

# Die SOPHISTen

## Product Specification Template

---

### Table of Contents

---

<b>1</b>	<b>Introduction</b>	<b>3</b>
1.1	Purpose of this Document	3
1.2	Product Description	3
1.2.1	Customer Requirements	3
1.2.2	Customers and Target Vehicles	3
1.2.3	Lifecycle	3
1.2.4	Product Overview	3
1.2.5	Product Adaptions and Modifications	3
1.3	Referenced Documents	3
<b>2</b>	<b>Definitions</b>	<b>4</b>
2.1	Terminology	4
2.2	Acronyms and Abbreviations	4
2.3	Constants	4
<b>3</b>	<b>Constraints for the Product's Usage</b>	<b>4</b>
3.1	Lifetime	4
3.2	Usage Scenarios	4
3.3	Product's Environment	4
3.3.1	Mechanical Environment	4
3.3.2	Electrical Environment	4
3.3.3	Chemical Environment	4
3.3.4	Climatic Environment	4
3.3.5	Installation Environment	4
<b>4</b>	<b>Interfaces</b>	<b>5</b>
4.1	Interface <XXX>	5
4.1.1	Mechanical Properties	5
4.1.2	Electrical Properties	5
4.1.3	Data and Functions	5
<b>5</b>	<b>Functions of the System</b>	<b>5</b>
<b>6</b>	<b>Other Product's Properties</b>	<b>5</b>
6.1	Mechanical Properties	5
6.1.1	Dimensions	5

	6.1.2	Weight	5
	6.1.3	Labeling	5
	6.1.4	Materials	5
	6.2	Electrical Properties	6
	6.2.1	EMC	6
	6.3	Design	6
	6.4	Reliability	6
<b>7</b>		<b>Requirements for the Product's Lifecycle Phases</b>	<b>6</b>
	7.1	Development	6
	7.1.1	Prototype Plan	6
	7.1.2	Engineering-BOM	6
	7.2	Test and Acceptance	6
	7.2.1	DVP&R	6
	7.3	Approval	6
	7.4	Manufacturing	6
	7.5	Transport and Storage	6
	7.6	Installing	6
	7.7	Maintenance	7
	7.8	After Sales Service	7
	7.9	Warranty	7
	7.10	Disposal	7
<b>8</b>		<b>Additional Artifacts</b>	<b>7</b>
	8.1	Installation Guide	7
	8.2	Maintenance Guide	7
<b>9</b>		<b>Product's Realization</b>	<b>7</b>
	9.1	Product Structure	7
	9.2	Functional View	7
	9.3	Production View	7

**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, starting 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 Manufacturing

---

## 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

---

Copyright © 2019 by SOPHIST GmbH

Publikation urheberrechtlich geschützt. Alle Rechte, auch die der Übersetzung, des Nachdruckens und der Vervielfältigung oder Teilen daraus, vorbehalten. Kein Teil der Publikation darf in irgendeiner Form, egal welches Verfahren, reproduziert oder unter Verwendung elektronischer Systeme verarbeitet werden, vervielfältigt oder verbreitet werden.

Dies gilt auch für Zwecke der Unterrichtsgestaltung. Eine schriftliche Genehmigung ist einzuholen. Die Rechte Dritter bleiben unberührt.