TEXTILES • IN • TRANSIT

An Investigation of Contract Textiles in Airport Terminals

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Submitted to the Department of Design, School of Arts, Design and Architecture, in partial fulfilments of the requirements for the degree of Master of Arts in Textile Art and Design at Aalto University

April 2012

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The selection of textiles for public spaces is an essential task for interior designers, as they must decide whether and where textiles are needed as well as to what extent. Due to the wide availability and variety of textiles, the choice of materials and qualities becomes a challenging task, requiring interdisciplinary dialogue between textile and interior professionals.

The objective of this thesis is to describe the contract textile business, the relationship between textile designers and interior designers, as well as the decision-making process leading to the creation of public places. This process is explored through observations and investigations in the field, in addition to expert interviews. The thesis also presents a case study describing the integration of contract textiles in economy waiting halls and business lounges at Helsinki Airport that illustrates the conditions under which textiles are chosen, the requirements that they must fulfil and the influence of international regulations on the designer’s work. This case study reveals oppositional reasons for avoiding and implementing textiles in airport terminals, since economy waiting halls and business lounges follow completely different design approaches. Hence, the meaning of textiles and the place of their integration changes from functional and business-driven to comfortable and design-driven.

Furthermore, the study describes a lack of collaboration and material knowledge among stakeholders. This thought-provoking impulse opens a discussion on the general decision-making process and the current status of knowledge exchange and collaboration between textile and interior professionals. Especially textile and interior designers must improve their collaboration in order to close the existing gap of material knowledge and better fulfil customer needs.

As little reliable and objective information on contract textiles exists, the thesis includes a proposal for an online encyclopaedia, which aims to enhance the exchange of information and improve goal-oriented collaboration between textile and interior professionals.

Keywords: contract textiles, textiles in public spaces, non-residential interior design, collaboration, textile industry, airport terminal, upholstery, requirements for contract textiles
Acknowledgements

* Kiitos | thank you | Danke

Maarit Salolainen;
Jukka Halminen;
All experts who contributed their knowledge during the personal interviews;
My dear friends in Helsinki and Ochtrup, especially Goeun, Sarang, Ram and Sini;
Und ganz besonders meinen Eltern,
Franziska und Lennart
A. Introduction

The master thesis *Textiles in Transit – An investigation of contract textiles in airport terminals* describes the subject of contract textiles and their implementation in public places, using the example of Helsinki Airport. The content of the thesis consists of five major chapters, beginning with an introduction. This part familiarises the reader with the objective, the background and the significance of the thesis. The second part is called theoretical framework. This part builds the theoretical basis and defines the starting point for exploring the field of contract textiles. The third section presents a case study describing the integration of contract textiles in economy waiting halls and business lounges at Helsinki Airport by exemplifying the conditions under which textiles are chosen, the requirements which they must fulfil and the influence of international regulations on the designer’s work. The fourth section of the thesis focuses on the issue of collaboration and knowledge exchange among design professionals. It provides a proposal for enhancing the collaboration and goal-oriented knowledge exchange in order to satisfy user and customer needs. Finally, a summary and discussion presents and evaluates the most important results of the research process while focusing on their implication.

1. Objective of the Thesis

The thesis examines the market of contract textiles using the example of Helsinki Airport. It aims to disclose the current situation of collaboration and knowledge exchange among design professionals in the field of contract design. Furthermore, the objective of the thesis is to understand how and why textiles are chosen or avoided in airport terminals. This involves a further description and analysis of the decision-making process between stakeholders involved in the development process of contract interiors. The main research question which influences the thesis work is:

*How can interior and textile designers better collaborate to enhance the quality and diversity of contract textiles?*
This research question has two contributing questions, which focus on the empirical part of the thesis: the case study. Those two questions are:

1. **What is the decision-making process on contract textiles?**
2. **What are the challenges, possibilities and limits of contract textiles in public places?**

In order to answers these questions, I undertake a study of the collaboration and information flow between interior and textile designers, furniture supplier and customer using the current situation at Helsinki Airport as an example of the demands of contract design. In addition, this study includes a description of the strengths and weaknesses within the communication system while giving us the ability to fully understand the network with its design and realization processes. Thus, it defines the starting point for further creating, developing and proposing innovative improvements and new solutions to the field in order to enhance the collaboration and the decision-making process in contract design. The thesis examines all these aspects by researching, exploring and describing the sector of contract textiles. Based on this description and analysis, the results of this research are summarised and applied into a final proposal for a website. This website concept will build upon the theoretical framework and the case study findings. According to the stakeholders’ needs, the concept will improve the current situation of knowledge exchange and mutual understanding. Besides this proposal, the investigation of contract textiles will raise new questions about the role of designers, collaboration among design professionals and the challenges which designers have to face while creating public places. Therefore, this thesis does not solely describe the field of contract textiles, but also emphasises understanding the market with its complexity as well as creating transparency.

However, with a distinction between textiles in business lounges on the one hand, and textiles in economy waiting halls on the other hand, the thesis describes two different settings of contract textile application. Instead of focusing on all kinds of textiles used in airport terminals, the content of the thesis chiefly describes the use of upholstery fabrics.
2. Background

Today in the 21st century, flexibility and geographical freedom have gained in importance. Locality and spaces have to be redefined in order to satisfy the social perceptions of these words with the latest developments. Especially flexibility can be seen as one key qualification which is required in order to keep up with the modern lifestyle of industrialised countries. Compared to ancient times, modern society almost forces people to travel like ‘urban nomads’. Whether for education, studying or job-seeking; there are many reasons why people tend to leave their hometowns and settle down in other destinations. Additionally, leisure time travelling has become an essential part of Western civilization and was never as uncomplicated as it is today. Fully developed transportation networks, almost seamless constructions of infrastructure and the latest developments in digital communication systems support the fact that local dependence is not a precondition for collaboration and networking anymore. Especially the endless opportunities - due to digitalisation of information - provide local independence while guaranteeing a wider connection to the world. What does this mean for individuals? How important does the perception of ‘settledness’ become? What is the perception of space and how does one define place? Many anthropologists are concerned with the changes in society and its impact on the perception of space and place. Marc Augé (2008), a French anthropologist is one of them. In his publication he distinguishes between places with and without history. He claims places, such as terminals, supermarkets and highways - which do not have an identity or history - to be “non-places”. Even though the discussion leads to a more abstract approach towards the topic of public premises, one cannot disclaim the fact that the increase of public places remains and the role of users becomes more relevant. Especially public places in the environment of air transportation gain in importance since public air transportation has become one of the most common ways to travel long-distance nowadays. Moreover, the market increases: more airport terminals are going to be built in the future, especially in Asian countries and in the Middle East (Cho & Lewis 2011: 48). However, the discussion about public places and their meanings continues and concerns a large variety of scientists, engineers, architects and other professionals.

This thesis examines the topic of public places from a different perspective compared to those explained above. It explores the subject from a textile designer’s perspective. Textile designers, who create textiles for public places, should not solely be concerned about the business and its market; they should also consider the meaning of textiles in public places, their degree of
utilisation as well as the role of users. Rather than enhancing the place with nice-looking textiles only, it is the designer’s task to add value and meaning for customers and users alike. Due to the demanding usage of textiles, textile designers also must develop fabrics which technically meet the needs of different spaces and situations. Therefore, a fundamental knowledge of technical capabilities is required. The same applies for interior designers who select materials for interior purposes. They are even more intimately involved in the entire process of designing public interiors. Thus, both interior and textile designers play an important role in the design process. This leads to the assumption that collaboration and exchange among textile and interior designers during the creation process of public interiors define an essential part of their work. However, the contrary is true. Currently, collaboration and knowledge exchange among textile and interior designers is infrequent. Linda and Mark Keane (2002) claim that developments among design educators and education systems have led to the segmentation of design disciplines such that designers are unfamiliar with interdisciplinary design approaches. Moreover, they state that design education needs to emphasise interdisciplinary educational experiences by “offering ‘real-world’ exchanges and collaborations” (97).

Especially in the field of contract design, where functional and aesthetical decisions have to be made in order to serve users’ and customer needs, a collaborative approach among experts becomes inescapable. International safety regulations and an increasing number of people using the space assign designers and other stakeholder with new tasks. Due to high demands and strict requirements, interior and textile professionals must share their knowledge. By analysing and understanding the operational procedures within this field, designers are able to develop a better variety of suitable and valuable solutions as well as quality products. To satisfy this approach, professionals in the field of interior and textile design must collaborate and communicate with each other. They must rethink the perception of public places and contract interiors in order to adapt the design process. Hence, it is essential to investigate contract textiles and interior design solutions in this field. The economic aspect, whether the expansion of air transportation affects the contract design business and to what extent, plays a secondary role. Nonetheless, this exposes great potential for textile distributors and interior designers who are familiar with contract design.

As the topic of contract textiles is broad and complex, this thesis consolidates the most important aspects discussed above while chiefly using Helsinki Airport as an example. This case study on contract textiles in airport
terminals discloses the decision-making process during the creative development process of business lounges and economy waiting halls. The example examines the stakeholders and their relationship to each other as well as the use of textiles in this specific space. Hence, the case exemplifies one implementation of contract textiles into public places. Due to special requirements in airport terminals, this case should by no means be considered as a generalisation of textile integration in public places.

3. Significance and Context of the Thesis

The major subject of this thesis describes the combined application of interior design and contract textiles. In this matter, the accumulation of articles and conclusions is unique. The changing perception of different terms and the overall creation of contract interiors are new compared to other design concerns. Therefore, little research has been published in this field. Especially relevant and current literature about contract textiles in public spaces is difficult to access and in most cases out of date. Instead, many publications focus on the visualization of the latest interior solutions. Explanations of textile compositions, the design process or detailed information on the overall development are missing in so-called coffee-table books. Due to the difficulty of finding useful and reliable information, the case study method was seen as one approach to gain deeper insights through expert interviews and individual observation. These expert interviews with professionals from different fields are essential for this study.

Moreover, since gaining information through experiences seems to be a common way for professionals to familiarise themselves with the contract textiles sector – and in most cases the only one - this thesis emphasises the importance of knowledge exchange. A theoretical overview of this subject can help professionals – especially young professionals - to become acquainted with the difficulties of practical work beforehand.

Furthermore, the topic of contract textile is of increasing importance throughout the textile industry. This defines another remarkable reason for investigating the field. The annual trade fair Heimtextil in Frankfurt is one evidence for the growing interest in contract textiles. In 2007, the fair changed its concept towards more contract related businesses (“Concept”). Since then, the trade fair focuses on home and contract textiles. Furthermore, the trade fair encourages young professionals to deal with the subject of contract textiles by announcing a design competition each year (A further description of the Heimtextil concept will be given below). Hence, the issue of contract textiles is important - as well as extensive. This is why
by no means this thesis aims to provide a complete analysis of the entire industry. Instead, it elucidates several aspects of the sector and contributes a statement on the importance of collaboration and knowledge exchange among designers. Currently, this is the only research related thesis on contract textiles at the School of Arts, Design and Architecture that focuses on describing the field of contract textiles in public places rather than designing textiles for the field; but, hopefully, in the future more accessible information on the field of contract textiles will be provided.
B. Theoretical Framework

The study is comprised of a literature review and elaborated with an empirical case study. This chapter, the literature review, presents the theoretical framework for the study. The information in this section enables us to understand the complex interplay between the two fields of textile and interior design. By introducing terms and definitions of the contract business, this chapter provides a foundation for the empirical part of the thesis. Even though many expressions and their definitions might sound familiar to professionals, this chapter creates the tools necessary for a fundamental understanding of the complex phenomena of contract textiles in public places by combining them in a new manner.

