligibility, readability, legibility. Communication theories, e.g. Common Ground Theory of Communication, Grice's conversation maxims, qualitative intelligibility models (e.g., Hamburg intelligibility model, intelligibility dimensions according to Groeben) and associated problems and recommendations for improving and optimizing texts
- ✓ Factors that influence the understanding of information: information-product related factors at various levels, e.g., structural, word, sentence and text level, images, medium (e.g., information density) and target-group related factors (e.g., prior knowledge)
- ✓ Criteria for assessing intelligibility, readability, legibility of contents (e.g., text coherency, conceptual network, rhetorical structure)
- ✓ Methods of measurement for assessing intelligibility, readability, legibility (e.g., legibility and intelligibility measures)
- ✓ Degrees of difficulty of texts and factors that influence the difficulty of texts
- ✓ Basic principles of instruction design, e.g., integrating psychology of learning or didactic aspects into communicative functions (e.g., step-by-step instructions, concept)

### ✓ **4.3.2 Text creation**



- ✓ Special features of texts that convey information and instructions: Linguistic style in case of information products and differentiation from other types of linguistic styles (e.g., colloquial language, marketing language, technical languages, journalistic language)
- ✓ Orthography in accordance with spelling rules
- ✓ Syntactic and grammatical rules and language development (e.g., sentence construction, declensions, conjugation, punctuation)
- ✓ Basic principles of semantics and word formation methods and principles, parts of speech

- ☒ Fundamental rules of linguistic design for information-conveying text, e.g., depending on design of headings, linkage to prior knowledge, choice of words, word formation, terminological consistency, sentence formation, sentence relationships, text coherence, use of deixis (using words to point at things), descriptions of actions and instructions for actions, use of layout elements and emphasis, cognitive (pre-) structuring
- ☒ Intelligible and/or barrier-free and translation-oriented authoring (e.g., guidelines, rules of grammar, spelling rules, rules regarding text content)
- ☒ Company-specific writing rules

#### ☒ **4.3.3 Creating tables**



- ☒ Preparing information for tables
- ☒ Integrating tables into information products

#### ☒ **4.3.4 Creating graphics**



- ☒ Setup parameters (e.g., resolution) for incorporating illustrations depending on the publication medium
- ☒ Processing of image data, data transfer (e.g., CAD, construction data), storage

#### ☒ **4.3.5 Creating images**



- ☒ Photographic parameters for creating images (e.g., cropping, perspective, storage format, color spaces (e.g., RGB, CMYK), exposure, lighting, resolution)
- ☒ Screenshots (e.g., cropped images, storage, color spaces (e.g., RGB, CMYK), resolution)

#### ☒ **4.3.6 Creating animations**



- ☒ Creating animations, storage
- ☒ Rendering parameters (e.g., user interface, lighting)

#### ☒ **4.3.7 Creating films**



- ☒ Creating films (e.g., realizing screenplays, cropping, cutting, perspective, storage format, color spaces (e.g., RGB, CMYK), lighting, resolution)
- ☒ Creating utility films (e.g., video)
- ☒ Creating screen recordings

#### ☒ **4.3.8 Creating audio and sensory contents**



- ☒ Creating audio media (e.g., MP3, text-to-speech engines, selecting and commissioning voice-over speakers)
- ☒ Creating sensory media

#### ☒ **4.3.9 Creating safety notes and warning messages**






































- ☒ Creating, designing and formulating safety notes and warning messages in accordance with the latest standards and technology, including in-house specifications and standards
- ☒ Implementing the results of a hazard analysis

- ☒ Creating overarching and context-specific safety notes and warning messages (general and specific)
- ☒ Placing of safety notes and warning messages in the text and in the information product

## 4.4 Tools for creating content

Special-purpose tools are used for creating contents depending on the media types to be produced and the target formats.

Contents are integrated into an information product in the following media production process phase.

