Die SOPHISTen

Product Specification Template

Table of Contents

To ensure that the given structure can be found in every usage of this template, follow the following instructions to adapt the template:

- *Adding a new heading:*

  Adding a new heading is possible at every chapter-level, but only after the already existing chapters.

  For Example: Adding a new type of environment will lead to a new chapter 3.3.6

- *Deleting a chapter:*

  Deleting of chapters, which are not needed, is not allowed. Instead of deleting a chapter, write the following requirement and delete all the subchapters: "No requirements belong to this chapter".

  For example: If no mechanical properties (chapter 6.1) exist, but electrical properties are needed, you may delete subchapter 6.1.1 up to 6.1.4 and insert the requirement given above right below the heading 6.1.

1 Introduction

The introduction gives a summary of the product and its context. Purpose of this Document

ATTENTION:

The italic writings are to be deleted, because they either are just tips for the originator or open points in the requirements.

1.1 Purpose of this Document

1.2 Product Description

Chapter 1.2 shall not contain any product requirements, because they will be listed in the following chapters, staring at chapter 2. The content can follow the information from the customer specification or at the same level of abstraction.

1.2.1 Customer Requirements

The main features, which are new to the product or specific for a customer, are described here. These are not valid requirements, because it is only a summary of the customer requirements, which are documented somewhere else as "customer requirements".

1.2.2 Customers and Target Vehicles

The customers and target vehicles, for which the product is developed, are described here.

1.2.3 Lifecycle

Information concerning the different phases of the product's lifecycle (e.g. the planned lifetime) is described here.

1.2.4 Product Overview

In this chapter components and the resulting product structure are described.

1.2.5 Product Adaptions and Modifications

1.3 Referenced Documents

In this chapter all documents which are valid for this product, are listed. This can be the important customer specifications as well as the standards or laws, which are valid for this product. They will be referenced in the following chapter as rationales for the product requirements.

2 Definitions

All terms and abbreviations, that are used in the following requirements, are described here.

2.1 Terminology

2.2 Acronyms and Abbreviations

2.3 Constants

3 Constraints for the Product's Usage

The integration of the considered product into the environment including the resulting requirements concerning usage times, environment, etc., is described here.

3.1 Lifetime

3.2 Usage Scenarios

Scenarios for typical usages of the product are described here.

3.3 Product's Environment

Impacts of the environment to the product (e.g. temperature, vibrations, EMC) are described here.

3.3.1 Mechanical Environment

3.3.2 Electrical Environment

3.3.3 Chemical Environment

3.3.4 Climatic Environment

3.3.5 Installation Environment

The installation environment describes the surrounding of the product.

4 Interfaces

Here, the interfaces of the product are defined. For each interface, a subchapter exists, which consists of the relevant aspects of the interface. To define a new interface, copy the structure below 4.1.

4.1 Interface <XXX>

4.1.1 Mechanical Properties

The mechanical properties like geometry of a mechanical interface for fixation or the geometry and pin assignment of a plug.

4.1.2 Electrical Properties

Electrical properties like maximum current or voltage of the interface are described here.

4.1.3 Data and Functions

The data and functions, which are available or consumed at the interface, are described here.

5 Functions of the System

This is the main chapter of your product specification. Here, the functionalities of your product are described. Quality requirements assigned to a function are described here, too.

6 Other Product's Properties

In this chapter, all other properties of your product are described. These are properties that aren't assigned to a function, e.g. requirements about the weight of your product or the used materials.

6.1 Mechanical Properties

6.1.1 Dimensions

6.1.2 Weight

6.1.3 Labeling

6.1.4 Materials

6.2 Electrical Properties

6.2.1 EMC (=Electromagnetic Compatibility)

6.3 Design

6.4 Reliability

7 Requirements for the Product's Lifecycle Phases

In this chapter, requirements that address phases of the product's lifecycle are described.

7.1 Development

7.1.1 Prototype Plan

7.1.2 Engineering-BOM (=Bill of Materials)

7.2 Test and Acceptance

7.2.1 DVP&R (=Design Verification Plan & Report)

7.3 Approval

7.4 Manucfaturing

7.5 Transport and Storage

7.6 Installing

7.7 Maintenance

7.8 After Sales Service

7.9 Warranty

7.10 Disposal

8 Additional Artifacts

The additional artifacts describe, what has to be delivered together with the product (e.g. prototypes, manual, and instruction sheet).

8.1 Installation Guide

8.2 Maintenance Guide

9 Product's Realization

This chapter describes the realization of the product's requirements. The requirements of the different components are listed as well as the product structure is described. This chapter may be outsourced to an own document – the design document. For the differences between the requirements described here and the requirements in the specification document of a component, see chapter 2.1.

9.1 Product Structure

9.2 Functional View

9.3 Production View