The content of this chapter is defined by three major aspects: textiles, interior and collaboration. Firstly, textiles, their subcategories and definitions will be examined. This involves a clear definition of contract textiles, their material range and construction possibilities. Secondly, interior design and the most essential terms related to this field are described in the following section of the chapter. This involves further definitions about space in general, public space and interior design as such. Both parts lead to the issue of textiles in public places and the current situation of collaboration between interior and textile professionals in the field of contract design. The final section of the chapter describes examples of existing collaborations and introduces information sources for interior and textile designers.

Figure 1 visualizes briefly the research approach while emphasising the framework as a theoretical input and tool. The two subjects, interior design and textile design (here visualised as circles), contribute valuable information to the field of contract design. In order to improve the current situation, the tool of collaboration and knowledge exchange defines an important section in the field of contract design.
Although by no means complete, this arrangement of terms from the field of textile and interior design provides a common background while guaranteeing traceability. Assembling definitions in an unfamiliar context provides space for new interpretations and approaches. Therefore, this part of the thesis contributes an essential and common basis for further discussions.
4. Textiles

For centuries, textiles have been present in everybody’s workaday life and the impact of textiles has increased yet further in many different fields, especially in technical applications. The word ‘textile’ itself is very old and derived from the Latin expression ‘texere’, which literally means ‘to weave’. (Miller 1989: 8.) Nowadays, textiles can define far more materials than solely woven structures. The word allows for many different interpretations and can be used in several contexts. Various techniques of combining filaments, fibres or yarns, such as knitting and felting, belong to the category of textiles. However, the definition of textiles does not include fur, leather, suede and unsupported plastic sheeting. (Miller 1989: 8; Gillow & Sentance 1999: 10.) By analysing structures of textile constructions, one can define three different hierarchical levels. Andrew C. Long (2005) equalises these levels according to the three major production steps of fabric making: firstly, the scale of fibres, which mark the microscopic level; secondly, yarns with their repeating unit cells and plies define the mesoscopic scale, and finally the fabric at the macroscopic scale (1). Figure 2 visualises the three levels of textile construction and their relation to each other.

![Figure 2 | The main types of textile structure and the three different hierarchical levels]
Since many different textile constructions coexist, textiles can be further distinguished by their purpose. According to Chris Byrne (2000), these three categories are (1):

- Technical textiles
- Textiles for clothing
- Home textiles

However, these categories are increasingly overlapping and combinations exist; e.g. clothing textiles can also be functional and follow a more technical approach. The same applies for home textiles made for public purposes. These textiles must be functional and aesthetical at the same time. Where these combinations influence the design, there textiles for interior purposes are called ‘contract textiles.’ (Tortora 1996: 133.)

4.1. Contract Textiles

The term contract textile refers to textiles for public spaces, buildings or offices. Occasionally, contract textiles are also called non-residential textiles (ibid.). This term is widely used in non-residential or contract interior design. In contrast, the term residential (design) applies to carpeting and furnishing fabrics in private homes (home textiles). However, all terms chiefly refer to soft furnishings, such as upholstery fabrics. (Buurman 2002: 345; Tortora 133, 468.)

Since contract textiles become increasingly important in contract business, they are usually considered in large scale projects solely. The American textile designer Jack Lenor Larsen (1989) stated in his publication that the term contract has many different purposes. Moreover, in his opinion, non-residential is, “too negative [a] way of describing [the] multifarious segment” (209). He rather prefers subdividing the field into different categories; so does Dieter Buurman. Buurman (2002) suggests subcategorising contract textiles according to their application (345). These places of application are:

- Offices, schools, banks, insurances, hotels
- Social and healthcare segments
- Sport segments (e.g. indoor tennis halls)
- Interior for automotive needs, airplanes, ships, etc.

Within these different sections, contract textiles are functional textiles which have to fulfil technically high requirements and international stand-
ards. Additional features and finishes (e.g. flame resistance, antistatic and antimicrobial fibres or finishes) are important in the segment of contract textiles, and in many cases they assure safety. Moreover, the consideration of aesthetical requirements is still important and makes working in this field even more challenging. (ibid.)

Depending on the textile application, standards and regulations can differ very much. However, defining textiles as contract textiles already implies that those products fulfil certain basic requirements compared to normal home textiles. Usually, basic properties include being flame-retardant and having a long-life cycle with a special focus on functionality. Even though standards and requirements vary in different public premises and countries, all materials are subject to high technical requirements.

4.1.1. Material

In 1995, John F. Pile states in his publication about interior design that a broad knowledge of “fabric materials and construction is an important aid in making good fabric choices” (336). Therefore, all professionals involved in the creation of interior spaces should have a wide knowledge of how materials and constructions can influence the properties and lifespan of textiles, their safety aspects and their resistance to stain and flame. This applies especially for contract textiles.

Even though selecting textiles for public interiors seems to be simple, the contrary is true since more aspects than just the colour are important. In many cases, it is challenging to define textiles. For inexperienced employees, even for professionals, it can be difficult to keep track of the large textile variety. The challenge of material selection applies in the field of interior design in particular. For interior designers, who gain no training in textile technology during their educational training, this irritating situation slows the process of textile selection. One challenge for interior designers is to understand the meaning and use of different terms. Names of fibres and composition fabrics are confusing and trade names hamper the situation. Wool, satin and Trevira CS, for example, do not solely define fabrics; they refer to different properties, whereby wool is a fibre, satin a weave and Trevira CS a trade name. To facilitate the definition of textiles, Pile (1995) suggests a pattern to specify textiles by defining their component in the following order: fibres, yarn-type, construction (woven, knitted or other types), finishing, dye and/or print, and finally other special characteristics (336). Thus, comparably measured parameters of testing methods, the designer’s own experience and a basic knowledge of textile technology can facilitate
the decision-making process. However, a broad and detailed knowledge of textiles is not required for interior designers since - besides making textile selections - they are also concerned with evaluating and choosing hard materials as well as other interior solutions for the space. On the other hand, an appropriate communication basis with salesmen of textile companies becomes even more essential in order to select the right contract fabric for public premises. (ibid. 331.) Rather than enumerating many details about materials, constructions, finishes and colour application of textiles, the following section aims to give a rough overview on the technical parameters influencing contract textiles.

Material and Material Choice
Speaking generally, many different aspects and components play an important role in the creation process of fabrics and their features. Material choice, bindings finishes as well as special treatments throughout the developing process influence the fabric properties permanently and enduringly. Especially the material choice influences the later developments of the product. (Long 2005: 2.) The two existing fibre types, man-made fibres and natural fibres, bring different features to the fabric. Beside pure man-made or natural material combinations, combinations of both material types also exist. Long (2005) predicates in his publication that “modern fibres [can] turn millennium-old textile technologies into powerful tools for creating materials designed for specific purposes” (2). Thus, textile manufacturing methods and internal structures are essential topics while investigating the field of textile materials. Furthermore, the material does not solely define the properties of a fabric; to a large extent it also influences its durability and lifespan. Strongly connected with this fact is the sustainability aspect of contract textiles, which will be described in chapter 4.1.6.

Even though colour appearance is one of the first eligibility criterions in textile selection for non-residential interiors, other parameters should not be dismissed. Especially the textile selection for public premises requires a consideration of other significant properties, such as durability, resistance to dirt, textural qualities, price and sustainability. (Pile 1995: 335.)

Fibres
Regarding the hierarchical structure of contract textiles, fibres form the basis for each textile construction. The two major fibre components are man-made and natural fibres with natural fibres marking the more significant proportion in consumption (Ashby 2009: 17). Edward Miller (1989) determines in his publication that the choice between man-made or natural fibres
affects the properties of fabrics entirely (17f). Therefore, a basic knowledge of fibres is essential in order to be conscious of material selection. In contrast to man-made fibres, natural fibres have long existed and dominated the textiles industry for centuries. They are usually extracted from animals, vegetables or other natural sources. Examples for animal based natural fibres are silk, wool and hairs. Cotton, flax, hemp and sisal are vegetable based fibres, which are seldom applied in the field of contract textiles. Depending on their original form (filaments or staples) and their extraction (seed, bast, leaf, fruits, minerals), fibres can be further subdivided. (ibid. 19.) On the other hand, man-made fibres are usually divided into two categories. The first category implies regenerated fibres, which are based on natural polymers such as cellulose and other protein products. Regenerated fibres will be transferred into man-made filament forms. The second category of man-made fibres includes synthetic fibres. Synthetic fibres are based on substances such as coal and petroleum. (ibid.). Due to the high requirements, most of the interior textiles for public purposes consist of synthetic fibres, since they are usually more durable than natural fibres (S., Heike). Some of the most common ones are acetate, rayon, acrylics, polyester, polyamide, polyurethane and PVC. (Pile 1995: 338.)

In summary, both natural and man-made fibres are used in contract textiles. Especially natural fibres, such as wool and mohair, are gaining increasing attention since they are renewable, durable as well as naturally flame retardant raw materials with beneficial technical and aesthetical properties. Wool, for example, has excellent performance characteristics and is very durable, but sometimes has a slightly negative connotation. The wool industry must still contend with the prejudice of wool being an allergen. On the other hand, man-made fibres include other advantages and disadvantages compared to natural fibres. Synthetic materials, such as acrylics, can be chemically modified and guarantee flame-retardance. Polyester instead is a very light fibre, which is often admixed with natural fibres. Textile companies developed permanent, fire-retardant polyester fibres that do not require any additional treatment or finishing. One example for this kind of material is Trevira CS (trade name). Trevira CS defines a polyester modification that is permanently fire-retardant, and, therefore, widely-used in non-residential interior design. (Pile 1995: 338.) Another example of fibre modification with beneficial flame-retardant properties is Kanecaron (trade name), a modacrylic fibre. Kanecaron was developed by Kaneka Corporation of Japan and is inherently permanently flame-retardant. Blended with other fibres, such as cotton, the construction yields a flame retardant composition. (Horrocks 2011: 378.)
However, the distinction of fabrics based on their materials does not always apply since, in many cases, contract textiles consist of more than one fibre. Woven mixtures of different fibre components attempt to improve the appearance or utility of the fabric. Furthermore, an important criterion for selecting textiles is the touch of the fabric. Especially artificial fibres seem unpleasant compared to natural fibres such as silk or wool. (Buurman 2002: 322; Friedman & Savage 2012.)

4.1.2. Constructions

All fabric constructions use filaments or monofilaments as base material. After cleaning and grouping the fibres or filaments, they are spun into yarns. This does not apply for monofilaments. To improve the strength of a yarn, even constructions of two or more yarns are possible. Those are twisted and combined into one single yarn. (Pile 1995: 336.) Once the yarn is spun, the technique of combining those yarns defines the textile. Knitted, woven and non-woven constructions define the three main categories of textile construction. Due to their instable construction, knit fabrics are less important in contract design. In contrast, non-woven constructions, such as feltings, can have a very dense structure. Usually feltings consist of wool. With the help of chemical reactions, wool can be worked together to produce a homogeneous surface. This dense construction has a beneficial influence on stain and water repellence. Compared to woven structures, feltings play a less important role in contract design. Especially for upholstery and curtain products in public premises, woven textiles dominate the field. Most of these woven textiles consist of two-element weaves constructed by using warp (lengthwise) and weft (horizontal) yarns. Different techniques of combining warp and weft yarns define the binding. Especially for the field of contract textiles, where durability is an important issue, tight bindings are more beneficial than others. For example, a plain weave has a much higher crossing-rate than satin-binding. The more frequently weft and warp yarn cross per unit area, the higher its durability. Furthermore, the yarn construction and binding can influence the fabric’s affinity towards fire. High fabric area density values and compact bindings as well as heavier and multi-layered constructions decrease hazard of burn severity. (Pile 1995: 337, 340; Miller 1989: 88f; Horrocks 2001:134.)