- ☒ **4.4.1 Text editors**     
- ☒ Software for creating text
- ☒ **4.4.2 Component-based Content Management Systems**     
- ☒ Software for Component-based Content Management Systems (CCMS)
- ☒ Storage formats (XML, proprietary formats)
- ☒ **4.4.3 DTP programs**     
- ☒ Software for desktop publishing
- ☒ Storage formats (XML, proprietary formats)
- ☒ Automation possibilities
- ☒ **4.4.4 Tools for generating PDF files**     
- ☒ Software for creating PDF files
- ☒ **4.4.5 Help Authoring Tools (HAT)**     
- ☒ Software for creating online Help
- ☒ Tools for content versioning, including administration of roles and rights during software development
- ☒ Storage formats (XML, proprietary formats)
- ☒ **4.4.6 Linguistic software**     
- ☒ Text checkers
- ☒ Terminology databases and tools
- ☒ Translation tools, Computer-Aided Translation (CAT), Translation Memories (TM), Machine Translation (MT)
- ☒ Software localization tools
- ☒ **4.4.7 Graphics and image editors**     
- ☒ Software for editing graphic and image files and their basic functions (e.g., color modification, cropping, exposing, masking, preparation for transfer to publication systems)
- ☒ **4.4.8 Tools for recording screenshots and screen sequences**





- ✓ Software for producing screenshots and screen recordings and their basic functions and functional principles

#### ✓ **4.4.9 Component Content Management Systems (CCMS)**



- ✓ Differences between Component Content Management Systems and Document Management Systems
- ✓ Pre-requisites for introducing a Component Content Management System
- ✓ Process of introducing a Component Content Management System (phases, implementation and Change Management)
- ✓ Work packages and tasks when introducing a Component Content Management System (e.g., selection of system and provider, producing functional specifications, in-house preparations, data migration, standardization specifications, system adaptations, process adaptation, system launch, training)
- ✓ Benefits, advantages and disadvantages of Component Content Management Systems, conditions for efficient use, assessment of cost-benefit ratios
- ✓ Tools for Component Content Management
- ✓ Administration of Component Content Management Systems

#### ✓ **4.4.10 Animation software**



- ✓ Software for creating 2D and 3D animations

#### ✓ **4.4.11 Video editors**



- ✓ Software for editing films and its basic functions (e.g., color modification, cropping, exposing, masking, preparation for transfer to publication systems)

### **4.5 Integration of content**

An information project may comprise content originating from in-house and/or external sources. These contents must be edited and integrated in accordance with logical, content-related conceptual principles in order to achieve consistent presentation.

This process step produces all the contents for the information product in accordance with the requirements and conceptual specifications for media production.

#### ✓ **4.5.1 In-house documentation**



- ✓ Allocating contents to content types
- ✓ Composing contents in accordance with a given structure

#### ✓ **4.5.2 Supplier's documentation**



- ✓ Providing suppliers with necessary standards, templates and information
- ✓ Acceptance of supplier's documentation and integration into the information product (e.g., use as part of information product or after use or conversion)

#### ✓ **4.5.3 Service provider's documentation**



- ✓ Providing service providers with necessary standards, templates and information

- ✓ Approval of service provider's documentation and integration into the information product (e.g., use as part of information product or after use or conversion)

#### ✓ **4.5.4 Certificates and declarations**



- ✓ Integrating certificates, legal notices and requisite declarations into the information product (e.g., imported into the authoring system, use as information product or conversion to a CI-compliant layout)

### **4.6 Quality assurance for content of the information product**

Created contents must undergo Quality Assurance, e.g., by checking

Text, presentation and structure,

Content-related and factual correctness,

Compliance with design and editing specifications,

Information's consistency with the product,

Eliminated noise,

The fact that external contents match the requirements defined from the outset.

Quality Assurance results in approved content which is suitable for use in the media production process.