Other constructions, such as films, are also widely-used in contract design. Films are made out of synthetic materials such as polyester and PVC (polyvinyl chloride). They can be made into continuous sheets and can be laminated over woven fabrics. Artificial leather is one example of this construction. (Pile 1995: 337, 340.)
4.1.3. Special Finishes

Processes and treatments that follow the basic textile construction are called finishes. One can categorise the different finishes according to their purpose. Firstly, preparatory finishing processes include cleaning activities. Dirt and stain, which appear during the production process, have to be removed. The same applies for natural impurities, e.g. from natural fibres. Bleaching also defines one finishing process, either as an aesthetical treatment (better whiteness) or to prepare the fabric for dyeing processes. Secondly, development processes aim to produce the “required appearance, texture and handle of the fabric” (Miller 1989: 120). Finally, performance and presentations processes describe the third and fourth categories of finishing processes. Performance processes are the most important ones for contract textiles since they include treatments which aim to improve the performance of the fabric. The application of synthetic resins and the process of controlled shrinking are two examples for this category (ibid. 134). Other examples are fire-retardant or anti-static finishes. On the other hand, presentation processes describe the final neatening of textiles. This includes preparing the fabric for packing or presentation by pressing, folding, etc. (ibid. 120). Instead of further describing the treatments here, Table 1 provides a list of textile finishes.

4.1.4. Colour and Print

Colour and prints belong to the category of finishing processes. Especially in public interiors, colours influence the first impression of a space. Therefore, colour is usually the main criteria for interior designers choosing textiles. Compared to other materials (e.g. wood and aluminium), upholstery fabrics, curtains and carpets provide the principal method for introducing colour into interior space. Hence, coloured fabrics are frequently the most important areas of colour presence in the space. (Larsen 1975: 12; Friedman & Savage 2012.)

The two basic forms of applying colour to fabrics are dyeing and printing. Colouring textile components is possible in between different production steps. Dye colours can be applied to spun yarns as well as to woven fabrics. Adding colour to woven textiles is called piece dyeing. The dying process influences the colour fastness and the quality of the dye with yarn dyeing being of higher quality than piece dyeing. Traditionally, natural dyes were used before modern chemically manufactured dyes became popular. These artificially produced colours offer a wider colour range and better
4.1.3. Special Finishes

Processes and treatments that follow the basic textile construction are called finishes. One can categorise the different finishes according to their purpose. Firstly, preparatory finishing processes include cleaning activities. Dirt and stain, which appear during the production process, have to be removed. The same applies for natural impurities, e.g. from natural fibres. Bleaching also defines one finishing process, either as an aesthetical treatment (better whiteness) or to prepare the fabric for dyeing processes. Secondly, development processes aim to produce the “required appearance, texture and handle of the fabric” (Miller 1989: 120). Finally, performance and presentation processes describe the third and fourth categories of finishing processes. Performance processes are the most important ones for contract textiles since they include treatments which aim to improve the performance of the fabric. The application of synthetic resins and the process of controlled shrinking are two examples for this category (ibid. 134). Other examples are fire-retardant or anti-static finishes. On the other hand, presentation processes describe the final neatening of textiles. This includes preparing the fabric for packing or presentation by pressing, folding, etc. (ibid. 120). Instead of further describing the treatments here, Table 1 provides a list of textile finishes.

4.1.4. Colour and Print

Colour and prints belong to the category of finishing processes. Especially in public interiors, colours influence the first impression of a space. Therefore, colour is usually the main criteria for interior designers choosing textiles. Compared to other materials (e.g. wood and aluminium), upholstery fabrics, curtains and carpets provide the principal method for introducing colour into interior space. Hence, coloured fabrics are frequently the most important areas of colour presence in the space. (Larsen 1975: 12; Friedman & Savage 2012.)

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Another way of adding colour to fabric is printing. Printing is especially used for adding patterns to textiles. Although many different techniques of printing exist, rotation printing is the most common one. Due to its economic advantages, prices of rotation prints are lower than those of other printing techniques such as digital printing. (Pile 1995: 343.)
4.1.5. Quality Control

Especially in contract textiles, excellent qualities and safety aspects specify fabrics. To inform customers, many textile manufacturers attach tags to samples. Usually, those tags include the most important information about the product. The tag may provide information about name or number, width, fibres, finishing and in some cases the price of the fabric. Additionally, manufacturers add testing results and information about standards on the tag. Beside the visual inspection and feel of a fabric sample, the information on tags provides a suitable basis to compare different qualities and evaluate the textile fabric. However, judging contract fabrics by testing results or codes includes the risk of casting aside some of the most interesting fabrics, simply because they fail some code or testing method. Larsen (1989) even claims that, “[…] distinguishing fabrics by tests or codes is a scientific, not an aesthetic, evaluation” (13). Nevertheless, a general knowledge about textile technology and testing methods can definitely deepen the interior designer’s knowledge of textiles and facilitate the material choice, whereas a detailed knowledge is not required.

In addition to the elementary testing of fabrics (e.g. mechanical deformation, yarn density and weight), specific tests solely apply for contract textiles. Due to high demand for upholstery fabrics in public premises, the profile of requirements is remarkably high. Low pressure sensitivity, high stain-resistance, beneficial maintenance and cleaning performances, as well as resistance to fading and rubbing, are essential requirements among many (Buurmann 2002: 322). In order to define the contract textile’s performance in these aspects, fabric tests are conducted. The results of those tests assure the ability to evaluate and compare textiles with each other. The following section will briefly explain the most important testing methods for non-residential upholstery fabrics.

**Abrasion Resistance**

Abrasion resistance is a major concern for interior designers since it influences the lifespan of textiles. Several standardised methods (e.g. Schopper, Wyzenbeek, Taber and Martindale) test the durability of textiles by simulating abrasion and use. Due to the frictional demand during the test, surface changes and pilling, wrinkling and colour changes might occur. (Reumann 2000: 497f.)

One of the most famous and prevalent testing methods within Europe is called the Martindale method (Picture 1 and 2). In this testing process, the testing machine rubs the fabric sample against a standardised felt pad. The
applied load is 795g for rough textiles, such as those used in work clothing, upholstery fabrics and technical textiles. The rubbing procedure follows a certain pattern, which is called the Lissajous figure (Picture 3). The testing device repeats the rubs every 16 rounds till the sample is destroyed. The number of rubs that were needed to destroy the fabric construction defines the test result; the higher the number, the better the abrasion resistance.

In contract textiles, the minimum requirement of Martindale rubs for fabrics is 50 000 rubs (I., Ulpu-Marjo). Hard-wearing fabrics can even endure 100 000 and more Martindale rubs before the textile construction breaks. However, these requirements vary from market to market as well as from country to country. In the United States, for instance, Wyzenbeek is a much more common abrasion testing method, which does not correlate with other abrasion testing methods. Therefore, customers are only able to compare fabrics which were tested with the same standard testing method. (Reumann 2000: 504f.)

Due to the popular habit of comparing abrasion testing results within the contract business, one must remark in this context that abrasion tests do not tell whether a fabric performs well or poorly in actual use. The test solely gives an indication of the fabric’s quality and should be regarded as one selection criteria out of many, rather than the only one. Evaluating a fabric always requires many tests and attention to many aspects.
**Fabric Pilling Test**

Due to a mild and non-destructive friction, upholstery and clothing fabrics tend to accumulate fibrous materials due to pilling\(^1\). Especially knitted textiles tend to form pills on the surface. The embedding intensity of fibre in yarn and yarn in fabric influences the tendency to pilling. All testing methods can be categorised into two groups:

1. Testing methods, where a fixed sample perforce rubs against the surface.
2. Testing methods, where a free moving sample moves unconstrained towards different surfaces.

The same testing device, which is used for Martindale abrasion test, can conduct the pilling test. The machine is used in a slightly modified way: instead of heavily rubbing against the fabric, the testing machine must be modified to execute smooth movements towards the sample. For this test, the testing load for upholstery fabrics is 415g (instead of 595g for the abrasion test). (Reumann 2000: 511, 514f.)

The test result is based on the number of pills formed on the fabric surface. A standardised scale system for rating pills assures comparability between different textiles. This scale ranges from one to five where five means no change and one means dense pill formation on the surface. (ibid. 514, 516.)

ICI and RTPT are common testing methods which belong to the second category of pilling tests. In this group, multiple samples freely move inside a test box while the box rotates around its own axis. Due to this movement, the samples inevitably rub each other. (ibid. 519.)

**Flammability**

In case of fire, fabrics can inflame and produce toxic fumes and smouldering. Especially in public buildings, safety rules and regulations must be abided by since fire can easily break out through dropping cigarette ashes. Flame-resistant fabrics can prevent such scenarios and are absolutely necessary in public buildings as they ensure safety and decrease the hazards of burn severity. (Pile 1995: 345.)

Many textiles have a different affinity towards fire; therefore, one must distinguish between four categories of flammability: (1) flammable, (2) flame-resistant, (3) durable flame-proofed and (4) temporal flame-proofed materials. A flammable fabric propagates flame and continues burning after the flame has been removed. The term flame-resistant derives from the flamma-\(^1\)

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\(^1\) Pilling describes the phenomenon of forming small balls of fibres on the fabric surface by rubbing or wear (“pill, n.4”).

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Flammability testing of fabrics. This term applies to fabrics whose flame resistance is high according to standardised flammability tests. Instead, flame-proofed materials do not propagate flame. Once the flame has been removed, the flame dies. Materials which remain flame-proofed even after washing treatments are called permanently flame-proofed materials. Conversely, temporarily flame-proof materials are flame-proofed before but not after washing treatments. (Booth 1969: 315f.) In order to define the fabric’s affinity towards fire, standardised flammability tests are conducted. In these flammability tests, firstly the sample of fabric is placed in a frame within the fire chamber. Secondly, the fabric is set on fire and the time which the flame requires to burn the fabric is recorded. Other standardised tests record the time that the flame needs to burn defined reference lines. The reference lines are marked onto the fabric beforehand. The fabric receives ‘class ratings’ if it does not catch fire. (Pile 1995: 345; S., Heike.) Picture 5 and 6 illustrate the fire chamber and the testing device.

These flammability tests follow international standards. Common standards for upholstery fabrics in Europe are EN (European Norm) 1021, BS (British Standard) 476 and DIN (Deutsches Institut für Normierung) 4102. (“Technical information”; “Inspiring Materials”.)
**Fading**

Colourfastness to light is one major concern of textile manufacturers and interior designers. Since upholstery fabrics in public buildings are exposed to sunlight, they should not fade. Furthermore, the colour should be resistant to dry and wet rubbing (described below). Fabric suppliers should assure that colour remains on the fabric. This can be proofed by several tests, among which testing with the Fade-Ometer is the most important for interior textiles. The Fade-Ometer is a technical device which imitates sunlight through ultraviolet light. The fabric sample is exposed to this ultraviolet light for successive periods of twenty hours. An acceptable minimum for light fastness is reached if the sample does not noticeably fade after eighty hours of exposure. The whole test is standardised and can be carried out only under internationally applicable circumstances. To allow comparison among different fabrics, a rating scale was developed to specify the test result. The higher the number, the better fastness is obtained with a value of four as the accepted minimum and five or higher being preferred. Other standardised tests can proof the colour fastness to washing and rubbing. (Pile 1995: 345.)

**Seam Slippage**

Another important quality issue, especially in contract textiles, is the fabric’s affinity towards seam slippage. This effect applies when a yarn across the woven fabric slips from the seam of a garment. This effect can easily appear when force is applied to the fabric. However, seam slippage occurs when the density of the fabric construction is low, when there are less warp and weft yarns per unit, or when the fabric is made from slippery filament yarns. (Miller 1989: 207.) Furthermore, seam slippage might occur after chemical finishing and affect the strength of the fabric.

**Crocking**

Especially contract textiles with upholstery applications must be tested for colour fastness. In addition to fading (described above) and – where applicable – fastness to washing, the upholstery fabric must be resistant to rubbing. This rubbing-off of colour from a fabric is called crocking. Standardised tests distinguish between two types of colour fastness: the first type defines the fabric’s performance to dry rubbing, while the testing machine rubs a dry white fabric against the test sample. In order to test the colour fastness to wetness, the same machine rubs a wet white fabric against the test sample. Depending on the textile application, this test can either simulate the textile's contact with perspiration or other fluids. (Smith 2009: 80; Miller 189: 175.)
However, crocking can be the result of different mistakes, made during the dyeing process. The incorrect use of dyes or dyeing procedures as well as a lack of penetration of the dyeing agent influence the fabric’s colourfastness enduring. Additionally, a lack of proper washing procedures and finishing treatments after the dyeing process can also have a negative impact on the fabric’s performance. (Hofer 1984: 207).

4.1.6. Sustainability in Contract Textiles

Nowadays as questions about sustainability become increasingly important, knowledge about material selection and components matters. Hence, a sustainable approach to contract textiles requires a detailed explanation and knowledge about sustainable fabric production. Understanding the supply chain, the production process and the distribution of textiles is necessary in order to act ethically. Since the issue is complex and broad, this thesis cannot provide all information which would be required to fully answer questions about sustainability issues. Nevertheless, a short introduction and thought-provoking impulses will be provided since even small decisions can improve sustainability within the contract design business.

Sustainability is an important issue and for too long the textile industry refused to face the challenge of creating sustainable products and production methods as well as sustainable approaches. Only in 2008 did an author summarise for the first time information about the impact of fashion and textiles on lifecycle sustainability. This publication by Kate Fletcher defines and challenges the textile and fashion industry. Additionally, the latest trade fairs and recent public discussions bring the aspect of sustainable thinking into view. Especially when it comes to material choices, every designer has to face ethical questions regarding sustainability since material choices have a huge impact on our environment. The same applies for textile and interior designers. In their publication, The Fundamentals of Interior Architecture, John Coles and Naomi House (2007) identify sustainability as one main aspect when it comes to material selection for interiors. Beside aesthetic qualities, performance specification and cost, they consider sustainability to be the fourth primary category of material selection:

“As architectural designers we have a responsibility to take a whole-life view of the materials and products we use, taking into account the availability and extraction issues of raw materials, the environmental costs of transport and processing, their handling, fixing and maintenance regimes and, ultimately, their end-of-life dismantling and disposal.”(94.)
Even though the principles of sustainability are simple to define, their realisation is more difficult. The ideal solution is to use products and systems that have a low environmental impact and which can be easily adapted. Furthermore, those textiles should have the ability to re-enter the production cycle at the end of their lifespan. This is only possible by recycling or disposing of the material. (ibid.)

In addition to creating recyclable products with little environmental impact, other approaches suggest adding value to products in order to increase their lifespan. The higher the value of a product, the longer is its potential lifespan and usage. According to Dany Jacobs (2007), adding value to products through design is possible in four manners: firstly, improving profitability and sales; secondly, lowering production costs; thirdly, decreasing customer complaints due to more functional products; and finally, increasing customer satisfaction and loyalty. (102.)

In this context, contract design products can already be seen as more sustainable compared to other textile products since companies and customers alike aim to use long-lasting and functional products. (Fletcher 2008: 164f; R., Hanna.) Concerning the material however, contract textiles must be improved in order to become more sustainable. Synthetic fibres still dominate the contract textile section. Even though synthetic fibres are in general more durable, their environmental impact is huge. By using renewable materials or materials with a lower environmental impact, such as wool, the whole field would contribute an important statement about its devotion to sustainability. However, each material choice has advantages and disadvantages. Therefore, a balance between safety, sustainability and design has to be defined. These are ideas for improvements that could apply to the existing production chain. In contrast, one could reconceptualise the value-chain from scratch. This means to rethink the overall decision-making process and production chain. Since the design process has an influential impact on the usage of a product (Niinimäki 2011: 50), textile designers and interior designers could improve their collaboration towards a more consumer-centred design. This would imply a totally different approach compared to the existing one. Instead of designing and hoping to meet the user’s taste, interior and textile designers could actively consider and design according to user needs.

Beside the general discussion on fundamental changes within contract design, one should not disregard the labels which facilitate ‘green’ products. These labels visualise eco-friendly properties of fabrics. Logos and labels can facilitate the buying decision and communicate how sustainable or en-
vironmental friendly products are. (Fletcher 2008: 132.) The most reliable labels within Europe are the EU Ecolabel, the Nordic Ecolabel and Oeko-tex Standard 100. In order to choose sustainable and eco-friendly materials, designers must know about these labels and their meanings, but, due to ‘greenwashing’ issues, they should not rely on labels and certificates solely. Designers should also be aware that the textile industry is a process industry and ecological aspects are hard to trace. Therefore, knowledge about the production chain, manufacturer and materials is as important as knowledge about labels.

4.2. The Role of Textile Designers

Mapping the field of contract textiles is meaningless if a description of the textile designers’ role is left out. Due to their educational training, textile designers create – among textiles for other purposes - contract textiles. Compared to other design disciplines, Rachel Studd (2002) claims that only little research has been conducted on the process of textile design (35). Even though the process of textile design is similar to that of other design disciplines, textile designers have to blend technology and aesthetics in order to fulfil customer expectations (ibid. 36). Kotler and Rath (1984) state that,

“design is the process of seeking to optimize consumer satisfaction and company profitability through the creative use of major design elements (performance, quality, durability, appearance, and cost) in connection with products, environments, information, and corporate identities” (17).

Optimising performance, quality, durability, appearance and cost of a product is even more important in the field of contract design. Hence, the designer must consider the market requirements and customer needs; they must have an understanding of the market and the place of implementation. Especially in-house designers and their design managers take final decisions on material, colours, themes and collections. (Studd 2002: 37.) Therefore, textile designers have an essential influence on the final product as well as its lifespan and impact on the environment.

Optimising a user-centred process improves customer satisfaction and therewith the sustainability issue of contract textiles. In order to fulfil this aim, textile designers must further deepen their knowledge on the application of contract textiles as well as on interior design and users. One approach towards this subject is collaboration with interior designers. In the
following sections, a first introduction of interior design-related issues will be provided.

5. Interior Space

Before discussing textiles in public space, one must first of all define the environment where textiles are integrated. Usually, the decision of textile integration in public spaces is made by interior designers and architects in cooperation with their clients. They are concerned with the overall concept and atmosphere which a place should represent. Interior designers try to implement materials according to function, colour and price. Another important aspect, which has to be considered, is the psychological need of humans. Designing interior environments typically means adding an understanding of the world to a place while creating value. Furthermore, the task of interior designers is to enhance human experience in space. Compared to other sectors of the science of built environment, interior design focuses on the qualitative - in addition to the physical - transformation of space. It is their task to design a balance between,

“issues that technology and modern society have created while honouring primal desires, between the external world and the inner self, and between function and beauty” (Caan 2011: 33).

Furthermore, the interior should aim to express experiences, feelings and perceptions in material form. Only then does space involve a supportive aura and have the ability to fulfil human require-
ments. Interior design applies to a wide range of architecture and implies the creation of domestic, public, commercial and industrial interiors. (Caan 2011: 103ff; Conway & Roenisch 2001: 86f.) Ever though interior design is based on the essential human need for shelter - which is as old as human civilisation - the discipline of interior design and the conceptual creation of interior space as such are new. Interior design belongs to one of the least developed subjects in the context of design disciplines; albeit with components, which are required to execute the work that have a long history. The modern professional discipline probably emerged in the 1920s and 1930s when the term ‘interior design’ was used to describe the practical execution of designing an interior. Currently, several terms, such as ‘interior decoration’, ‘interior design’ and ‘interior architecture’ co-exist while their meanings differ significantly. (Edwards 2011: 53; Conway & Roenisch 2001: 87; Caan 89f.) One of the key aspects of interior design is space. In its original denotation, the term defines a boundless, three-dimensional expanse. In an architectural context, space can be created through a built environment. Hence, architectural interior space is enclosed by the physical nature of the building which surrounds the space. The relationship between interior experience (within space and within one's perception) and the exterior world is essential to human nature, and therefore applies in the same meaning to interior space. Interior space expresses the intimacy and scale between a human's inner and outer existence and responds to multiple levels of human beings. In this context, ‘interior’ can be seen as a transition zone between the human's physical existence and the world around them. (Caan 2011: 32, 38; Edwards 2011: 115.)

5.1. Private and Public Space

In order to define the different perceptions of space, in the 1960s, Edward T. Hall, an anthropologist, developed the ‘proxemics’ chart of human interaction. With this chart, he tries to express the four different zones of distance (figure 3): The first zone, which spans from direct physical contact to 45 centimetres, defines the ‘intimate space’. The ‘personal space’ spans from 45 centimetres to 1,2 metres and the ‘social distance’ ranges from 1,2 metres to 3,6 metres. The final zone describes the space from 3,6 metres to 7,6 metres and is called ‘public space’. (Hall qtd. in Caan 2011: 45.) The achievements of Hall help us to better understand the difference between private and public space. Today, many interior design projects are divided by private and public space (residential and contract projects). Since
non-residential projects in the contract business are large in scale, some interior companies only specialise in designing interiors for public spaces. The term ‘contract’ is derived from an almost outdated business practice in which contracts were agreed upon to provide all the needed elements. The concept is comparable to contracts for building constructions, which still exist today. These contracts were created for conducting non-residential projects. Nowadays, the term refers to design work, which is not related to private space. Whether public buildings, work environments or hotels: all non-residential requests chiefly focus on large-scale projects. Furthermore, the relationship to customers differs very much from residential projects. Whereas projects for private spaces are characterised by a personal working relationship with the client, the relationship between customer and client in non-residential projects follows a different approach. Hence, the customer is not necessarily the user of the space but rather some segment of public institution will be. Therefore, staff, workers, employees, executives and professionals influence and lead the project in order to decide on the needs of users, who are chiefly travellers, guests and casual passersby. However, due to the size of projects and number of stakeholders, contract projects are impersonalised. They entail different working relationships that vary from

![Proxemics approach by Edward T. Hall](image)

- Intimate Space 0.45m
- Personal Space 1.2m
- Social Distance 3.6m
- Public Space 7.6m
close (e.g. collaboration with patients in hospitals or in homes for the elderly) to more superficial and casual (e.g. collaboration with shopkeepers, museum visitors or passengers in airport terminals). Generally it can be said that projects for public spaces became very lucrative. Due to the profitability of public spaces, many professional interior design studios focus on contract business. The possibilities for designing public spaces are huge since public space becomes increasingly important for many users. This implies the possibility of highly visible – even spectacular - design solutions that attract interest and excitement. (Pile 1995: 499.)