#### ✓ **4.6.1 Basic principles of Quality Assurance**



- ✓ Quality Assurance and Quality Management for information products, quality criteria, benefits (e.g., for translation, cost savings) and possible effects of inadequate Quality Assurance
- ✓ Quality problems in Technical Communication and their causes (e.g., translation before completion of source text) and solutions
- ✓ Improving quality by standardization (e.g., process standardization, editorial guides) and making Quality Assurance easier
- ✓ Defining information having particular relevance which is subject to more stringent Quality Assurance measures (e.g., safety notes and warning messages, hazardous substances)
- ✓ Reviews (e.g., dual verification, checklists, subject matter experts) and tools for technical content-related approval
- ✓ Continuous improvement process (e.g., lessons learned)

#### ✓ **4.6.2 Quality Assurance for text, illustrations and structure**



- ✓ Checking criteria for copy editing and review jobs
- ✓ Possibilities and limits of copy editing (e.g., elimination of ambiguities)
- ✓ Structural checking
- ✓ Checking of content and text (e.g., correct spelling, grammar, style, terminology)
- ✓ Checking of other editing tasks and project-specific requirements (e.g., target group)
- ✓ Checking of presentation of contents (e.g., tables, graphics, images) and relationships between different contents

#### ✓ **4.6.3 Checking content is factually correct**



- ✓ Content-related checking (e.g., text, graphics, data, tables) for content-related approval
- ✓ Content-related review and approval: Procedure, timing and qualification (e.g., developers, experts)
- ✓ Forwarding an information product for content-related approval (e.g., as a commentable PDF)

- ✓ Checking of other design tasks and project-specific requirements (e.g., target group)

#### ✓ **4.6.4 Supplier's documentation**



- ✓ Formal checking of supplier's documentation, feedback

#### ✓ **4.6.5 Service provider's documentation**



- ✓ Checking of service provider's documentation, approval and feedback

#### ✓ **4.6.6 Certificates and declarations**



- ✓ Checking of certificates and declarations (e.g., presence and correct assignment) and approval

#### ✓ **4.6.7 Test**



- ✓ Comparison of product and product information
- ✓ Checking the information product (e.g., functional tests, field test, usability)
- ✓ Forms of information product certification and approval by testing institutes

#### ✓ **4.6.8 Approval**



- ✓ Criteria for content-related checking for approving an information product
- ✓ Criteria for formal checking for approving an information product
- ✓ Organizing content-related and formal approvals
- ✓ Organizing sequential approval processes/parallel approval processes

## **4.7 Arranging localization/translation**

If contents are intended for different destination markets, the localization and/or translation process is initiated after the content has been developed. The main task is to manage this content so that all country-specific versions of the information product in all the necessary languages are made available at the same time the product is shipped.

Special software tools improve the effectiveness and efficiency of the translation process by, for example, only sending individual content modules for translation, re-using content that has already been translated or automatically performing pre-translation.

The contents are available in the required languages and country-specific versions as a result of this process step.

#### ✓ **4.7.1 Localization**



- ✓ Localization (e.g., distinctive cultural features, local standards and norms)
- ✓ Localization phases and workflow
- ✓ Organizing the localization process (e.g., as a parallel process)
- ✓ Initiating the localization process

#### ✓ **4.7.2 Software localization**



- ✓ Software localization
- ✓ Special features of software localization

- ☒ **4.7.3 Translation**
★ ★ ★ ★ ★
  - ☒ Translation
  - ☒ Translation processes (functional translation, human translation, machine translation, review process)
  - ☒ Translation process phases and workflow
  - ☒ Organizing the translation process (e.g., as a parallel process, with examples)
  - ☒ Initiating the translation process
- ☒ **4.7.4 Localization and translation tools**
★ ★ ★ ★ ★
  - ☒ Software used in the context of localization and translation (e.g., Translation Memory, Translation Management Systems (TMS), Machine Translation, software localization tools)

## 5. Media production

The various media are produced in this step after content creation. A distinction is made between print media, electronic media and automatically created media and programming.

Each medium demands specific stipulations and work steps which are described in detail.

The media are available and can then be published and distributed as a result of media production.

### 5.1 Print media

Print media in the literal sense are hardcopy printed materials. However, because print production usually requires a PDF file as an intermediate step, here we will deal primarily with creating PDF files. PDF files can be used both for creating printed materials as well as for electronic publication. Depending on the printing technology used, certain requirements must be met during the media production of a printed product.