On the other hand, in many cases, non-residential design follows strict strategies and commercial intentions. This professional approach to space creation makes the comprehension of design professionals indispensible. The designer’s task is expanded to a new extent. Not only is the creation of visual attractive interiors important, but in addition the interior must be functional, commercially-oriented and encourage users to re-visit. Depending on the project, psychological knowledge has to be taken into account and a new awareness of environmental influences on human behaviour arises. Many clients realised that design can lead to commercial success. A comfortable office environment, for example, enhances employee satisfaction and motivates them to work. Nowadays, projects in public spaces include two main aspects: firstly, the creation of memorable, outstanding and pleasant spaces, and secondly, the creation of performance or business-enhancing spaces where people tend to re-visit. (ibid.)

Even though the functional and practical requirements of space creation, material choice and construction technique are important, private and public spaces nevertheless have in common that all aspects merge to one aim, which is the impact of aesthetics. (Friedman & Savage 2012; Pile 1995: 499.)

One can summarise that creating public spaces is complex compared to residential design, and as a result many interior designers concentrate only on certain aspects of residential design. Therefore, they are either specialised in the creation of hotels, offices, restaurants or other fields. In some subcategories, it is even essential to provide technical expertise. This especially applies to projects in hospitals and healthcare facilities. (Pile 1995: 499.)

5.2. Places and Non-Places

In the field of interior design, the terms space and place are strongly related and each defines the other. Whereas space is more abstract and uncertain, a place is more concrete and consists of familiar landmarks. In Clive Edward’s perception, “space suggests movement, whereas place indicates pause”
Therefore, moving from space to place suggests gaining a sense of confidence through the presence of identifiable landmarks as place is the result of defining space and location (Tuan qtd. in Edwards 2011: 120f). Marc Augé, a French anthropologist and ethnologist, coined the term ‘non-place’. In his publication, Non-Places: An Introduction to Supermodernity, Augé (2008) defines places with mono-functional intention in urban space. They are places with no history, relation or identity.

“Airports, railway stations, bridges, and some hypermarkets are imagined by the greatest architects as communal spaces able to give those who use them, travellers, customers or clients, a feeling that neither time nor beauty are absent from their history. They are further fragments of utopia, in the image of our time divided between passivity, anxiety and, despite everything, hope or, at the very least, expectations.” (XXII.)

Therefore, especially these places belong to the category of transition spaces where interaction between humans does not exist – or exists only to a limited extent. Instead, these places are meant to force people to move or to walk rather than rest (Auf dem Hövel 2006). Airports are perfect examples for such non-places; especially at a time when public air transportation is one of the most common ways of moving from A to B and mobility has become a key aspect of human life. However, due to globalisation and an increasingly flexible lifestyle, today more people can afford to move around the world. Moreover, there is no evidence of a slowdown in this development. The consequences are obvious. Besides the increasing emissions of CO2, the impacts on global warming and climate change are enormous. (Votolato 2007: 217-222.)

5.3. Airports and Airport Environments

According to The Random House Encyclopedia, edited by James Mitchel (1990), air traffic is one of the newest transportation systems, starting only recently in the early 1920s (1752). At that time, public air passenger service was established and the need for airports increased. Today, airport expansion plays a decisive role in the economic landscape, especially in Asian countries and the Middle East. According to Cho and Lewis (2011), ever more airport terminals are going to be built in the future (48). Although very similar to railway stations, the design of airports follows a different approach. Airport architecture has to fulfil different requirements
from passenger trains and follows logistical principles in passenger movements and flow. In the beginning of airport transportation, “airport terminals were [...] highly visible indicators of technological advancement for nations and global cities” (Sennott 2004: 32) – and still are. The latest airport constructions combine innovative standards in technology, logistics, security and aesthetics. Even though public air traffic describes a new phenomenon in transportation - compared to other transportation systems - the impact on society is huge. Between 1971 and 2005, international air traffic increased 5.5 per cent on average each year, and a continuation of this trend is expected. This growth rate is remarkable and unique in the transportation sector, but also entails negative effects such as global warming and climate change. ("Der international Flugverkehr und der Klimawandel")

Airport interiors are a part of transportation space design. Airport terminals are comparable to other terminals, similar to those for busses and railways. The uniqueness of airport terminals is its outstanding interior concept. Airport interiors combine shopping facilities, waiting halls and lounges as well as restaurants and cafes under one roof. Airport terminals became far more than only functional arrival and departure terminals. Passengers might spend hours in terminals while waiting for their flights. However, concerning fundamental needs, they might lack nothing since airport terminals became shopping centres and oases in rural areas. Hence, airport terminals became places of consumption and waiting, and at the same time are very similar all over the world. The similarity of international airports, its interior design and architectural construction, makes it difficult for users to distinguish airports from one another. (Auf dem Hövel 2006.) However, interior designers attempt to combine costumer needs and functionality. This applies to two sections of the transportation sector. On the one hand, interior designers are concerned with the space of stations, terminals, etc., and on the other hand they are concerned with the interiors of transport vehicles such as airplanes, busses and trains. (Pile 1995: 525.) The waiting and seating areas can be seen as one application of contract textiles. At the airport terminal, one must distinguish between business lounges and economy waiting halls. Business lounges are usually designed and provided by airlines, whereas public waiting halls are maintained by the airport authority. These two places follow a totally different approach to customer satisfaction, function and design. (P., Päivi.)
Designing public interiors requires the skill to communicate ideas and to understand customer needs. The overall term that applies to the development process of interiors is called the design process. Edwards (2011) provides an overview of interior design, the design process and all important sub-categories related to executing the work. He describes the design process as a fundamental working tool which applies to all designers (64).

The process of interior designing - and therefore the design process - consists of different phases. Usually, the first meeting with the client marks the starting point for the process. Even though several meetings and discussions will follow, the first meeting provides mutual understanding about the client’s wishes and needs. Furthermore, the meeting allows a first adumbration of the project. Observing the potential space (if it already exists) and framing the project in terms of what should be done at the beginning of the design process. (ibid.)

After customer and designer agree on the formalities, the designer can develop a plan and estimate the costs for the execution of the project. If the plan gets approved, the designer begins to specify all the required materials and elements as well as furnishings. If applicable, the designer will contact other suppliers or service providers to join the project. (ibid. 66.) While working on projects for public interiors, designers have to keep ethical and moral principles as well as values in mind. Values, for example, apply to stakeholders by un-

“"There are many things which limit the fantasy and innovation. To create a space where these limits exist, there the challenge is to create it so that you cannot see them." (K., Aino-Liisa).
derstanding the client’s needs, expectations, priorities and emotions. Ignoring these aspects might cause customer dissatisfaction. In total, Edwards discusses eight different values which matter for interior projects. Those values provide the basis for morally justified decisions that, “vary depending on the particular approaches of the individual and the society within which they are working” (ibid. 67).

In this context, the material selection seems to be a detailed but essential aspect of the design process since values affect the decision-making process considerably. In contrast, materials influence human perception of a place since they involve certain meanings. Wood, for example, can represent natural values, whereas smooth surfaces can express clarity but simultaneously run the risk of giving the space a sterile atmosphere. The interior designer has to consider this while creating spaces for humans. Therefore, material selection is not only based on human factors, but also on intentions such as “aesthetics, function and design, budgetary issues and environmental considerations” (ibid. 208).

In the context of designing the space, the question of material selection becomes essential for interior designers. Among many different material options, textiles are of particular concern to interior designers. As already mentioned above, a basic knowledge of textiles might help one decide which textiles are most suitable for a place. Pile (1995) suggests a list of considerations to ease the decision-making process regarding textiles. This checklist consists of the following aspects (335):

- Suitability of weight, weave, and texture to intended use,
- Colour (or colours),
- Durability, including the basic life of the fibre; resistance to wear, dirt, and spotting; ease of Cleaning; and, where applicable, ease of repair,
- Possibility of shrinking or stretching,
- Ease of working (sewing) into form for intended use,
- Colour-fading characteristics,
- Fire-resistance,
- Price.

These criteria might help the interior designer to be more aware of the textile selection. The importance of each issue will vary depending on the purpose and design brief. In some places, fire-resistance is more important than colour fading and in other places the durability is more significant than the price. However, this does not mean that price perfectly reflects information
5.5. The Role of Interior Designers

Interior designers play an essential role in the designing process of public spaces. Their challenge is to enhance humans’ experience in space by choosing and arranging materials, furnishings and other items in a professional manner. According to IIDA, the interior designer’s role is to:

- Improve the quality of life,
- Increase productivity and,
- Protect health, safety and welfare aspects of the public.

In order to fulfil these aspects, interior designers need to research, analyse and understand the circumstances, customer and goal of the project. Only in the second phase does the designer contribute his/her expertise in taste and design. (Edwards 2011: 4.) This is very similar to the role of textile designers described above.

“A good interior designer [...] needs to know how to create the ‘wow’-effect.” (P, Päivi).

Besides the practical business-oriented matters, interior designers also have to consider intangible aspects. Devoid of those, a project is likely to fail. Understanding interior design principles is important, but the same applies to the creative atmosphere. Interior designers are professionally trained to understand and follow these principles almost instinctively. (Edwards 2011: 4.) Due to their ability to create these kinds of interiors, in-

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3 IIDA = International Interior Design Association
terior designers are essential for public projects. The importance of interior design has increased relative to other design professions despite the youth of the profession. They define the junction between material supplier and customers, between design and functionality. In the end and in collaboration with the customer, interior designers decide which materials are integrated into the specific space. Furthermore, they decide whether textiles are needed or not and to what extent. This is strongly linked to budget of the project. Based on their expertise, they have the best overview and skill to evaluate materials according to their purpose.

However, due to a vast availability and variety of textiles as well as the quickly developing technical improvements, material selection has become challenging for interior designers. Rather than searching for new materials and suppliers, some prefer to collaborate with companies that they evaluate as satisfying concerning their service. The companies who provide the best service and a suitable range of colours are usually the most important ones for interior designers. (H., Jarkko.) To facilitate the collaborative work between textile suppliers and interior designers, an interdisciplinary dialogue is required.

6. Textiles in Public Premises

Every interior designer would emphasise that textiles bring a certain atmosphere into space. Beside aesthetic reasons, they can also fulfil functional requirements such as noise absorption. Further-

“In my opinion, textiles bring soft features into this kind of clinical and standardised environment.” (P, Päivi).

more, textiles are associated with softness and warmth. Due to their texture and design, textiles
not only enhance the atmosphere, but also bring colours into space. For interior designers, these features assure variety and freedom. (Larsen & Weeks 1975: 8.) Although interior designers usually like to work with textiles, the integration of fabrics into public spaces can be challenging. Since regulations dominate the field and technical features are important components in contract textile selection, the task becomes even more difficult in non-residential business. In most cases, creative imagination converges with reality. Compared to material solutions with a smooth surface, such as leather or artificial leather, woven textiles without laminations require regular maintenance and stains, such as chewing gum, might be more difficult to remove. (P, Päivi.) However, nowadays designers and textile engineers improved the properties of fabrics toward better durability and functionality. On the one hand, this is required due to increasingly demanding regulations; on the other hand, textile designers have to consider more aspects than only aesthetics. Other aspects, such as adding value, bringing meaning and fulfilling customer needs come along with the creation of contract textiles. Textile designers must know about the final implementation and purpose of their products. This is solely possible by communicating with customers and interior designers.