Aspects of typesetting and layout must be taken into consideration when producing a print medium. When creating a PDF, different parameters must be set depending on the display medium and output device. If the generated PDF file is delivered in electronic form, for instance, aspects such as copy protection and security as well as linking must be taken into account in the document.

This process step produces a PDF file which can be published electronically or non-electronically (e.g., printed).

- ☒ **5.1.1 Typesetting and layout (DTP)**
★ ★ ★ ★ ★
  - ☒ Requirements placed on source data by printing methods (e.g., creation parameters, rasters)
  - ☒ Basic principles of Desktop Publishing (DTP)
- ☒ **5.1.2 PDF generation**
★ ★ ★ ★ ★
  - ☒ Creating PDF documents
  - ☒ Setup parameters for creating PDFs (e.g., resolutions, compression), embedded fonts and color separation in PDFs
  - ☒ Requirements placed on graphics (e.g., resolutions) and integration of graphics (e.g., linking vs embedding) and integration of non-printable elements (e.g., animations, videos) in PDFs
  - ☒ Linking of PDF pages within PDF documents, creating navigation aids
  - ☒ Composing formulas and formula fields in PDFs
  - ☒ Integration of signatures, copy protection and PDF security

### 5.2 Electronic media

Different electronic output devices place different requirements on information products. This must be taken into account at an early stage when information products are produced.

Meta data makes it possible to meet specific requirements and allows variant-controlled production. In contrast to print media, in the case of electronic media such as the Internet, PCs and all mobile applications, it is possible to produce, transfer and record contents simultaneously.

The information product is available in an electronic version that the output device can use for display purposes as a result of this process step.

- ☒ **5.2.1 Output devices**
★ ★ ★ ★ ★
  - ☒ Requirements placed on contents for digital delivery (e.g., online Help, web pages, apps, displays, e-books, HTML5, PDF)
  - ☒ Assembling contents already delivered digitally (e.g., online Help, web pages, apps, displays, e-books, HTML5, PDF)
- ☒ **5.2.2 Meta data**
★ ★ ★ ★ ★
  - ☒ Meta data for controlling publication
  - ☒ Variant control using meta data

## 5.3 Automation and programming

Automation processes can be used in order to simplify the production of media and speed it up. This is done by special-purpose programs. Here too, meta data plays an important role.

Automated processes or programmed electronic media are available as a result of this process step.

- ☒ **5.3.1 Print media**
★ ★ ★ ★ ★
  - ☒ Automated processes (control, e.g., XSL-FO; and for creating screenshots) for producing print media
- ☒ **5.3.2 Electronic output devices**
★ ★ ★ ★ ★
  - ☒ Automated processes (control, e.g., XSL-FO; and for creating screenshots) for producing online documentation
- ☒ **5.3.3 Programming**
★ ★ ★ ★ ★
  - ☒ Basic knowledge of structure, characteristics and use of programming languages and markup languages (e.g., HTML, HTML5, XML, JavaScript, Visual Basic, CSS) for producing media
  - ☒ Programming in order to create electronic media for information products
  - ☒ Quality Assurance for programming (e.g., XML validity)

## 6. Publication and distribution

An information product is made available for distribution through publication. The information product is delivered either on paper or electronically (e.g., embedded, online or mobile access).

Distribution includes shaping, controlling and monitoring all processes in order to deliver the information products to the user for use. The information product must usually be distributed together with the product. In certain cases, the information product may be distributed separately from the product.

### 6.1 Printing

Various parameters must be specified for printing, e.g., paper qualities or formats. There are various methods and various manual processes for printing.

The distribution of a printed product must also take into account certain aspects of the packaging and assignment of information products to the product. This is especially important if there are different variants of the information product, e.g., country-specific.

The information product is available in printed form as a result of this process step.