7. Collaboration as a Design Tool

Collaboration can be seen as one design tool used during the design process since it defines the process of jointly working together with others. This

“Through collaboration we can transcend the constraints of biology, of time, of habit, and achieve a fuller self, beyond the limitations and the talents of the isolated individual.” (John-Steiner 2006: 188).
implies an intellectual endeavour and knowledge exchange through joint-
learning. (John-Steiner 2006: 3f.)
In design, collaboration is indispensable for the working process; in con-
temporary working methods, working purely independently is unsatisfying
and unlikely to meet the challenges of a complex world. However, it must be
emphasised that collaboration among design disciplines is still an exception
rather than the rule. (ibid.) With regard to Linda and Mark Keane (2002) –
interior design educators omitted to impart knowledge about collaborating
with, understanding and exposure to other disciplines. Furthermore, they
state that beside socialization and cross disciplinary connections, all design
practices have professional collaboration in common. (97.) Edward C. Fri-
drichs (2002) adds that in his opinion, only “in collaboration we become
partners in a large enterprise” (9). Although the design-process always in-
volves an aspect of self-expression, collaboration can enhance its creative
potential. Due to collaborating with other professionals, a design attains a
unique quality and may fulfil the users’ needs more effectively. (Friedrichs
2002: 9; Keane & Keane 2002: 64.)
In the context of interior and textile design, some initiations to enhance col-
laboration have been undertaken with the intention to achieve better and
more meaningful product results. In the following chapters, two of these
initiations will be presented.

7.1. Heimtextil

Heimtextil is an annual trade fair in Frankfurt, Germany. It is the biggest
international trade fair for home and contract textiles, and is held for four
days in January. Heimtextil provides a platform for textile manufacturers,
designers and retailers. (“Welcome to Heimtextil”) One important seg-
ment of the Heimtextil trade fair is called Contract Creations, which was
established in 2007. This segment satisfies the customer interest in contract
textiles. Interior designers and other professionals involved in the contract
business can communicate and exchange their knowledge with material
suppliers. (“Concept”)
In the course of the research for this thesis, the author explored the latest
developments in the field of contract textiles and used the unique chance
of talking to salesmen and professionals by visiting Heimtextil in January
2012. Messe Frankfurt published a contract guide as it does every year. This
guide allows visitors to find their way to exhibitors of specific interests. All
exhibitors who focus on the contract business are listed in the printed direc-
tory. Moreover, the internet portal www.contact-contract.com, operated by
Heimtextil, provides practical information and reports of topical interest. (Riemann 2009.) The concept of the fair aims to enhance discussions in the field of interior and textile design as well as raise the audience’s interest in the annual trade fair. During the past years, Heimtextil collaborated with many different institutions to inform visitors about product developments. Guest speeches during the exhibition and forum discussions define a major part of the concept. One example of 2010 is the collaboration with Material ConneXion® Cologne (further information on Material ConneXion® below). Jointly, they executed material workshops aimed primarily at professionals involved in the product development process. In 2012, Heimtextil cooperated with AIT, an architectural trade magazine. While focusing on themes of luxury and the hotel industry, the exhibition invited interested visitors to attend diverse expert speeches and podium discussions. Additionally, they arranged guided tours of Heimtextil for architects and interior architects. Those tours were especially tailored to their needs while providing a comprehensive overview. (“Let’s talk about.”)

In addition to collaboration with professional institutes, Heimtextil is also concerned with young professionals in the sector. While conducting a contest, Heimtextil calls for creative product solutions in the contract business. This includes the so-called Young Contract Creations Award: Upholstery motivates students and young professionals to create furniture related to contract environments. Students from the fields of architecture, interior or textile design have the unique opportunity to exhibit their final prototypes during the trade fair. In 2012, Messe Frankfurt called for proposals under the title Relax. The task was to design a functional furniture object for public environments, such as hotels, lodging and other public facilities. The aim of the design contest was to develop innovative solutions and fancy approaches towards contract creations. Furthermore, the concept involved familiarising young professionals with the contract business. All products should respect technical limitations and, thus, should imply a concrete implementation potential. In 2012, the award was powered by Polsterfashion and Trevira CS. (“Young Contract Creations Award Upholstery”.)

These examples describe the current activity towards collaboration and knowledge exchange at Heimtextil. In summary, Heimtextil provides an interesting platform for professionals of the interior and textile sector. The annual trade fair became almost a must for suppliers and interior designers to visit. The event program includes reliable podium discussions and encourages visitors to participate in topical discussions. As an overall conclusion, Heimtextil can be seen as one platform to meet suppliers and customers alike. A visit deepens the knowledge of current textile developments and includes the opportunity to have conversations with European market leaders.
7.2. AIT Trade Magazine

A second institution that is concerned with collaboration and teamwork in contract business is the German trade magazine AIT. AIT focuses on architecture, interior architecture and technical construction. The leading European magazine is published ten times a year by Alexander Koch GmbH. Part and parcels are commercial, industrial and public buildings. Even though the magazine focuses on architecture, its content emphasises interior solutions in German speaking countries. According to their website www.ait-online.de, the target group consists of architects, civil engineers, planning and consulting engineers for building services, energy management and climate control within structures, building authorities, construction companies, building and planning departments, developers, operators and investors of real estate.

In many different ways the magazine enhances the discussion of collaboration between interior designers and suppliers. It uses different channels to introduce new material and product solutions to interior designer and architects. Firstly, the magazine itself focuses to a large extent on novelties in different product segments. Authors introduce design innovation and the latest construction projects to subscribers by reporting on them in articles. The variety of themes is broad, even though the magazine focuses on the contract business only. Secondly, in cooperation with xia Intelligente Architektur (another trade magazine) and various commercial partners, AIT organises awards for innovative solutions. These awards focus on different categories. In 2011 the categories were, ‘Architektur Textil Objekt’, ‘Boden’, ‘Bauwesen’, ‘Präsentation’ and ‘Technik’ (translation: architecture textile object, floor, civil engineering, presentation and technique). Especially the award for contract textiles is worth mentioning in the context of this thesis. In the course of this award, the magazine announces the most innovative and remarkable material inventions for interior purposes regarding creativity and technical realisation. (“Portrait”; “Innovationspreise 2011”.) During the 2012 Heimtextil trade fair, the award was given for the 9th time. A jury of reputable architects decided on the most innovative products. (“Innovation Award Architecture Textile Object”.) Pictures 6 visualises the AIT booth at Heimtextil, where the winners were announced.

Thirdly, AIT organises several seminars to inform interior designers and architects about the latest developments in the field of contract design. In addition, AIT initiates workshops with the aim of familiarising interior designers and architects with new material solutions or inventions. One example is the architect workshop, which was executed jointly by AIT, IWTO
(International Wool Textile Organisation), and the New Zealand Wool Industry. The five-day workshop in 2010 was held in Christchurch, New Zealand, and focused on wool. Eleven top architects participated in the seminar and renewed their knowledge about wool. The event aimed to renew the architect's interest and understanding in using wool as well as raising awareness of renewable, alternative and sustainable products. (“Architects Workshop”.)

Such workshops likely enhance the collaboration between professionals and sensitise interior designers to select materials carefully. Conversely, the same applies for textile designers and textile manufacturer. During these workshops, they enhance their understanding of customer needs. Moreover, these events consolidate designers and suppliers in an innovative and eventful manner. These seminars can have beneficial long-term effects which can increase demand for textile products worldwide. However, since these events are held temporarily, interior and textile designers are not able to permanently use these sources.

8. Information Sources for Interior Designers

An alternative approach to the temporary events of Heimtextil and AIT are permanent information sources, which assure accessibility for professionals. Most of these concepts have already long existed while with varying levels of reliability as information sources. However, the main aim of these sources is knowledge exchange. Creating transparency, providing consulting service and clarifying terms can at least elucidate important information to less confident professionals. Ideal information sources should provide an opportunity for catching up with the latest know-how. Currently, several
tools intending to facilitate interior designers work already exist. The following section will present the most common tools that are used by professionals. These tools emphasise providing knowledge to professionals of both fields, interior and textile design.

8.1. Handbooks

Among all design tools, printed handbooks are the most conventional. A handbook describes a compendious reference book that is intended to provide ready information (“encyclopaedia”). The selection of handbooks for interior designers is broad with some providing very detailed information while others are more basic. In the field of contract design, the guide Fabrics for Interiors, written by Jack Lenor Larsen and Jeanne Weeks (1975), is one example of a handbook. This book was already published in 1975. The content focuses on fabric selection for interior designers and provides aids for material selection. The purpose is to describe essential fabric properties for interior applications, although contract textiles are of secondary importance. Other existing handbooks might be more updated but still do not discuss the latest developments in contract textiles [e.g. Coleman (2002): Interior Design Handbook of Professional Practice; Pile (1995): Interior Design.]. Furthermore, those handbooks addressing all interior designers handle the topic of contract textiles as a sub-category only. With regard to the purpose of those books, which is to provide an overall introduction to the issue of textiles in interior environments, the information is sufficient. Especially students and trainees in the field might find those handbooks useful. The content is broad rather than deep, and in many cases not detailed enough for professional practice.

8.2. Internet-Based Tools

Beside printed media, nowadays more information is online available. In the business of contract design, it is important to get reliable information within a short time period. Several professionals in the field as well as spatial design teachers from the School of Arts, Design and Architecture prefer digital tools to printed handbooks since they are easily accessible (H., Jarkko). In order to verify the market and describe the product, a brief summary on the benchmarking results of existing internet tools is described below.
8.2.1. Wikipedia

The online tool Wikipedia (www.wikipedia.org) is one common tool for professionals to roughly answer questions about unknown terms. Many professionals frequently use the online encyclopaedia Wikipedia to find answers about common terms in the field of contract business. Some experts see the website as a sufficient tool for providing satisfying answers. (H., Jarkko.) This website is a, “multilingual, web-based, free-content encyclopaedia project based on an openly editable model” (“Wikipedia: About”). Wikipedia supports an open structure and assures anonymity to users. This affects the reliability of the website and makes Wikipedia subject to problems of accountability. (“Wikipedia: About”)

By testing the online encyclopaedia for reliable findings (State: 9 Mar 2012), some terms that are important in the field of contract textiles could not be found. For example, the Martindale testing method is described only in Czech, Danish and German; and not in sufficient detail. Wikipedia also lacks definitions of common trade names such as ‘Trevira CS’ and ‘Dacron’. Only the material polyethylene terephthalate is described. A link to textile applications is missing.

Moreover, the terms ‘contract textile’ and ‘contract business’ are absent. Alternatively, Wikipedia briefly describes the terms ‘residential’ and ‘commercial’. In contrast, other entries are very detailed and provide useful information. Especially fibres and their application as well as dyeing and printing processes are satisfactorily described in the English version of the website. However, Wikipedia as an information source for professionals seems to be insufficient. Especially its unreliability and ever changing content is a huge issue.

8.2.2. Material ConneXion®

Another internet based online tool is provided by Material ConneXion®. Material ConneXion® (www.materialconnexion.com) is a consulting agency that also provides a digital library. Within this library, users can search materials according to their needs. This service is not free of charge and only accessible after payment.

On the basis of a search machine, the database enables users to specify their search. With offices worldwide, Material ConneXion® provides an international network of material specialists. Customers who seek sustainable alternatives or other special materials can subscribe for access to the online data base. According to their website, the material library consists of over
6,500 different materials divided into eight categories. Furthermore, it offers a large selection of sustainable materials and the only Cradle to Cradle material library in the world. (“Materials Library”)

The wide material selection provides a unique opportunity for textile and interior designers to keep up with the latest developments in material solutions. The internet based concept guarantees flexibility and assures actuality and quality. All material samples have to pass a strict selection process before entering the library. Using an internet-based communication channel benefits the databases actuality; the database can be updated within a short period of time.

However, the service platform addresses all disciplines of design developers. Architects, interior and textile designers as well as industrial designers are likely to discover the advantages of this tool. Beside the online material library, Material ConneXion® provides a wide range of consulting services concerning material selection and design development. According to their website, their offices in New York, Bangkok, Beijing, Cologne, Daegu, Istanbul, Milan and Seoul provide tangible material libraries where customers can gain material information on demand. However, the use of this service addresses professionals who are already familiar with specific terms. The website does not include a dictionary or any other description for improving the user’s understanding.

8.2.3. Other Internet Websites

Aside these two websites, other websites which focus on different aspects of the contract business coexist. One example is the online magazine Contract Textile (www.contract-textile.com), which belongs to the Turkish Ihlas Magazine Group. According to their website, Contract Textile is the, “only magazine in the world [that] deal[s] with flame retardant textiles” (“Contract Textile International”). Another website is provided by the Association of Contract Textiles (ACT). The website (http://act.monumental-i.com/) provides information about new product features, job opportunities and includes an area for members only. The association is located in the United States of America and offers guidance for issues related to contract fabrics. Concerning other aspects of contract textiles, e.g. sustainability, the internet offers a wide range of websites and information. Some of them seem to be useful, whereas others provide dubious information. This also applies to information on eco-labels. The internet includes updated and innumerable information compared to printed and outdated handbooks. Institutions such as the European Commission and consumer groups try to illuminate
the existing confusion of labels and terms through their websites.

In summary, a great deal of information is available on the internet, but its reliability is not assured. However, professionals still seek out and use online tools that facilitate their work and assure reliability at the same time. Currently, few online tools exist that bring together all needed sources of information.
Many places with textile integration exist in our environment among which public places belong to a very specific category. As already discussed, textiles in this kind of environment have to fulfil functional and aesthetical aspects simultaneously. Helsinki Airport is an example of a public space that exhibited these demands. This international airport of Finland’s capital, Helsinki, is subject of the following case study by exemplifying the use of contract textiles and the decision-making process which leads to the current situation.

The airport is located in Vantaa, a nearby town of Helsinki. This airport was opened in 1952 for the Olympic Games, which took place in Helsinki in the same year (“Sixty years of Helsinki Airport”). Currently, it is the largest airport in Finland. Behind Copenhagen, Oslo and Stockholm, Helsinki Airport is the fourth largest airport in the Nordic countries with more than 16 463 848 passengers in 2010. Within Europe, Helsinki Airport is the 28th largest airport. (“Air Traffic Statistics 2011”).

Today, Helsinki Airport consists of two terminals with the non-Schengen Agreement section located at the back of Terminal 2. The two airport terminals consist of business lounges and public waiting halls as well as commercial facilities such as shops, cafes, bars and restaurants. The major focus of this study includes seating areas that are not related to consumption. This means only seating solutions in economy waiting halls and those in Finnair’s business lounges are included in the research. Therefore, seating areas within cafes, restaurants and bars received no consideration.

With the help of Helsinki Airport, the author examines the use of contract textiles in public spaces. This includes understanding, defining and analysing the decision-making process between the stakeholders. The case study of terminals at Helsinki Airport enables the author to reassess the theoretical information about contract textiles. Furthermore, the investigation aims to understand criteria for textile implementation. This includes the question of why textiles were integrated or not. Moreover, the case study involves the opportunity to confront experts with the challenge of textile selection. By investigating the use of contract textiles in airport terminals, the author’s
aim was to answer the research question as well as its contributing questions.

In general, airports include large areas whereas terminals mark only a small part of the whole space. However, terminals are places where passengers usually spend most of their time before taking a flight; in some cases this can mean many hours. Within the terminal one has to distinguish between two kinds of waiting areas: the economy waiting halls on the one hand and the business lounges on the other. Even though fewer textiles are used overall at airport terminals compared to restaurants or hotels, the curiosity of the case lays in the distinctive contrast of textile application within the two environments (economy waiting hall and business lounges). As the case study indicates, the contrast of fabric use within the two different places is remarkable.

Since regulations seem to dominate the designer's work, one might question the importance of such research. While such regulations may shape to some extent the selection of materials and placement decisions, considerations of how users will react to space design is still taken into account. Although passengers do not have a personal relationship with the space, they want to feel comfortable (P., Päivi). Textiles can create comfortable spaces and enhance the perception of a place. Therefore, the approach of the reason for investigation is not only to define places where textiles exist, but also to define places where textiles are absent; and especially why they are absent. While observing the space before conducting the interviews, the question of textile absence gained in importance and became almost equal to the question of textile existence. Even though designing within a strict frame is challenging and many designers avoid facing this task, this question is worth asking. However, it seems that in this strict environment the designer's individual taste clashes with the reality of functional and commercially driven design. The design task has been taken to an extreme in which the creative scope is limited.

The case study of Helsinki Airport aims to support the theoretical framework with data from reality and tries to demonstrate whether decisions are design or business driven. Additionally, the case study describes the decision-making process and aims to fully understand the reasons for textile selection in such places. How and to what extent interior designers' knowledge in textile technology affects the decision is one aspect of the investigation. Furthermore the case study will discuss whether textiles are simply too incompatible with safety aspects, functionality and durability issues. However, compared to other areas, only little research has been done in the field of contract textiles in airport terminals. Thus, the case study research
contributes valuable and reliable information to the interior and textile sector. By no means does it aim to represent the entire contract textile industry. Helsinki Airport is one example of textile application and represents a rather small airport. One might criticise the size of the case and the importance of the airport, but during the research, the size was very beneficial in many respects. Due to the small network and the local based professionals, all experts were easy to approach and to motivate for participation. The beneficial conditions of this small airport (compared to London-Heathrow or Paris-Charles de Gaulle) made it possible to collect useful information – easy, reliable and efficient – while still contributing valuable information of high value for the whole contract business.

9. Method of Data Collection

In this study, qualitative research methods created the foundation for gaining useful information. Based on the case study methodology, the approach was practically-based. This means that exploring, describing and explaining were the key tasks in data collection. Since most of the research methods derive from the social sciences, research methods in art and design have been usually adapted or re-contextualised. (Gray & Malins 2004: 117.) This also applies to research for this case study.

However, the case study research method was used as a focal point and guideline for the investigation of contract textiles at Helsinki Airport. The investigation in the field is documented in four different ways:

- Literature review
- Photographs
- Individual notes
- Expert interviews

A visual and observational investigation was essential to document the use of upholstery textiles. Notes and the subjective evaluation of the space contribute information from the user’s point of view. Expert interviews with professionals working in the field of contract textiles contribute reliable information to the existing theoretical framework. These expert interviews and the overall preparation of the case study required a literature review, which defines an essential part of the preparation and analysing process. These different techniques of data collecting found the basis for subsequent analysis and interpretation.

The case study is an empirical enquiry with an explorative approach. The
subject of the enquiry is a single case that exemplifies specific circumstances or situations. The aim of a case study is to describe and better understand the object while investigating in an inductive way. Instead of generalising the results, the aim is to use the case to exemplify certain circumstances. Subject of investigation is a contemporary phenomenon. Within its real-life context, the subject will be explored in depth. (Brandes et al. 2009: 171; Yin 2009: 18.)

Even though the case study is the most suitable approach to investigate the phenomenon, the method includes some disadvantages which must be considered beforehand. Due to the uniqueness of Helsinki Airport, its size, location and properties, a generalisation beyond this specific case is not valid since only one example was researched during the thesis process. Results and conclusions only apply to this case and cannot be transferred to other cases. Another disadvantage of the case study method is that the researcher has to retain a critical and objective view of the case during the whole process, which is very challenging. The researcher should neither be influenced by respondents nor by their perspectives. (Gray & Malins 2004: 117.)

However, the case study research method contains valuable advantages, which were required for this research approach. The method allows the researcher to study the case in depth and breadth instead of compromising on quantitative information collection only. Due to its individuality, the case is a credible and accurate example with high validation. (ibid.)

9.1. Literature Review

A review of the relevant literature was necessary to prepare the case study analysis in order to understand technical terms, the complexity and the necessity of the case. Additionally, a literature review was required for gaining important information on the case, the environment and the experts before conducting the interviews. Since few studies have been conducted in the field of contract textiles and even less on those in airport terminals, the literature review to this topic chiefly focuses on defining terms and describing other related topics. Internet research was essential to assemble the latest information about experts’ background and prepare interview questions. However, the literature covers useful information regarding the following sub-topics:

- Public places, airport terminals and environments,
- Interior design and design processes,
- Functional textile design and contract textiles,
- Qualitative research methods and expert interviews,
- Other fields, e.g. sustainability, decision-making processes, companies.

These topics helped inform the theoretical framework for this study as well as the preparation for the field work. Most of the literature review was already presented in chapter B in order to assure a common basis for the further description of the case study.

9.2. Observational and Visual Research

As a role of participant observer, the observational and visual research of the airport was important to gain a first impression of the location, setting and environment of the airport. The collection of field notes and photographs were useful to further develop the study. In combination with the literature review, the notes and photographs helped to design the research. The use of textiles and textile-like materials defined the main component of investigation. The visual documentary below describes the status quo at the airport during October and November 2011. The photos clearly show the different appearances of business and economy waiting halls. Furthermore the different forms of textile application in quality and quantity are visible. Developing an individual opinion helped the researcher to challenge the experts with critical questions.

9.3. Expert Interviews

Expert interviews are defined as a qualitative research method. In this context, the interviews describe an essential part of the case study research and are the most important source of information. With the help of expert interviews, the researcher is able to gain precise and useful information on the case. Expert interviews are semi-structured interviews with an explorative intention. The interviewer is less interested in the person as such. Instead, only the interviewee’s capacity of being an expert in his/her field matters. Therefore, each interview requires detailed preparation regarding the expert’s career background, his or her expertise and probable contribution to the research. If the preparation has not been conducted with sufficient attention to detail, the interview involves the risk of failing. This situation occurs as soon as the expert tries to brief and teach the interviewer about the field instead of contributing detailed and essential information about his/her expertise. (Rosenthal 2008: 134; Flick 2006:155, 165.) A beneficial char-
acteristic of semi-structured expert interviews - compared to structured interviews - is the quality instead of the quantity of information that the researcher is able to assemble. The open questionnaire enables the interviewer to better respond and react to the interviewee’s answers while changing questions according to the conversation. Additionally, constructional questions can be asked if needed. This is not possible in structured interviews with pre-formulated answers. (Flick 2006: 149, 155.) In the context of this thesis, the expert interviews provided the only possibility to gain insightful information concerning working processes within the field of contract design. Therefore, experts were chosen according to their knowledge, experience and contribution to the subject. In addition, the interviewee was required to be a reliable representative of his/her own field with an assured expertise. Ten experts were invited via email to participate in expert interviews. Among them, eight experts replied and agreed to contribute their knowledge for the study. The invitation letter consisted of information regarding the purpose of investigation and the thesis synopsis (cf. Appendix A). The eight experts represent different stakeholders who were involved in the creation process of the Finnair\(^3\) airport lounges at Helsinki Airport or at least work for the contract business. Two textile designers, two interior designers, one lounge supervisor, one contact manager, one colour and material specialist and one textile engineer participated in the interviews, which were conducted during the autumn and winter of 2011/12. In total, seven interviews were conducted. In one interview, two experts participated at once. Another interview was conducted via email due to the expert’s request; the other six interviews were conducted as face-to-face interviews. The length of each interview varied from forty minutes to one hour and was held in English. To ensure data backup, all oral interviews were recorded with a dictating machine and transcribed afterwards (cf. Appendix B). One benefit of the qualitative research method is that every interview is unique. Depending on the expert’s working field, the questions aimed to focus on different aspects of the case. This provides the opportunity to adapt questions according to the expert’s knowledge. However, some similar or even identical questions were asked to more than one expert. The aim for these questions was to make some specific answers comparable. One has to consider that every interviewee represents another professional guild and has a different opinion about the case. This diversity of experts enables a view from different points and covers a large field of expertise. Hence, the

\(^3\) Finnair is a Finnish airline.
experts contributed useful information during the interviews that enables the researcher to answer the posed research questions. The short introduction and description below provides an overview of all expert participants.