#### ☒ **6.1.1 Manufacturing process**



- ☒ Specifications for printing (e.g., formats, paper qualities, bindings)
- ☒ Printing methods (e.g., offset, digital printing, direct to plate)
- ☒ Manual processes (e.g., finishing, collating)

#### ☒ **6.1.2 Packaging and delivery**



- ☒ Packaging (e.g., electronic)
- ☒ Integration of supplier's documentation
- ☒ Packaging in case of multilingual products
- ☒ Version-specific packaging
- ☒ Supplement insertion and delivery processes, allocation to the product, timing

## 6.2 Delivery of electronic media

When publishing information products using electronic media, the processes for integrating the electronic contents into the actual product or into the final output device are especially crucial. Aspects of information logistics must also be taken into account. This is why it is necessary to organize the processes through which and the principles on which information is distributed and how updating processes will run. The media used for storing the information product themselves entail specific requirements.

The information product is made available to the user in the product or by an electronic output device as a result of this process step.

#### ☒ **6.2.1 Integration into products or output devices**



- ☒ Integrating information into products (e.g., texts for software user interfaces, apps, user interface, mouseover information, tooltips), displays and other electronic indications (e.g., online Help)
- ☒ Interfaces with information integration

#### ☒ **6.2.2 Storage media**



- ☒ Storage media used for Technical Documentation
- ☒ Storing publication media (e.g., on CD, DVD or memory sticks)

#### ☒ **6.2.3 Information logistics**



- ☒ Distributing information (e.g., push and pull principles, distribution channels, request channels)
- ☒ Updating processes (e.g., loading of updates) for contents of information products

## 6.3 Quality Control for delivery and distribution

Before the information product is delivered to the user and published, it needs to be checked for quality one more time. This Quality Assurance primarily concerns the quality of media production and the publication of the information product, not its quality in terms of content. In doing so, the fact that quality requirements and criteria for various electronic media and output devices differ from those for non-

electronic media and output devices must be taken into account. Even after the information product has been delivered, its publication must be continuously checked and tested.

The information product can finally be published and distributed following on from this Quality Assurance.

- ☒ **6.3.1 Quality Control for print media**
★ ★ ★ ★ ★
  - ☒ Checking print quality
  - ☒ Checking security requirements in the case of print media (e.g., audit reliability, protection against manipulation and copy protection)
  - ☒ Checking the publication process is error free
- ☒ **6.3.2 Quality Control for electronic media**
★ ★ ★ ★ ★
  - ☒ Checking access by target groups and access rights
  - ☒ Checking security requirements in case of electronic media (e.g., audit reliability, protection against manipulation and copy protection, protection against unauthorized distribution)
  - ☒ Checking the publication process is error free
- ☒ **6.3.3 Quality Control for information products in output devices**
★ ★ ★ ★ ★
  - ☒ Testing that the information product can be installed and run in its target environment
  - ☒ Functionality testing (e.g., forms, Help pages)
  - ☒ Checking the presentation of content (e.g., completeness, presentation, links)
  - ☒ Checking the entire information product (e.g., line breaks, file size, completeness of product when displayed)
- ☒ **6.3.4 Continuously monitoring the information product**
★ ★ ★ ★ ★
  - ☒ Organizing continuous monitoring
  - ☒ Identifying security vulnerabilities
  - ☒ Identifying copyright infringements
  - ☒ Checking licenses

## 6.4 Archiving

All the relevant project information, project results and information products must be archived in order to complete a project. Electronic archiving enables non-modifiable, long-term retention of electronic information. Various concepts and organizational schemes are adopted in order to ensure systematic archiving. Electronic archiving is assisted by various tools, the functions they provide and their components.

All the project results and project-relevant information are archived as a result of this process step.

- ☒ **6.4.1 Project archiving**
★ ★ ★ ★ ★
  - ☒ Archiving all project results and project-relevant information (e.g., information products, supplier's documentation, service provider's documentation, certificates and declarations as well as internal information)
- ☒ **6.4.2 Archiving management and organization**





- ☒ Archiving concepts, setting up storage structures, use of meta data and versioning, archive administration
- ☒ Archiving processes, retrievability of archived documents
- ☒ Definition of roles and responsibilities, access rights
- ☒ Archiving of relevant contexts of documents (e.g., supplier's documents, developer's documents, third-party documents) and preservation of relationships between such documents
- ☒ Documentation for the archiving system, criteria for stipulating archiving periods
- ☒ Standards for electronic archiving (e.g., OAIS Reference Model for Open Archive Information System, ISO Standard 14721 and/or ISO Standard 14721:2012)

#### ☒ **6.4.3 Basic technical principles of archiving**



- ☒ Storage media
- ☒ Ease of access, access times and access security
- ☒ Data security and data recovery
- ☒ Data security and audit reliability (inalterability of data)
- ☒ Archiving systems
- ☒ Tools and data formats for archiving

## 7. Observation of the information product

Once an information product has been published and distributed, there is a need to carry out market observations to ascertain whether all the necessary requirements for users were taken into consideration and met. The purpose of observing the information product is to obtain feedback from users regarding the information product with a view to optimizing the information product. This process phase concludes the cycle for the first process phase, the context analysis.

### 7.1 Feedback

Feedback includes all statements by various users concerning the information product. Feedback sources can be in-house or outside the company. Systematic processes can be introduced in order to obtain feedback. In contrast to when an information product is evaluated in a targeted manner, e.g., using a questionnaire, feedback is usually non-systematic and unstructured. This is why the meaningfulness and relevance of feedback must always be questioned.

Feedback provides information that can be analyzed during context analyses with regard to scope for improving the information product.

#### ☒ **7.1.1 Sources of feedback**



- ☒ Organizing feedback processes
- ☒ External feedback (e.g., call centers, after-sales service, service engineers, Help hotline)
- ☒ Feedback from internal business units (e.g., training centers, trainers, after-sales service, service engineers)

#### ☒ **7.1.2 Analysis of feedback**



- ☒ Systematic evaluation of feedback (e.g., customers' problems, complaints, customer feedback or internal feedback on the information product)
- ☒ Assessing feedback and its meaningfulness

## 7.2 Evaluation

The information product is evaluated systematically. This produces knowledge that can be used in order to determine possible ways of improving information products and responding to new or changed requirements. There are various methods of obtaining evaluation, e.g., surveys or tests. The use of a particular method depends on the relevant objective and the issues being investigated by the evaluation.

Evaluation results provide information that can be analyzed during context analyses with regard to scope for improving the information product.

### ☒ 7.2.1 Usability methods



- ☒ Usability tests and survey methods (e.g., thinking aloud, eye-tracking, questionnaires, observation)
- ☒ Typical problems and risks when carrying out a usability test (e.g., representativeness) and solutions (e.g., selection of test subjects)
- ☒ Quality criteria for usability tests (e.g., quality criteria: reliability, validity, objectivity, representativeness, economy)

### ☒ 7.2.2 Customer and user surveys



- ☒ Survey methods (e.g., interviews, written questionnaires)
- ☒ Design, drafting and carrying out a survey (e.g., producing a questionnaire, sources of errors in case of surveys, quality criteria, ways of improving response rates)
- ☒ Typical problems and risks when carrying out a survey and solutions (e.g., ways of improving response rates)
- ☒ Analysis and evaluation of surveys, analysis of data using descriptive methods

### ☒ 7.2.3 User observation and self-test



- ☒ User observation and evaluation of meaningfulness
- ☒ Systematic observation and recording of observations
- ☒ Sources of errors in case of observations and self-tests

### ☒ 7.2.4 Tests and reports



- ☒ Expert reports
- ☒ Public testing methods and document prizes (e.g., Stiftung Warentest [German consumer safety group], consumer tips, tekam Document Prize, STC Prize)

## 7.3 Web monitoring

Targeted web monitoring can be used to gather information regarding how the information product is used. In contrast to other observation processes, information is not actively obtained from users, rather from the Internet and is used to draw conclusions about usage behavior and user acceptance. This is made possible by collecting web statistics for example.

Web monitoring results provide information that can be analyzed during context analyses with regard to scope for improving the information product.

### ☒ 7.3.1 Social media and Internet feedback



- ☒ Social media and web monitoring in order to observe and gather feedback about information products



### 7.3.2 Web statistics



Web monitoring methods (e.g., click rates, ranking, rating)