HANNA R.:
A textile designer from Aalto University who graduated in 2011 from the design department at Aalto University. She worked several months as an intern in a weaving mill which specialises in contract textiles. In context of her master thesis, she has done a research on sustainability issues concerning the textile industry.

NOORA K.:
A colour and material specialist who cooperates with the interior design team of the company she works for. She studied Industrial Design at Aalto University (former TAIK) and works now for a Finnish company that produces design and interior solutions for public spaces. She was not directly involved in the creation of the Finnair lounge, but contributed her valuable knowledge about general working processes in the contract business.

AINO-LIISA K.:
A contact manager who works as a team leader for the company’s own interior design work program. She studied Art Education at Aalto University (former TAIK) and works in the same company as Noora K.. Like her colleague, she was not involved in the design process of the Finnair lounges, but contributed her general knowledge about collaboration with interior designers and architects.

PÄIVI P.:
A lounge supervisor for Finnair who operates as assistant manager for lounge and ground customer service. During the creation of the Finnair lounges at Helsinki Airport, she was in contact with the interior designers. Due to Finnair’s annual customer survey, she has an excellent understanding of passengers' needs in lounges.
HANNELE H.:  
A senior textile designer who is an expert in contract textiles, collaboration with interior designers and distribution of textiles. She worked for several years as designer and design director in Finnish textile companies and established her own design consultation company until becoming a professor with leading administrative tasks at Aalto University. She represents the textile designers’ and suppliers’ point of view on interior developments.

ULPU-MARJO I.:  
An interior designer for a Finland based furniture and interior company. She works in Helsinki and was in charge of the creation of the Finnair Lounge, which was created in 2009. She contributed detailed information about materials that she decided to use for the Finnair lounge in the non-Schengen Agreement area.

HEIKE S.:  
A textile engineer who works for a public textile testing institute in Monchengladbach, Germany. She was not involved in the creation of the lounges at Helsinki Airport, but contributed her broad knowledge of textile testing methods to the thesis content. Her valuable contributions are signified by her estimations about testing results and requirements.

JARKKO H.:  
A professional interior designer who has worked in this field since 1997. He is a head-designer and co-founder of a Helsinki based interior design company and was involved in the interior creation of the business lounges at Helsinki Airport. In collaboration with his employees and Finnair, he was chiefly creating the Finnair lounge in 2001 but also contributed his knowledge during the creation process of the Finnair lounge project in 2008.

Figure 4 visualises the relationship between the interviewed experts and the field they are working in. All experts who were interviewed during the research journey work for the contract business. Even though not all of them were directly involved in the creation of the case, all of them contributed
surprisingly interesting new information to the field. Furthermore, one must mention that the airport authority Finavia was approached; but they did not state their viewpoints on the actual case at Helsinki Airport. Their contribution would have been beneficial to better understand the situation in the economy waiting halls. Nonetheless, this lack of expert knowledge was made up for with the literature review and other experts. Those who participated in the interviews tried to explain and comment on the airport authority’s part in the decision-making process.

Figure 4 | Different stakeholders involved in the project and their relation to each other
10. Main Findings of the Study

This chapter presents the main findings of the case study at Helsinki Airport. The section is divided into five parts. The first two sections focus on describing the use of contract textiles in economy waiting halls and in contrast to that the use of textiles in business lounges. Before summarising the results, the decision-making process within the case and concerning the stakeholders is described in more detail.

10.1. Economy Waiting Halls and the Use of Textiles

At Helsinki Airport, the economy waiting halls are accessible for all passengers regardless of their booking class. The airport authority, Finavia⁴, provides seating furniture for passengers, which are located in the economy waiting halls. Those seating areas can be found in front of the gates, in the arriving hall of each terminal, the check-in halls as well as partly along the corridors.

At first sight, one might ask why an investigation of contract textiles is needed in this space. As little textile application is visible in economy waiting halls at Helsinki Airport, an investigation on the reason as to why they are not present is essential. Textiles are rare and exist solely in two varieties within the publicly accessible sections of Helsinki Airport. These two applications are doormats in the entrance halls on the one hand and artificial leather as cover for furnishing on the other. Hence, the motivation of investigation was to illuminate why other woven textiles are avoided in the public halls. The interviews, as well as literature review revealed that airport authorities in particular avoid using other textiles than artificial leather in this area due to several reasons as described by Noora and Aino-Liisa, two employees of a contract furniture company. Those two experts enumerate the following reasons for the non-existence of other textiles in airport terminals.

Firstly, “fire standards as well as other standards are extremely high in the airport section” (K., Aino-Liisa). Thus, textiles must fulfil certain requirements. This is not only difficult, but also implies technical effort for textile manufacturers. Secondly, the airport section is open for 24-hours and every day. This fact complicates the decision regarding which contract textiles to use since it hampers the potential need of replacing broken upholstery material whenever required. Thirdly, users and passengers tend to wear outdoor garments and carry their belongings (e.g. carry bags and trolleys) with them. Heavy use will certainly affect the woven textile’s lifespan and normal

⁴ Finavia is the airport authority that operates Helsinki Airport.
textiles react sensitively to such usage. As classical soft furnishing would not last long in this environment, only hard-wearing upholstery solutions are accepted by the airport authority. (K., Noora; K., Aino-Liisa.) Therefore, some furniture com-

panies specialise in manufacturing airport seating in order to fulfil these challenging requirements. Most of the furniture for airport terminals is delivered by huge furniture companies such as Vitra or OMK Design. Both companies specialise in high tech mass production of airport seating

“Engineered to meet the toughest demands of public area seating.” (“TRAX Public Seating System”).

Picture 7 | Black acryl as upholstery material for seating solutions in the economy waiting halls of Terminal 2

Picture 8 | The TRAX seating system by OMK Design
solutions. At Helsinki Airport, OMK Design, a British company, supplied seating furniture for the economy waiting halls more than once. In 1992, 1200 chairs; in 1996, 850 chairs; in 1997, 700 chairs; in 1999, 1700 chairs and in 2004, 1000 chairs (“Installations worldwide”). This means 5450 chairs in total. All of them are covered by vinyl as upholstery material.

Rodney Kinsman, the founder of OMK Design, states that the design philosophy of the company is to produce, “ground-breaking products for the international market place” (Kinsman 2007). Their products aim to exhibit a timeless quality and the, “potential to adapt to the changing needs over a 20 year + time span” (ibid.). As OMK Design is the market leader in public seating and supplies over 150 airports worldwide with the TRAX seating system, they can create a wide variety of furniture designs.

However, the contract business for airport seating is tough. In his article, Hot Seat: Airport Furniture Designers Battle for Glory, Daniel Michaels (2010) describes the airport furniture business as not only a, “cat fight over who’s got the hottest colours and hippest look”, but also as, “a dog fight for big-money contracts”. To a certain extent this

TRAX is the name of a seating solution by OMK Design for public areas.
statement seems to be true since contracts in this field can easily top one million dollars for small airport terminals, while huge terminals even require thousands of seats. Furthermore, Michaels argues that due to constant wear the furniture requires a lucrative and steady supply of replacements parts. Similar to the opinion of the experts above, Michaels claims that comfort is of minor interest compared to functionality.

Regarding all these aspects, comfort and luxury is missing in economy waiting halls. Functionally-oriented designs rather than the value of the user experience dominate material and design choices. Even though experts point to the tough requirements as major reasons, others are not irrelevant either. Kinsman claims that Chinese copyists are the reason for this development. In his opinion, the tight competition market and large ever increasing numbers of passengers require that seats must, “shrink to their bare essential” (qtd. in Michaels 2010). In his opinion this leads to less comfortable and less luxurious seating solutions. Additionally, Pascal Berberat, head of the airport division at the Swiss furniture company Vitra, states that airports do not want ‘couches’ for selfish reasons; “They want people up and shopping” (qtd. in Michael 2010). This could be the reason for similar looking interiors in many airport terminals. However, whether functional or commercial driven design solutions dominate the public waiting halls is not for certain.

What is known, however, is that demanding requirements as well as heavy material abrasion influence the overall look of design solutions. Furthermore, comfort and user-centred design seem to be of minor interest.

10.2. Business Lounges and the Use of Textiles

Compared to economy waiting halls, business lounges are less exposed to demanding requirements since fewer passengers use the space. The interior follows a more individual approach towards design and identity since the chosen design can support the corporate identity of the airline or visualise the airline’s values. In this environment, textiles can be integrated to a certain extent as long as they suit the concept. However, textiles are more widely used than in economy waiting halls.

At Helsinki Airport, Finnair operates two lounges, which were observed during case study research. Both are located in Terminal 2 with one accessible to customers in the Schengen Agreement portion of the airport and the other for passengers in the non-Schengen Agreement portion. The airport authority Finavia rents the space to Finnair. Hence, the airline itself is responsible for the creation of the lounge and the interior design. During the research and the interview with the service manager of Finnair, the
researcher got the opportunity to enter the two Finnair lounges at Helsinki Airport.

The business lounge that is located in the non-Schengen Agreement area between gate 36 and 37 opened in December 2009. This lounge provides 250 seats on 1000 m². The lounge is open to business class passengers as well as top-tier Oneworld passengers free of charge. The lounge operates from Monday through Sunday from six o’clock in the morning until midnight. In 2011, the lounge was announced to be the best in the world. The lounge has been furnished by Isku Interior Oy, a Finnish furniture company (Southan 2009; “Finnair Lounge: the best in the world”).

“We wanted to create places where people feel comfortable and enjoy staying. But whenever possible we wanted also to reflect the brand.” (P, Päivi).

The other business lounge of Finnair is located in the Schengen Agreement portion of the airport. It was designed in 2001 and redesigned in 2008 by Koko3, an interior design studio based in Helsinki. Furthermore, the Finnish interior design studio Vertti Kivi dSign was involved in the creation of the Fly Inn Deli lounge and the Finnair Gold and Platinum Lounge in 2010. Both lounge concepts support Finnair’s corporate identity and values. Furthermore, they are components of Finnair’s service concept as well as business strategy and rely on annual customer surveys. Even though Finnair aims to create places, “where people feel comfortable and enjoy staying” (P, Päivi), implementing the brand’s values is also very essential. The interior designer who was involved in the creation of one lounge found this issue the most challenging one while working on
the project since, “the colour [was] quite limited; it [was] white and blue” (H., Jarkko). The interior designer had to strictly follow those colour codes. In his perception, colour requirements limit the work and give less freedom compared to other interior projects. (ibid.)

Finnair uses the benefits of Finnish design to represent their values: “Finnish design and architecture stands for quality” (P., Päivi) and a long life-span, says the lounge supervisor of Finnair. Products within the lounges are high quality Finnish design products. According to the supervisor, they bring “Finnishness” (ibid.) into the space. The customer should feel and see that the lounges consist of quality furniture and timeless design classics. For her, high quality and durability are interdependent. The same value is important from an interior designer’s perspective. Jarkko H., who was involved in the designing process of the lounge, wants the materials to be durable. For him, the durability of materials is strongly connected to the sustainability aspect of contract design. In his opinion, sustainability is therefore an essential question of right material choice and quality products.

All products were chosen in order to reflect
the values of quality and safety. The passengers should see and feel that Finnair uses quality furniture and quality materials in their lounges. Therefore, Finnair decided to integrate durable materials and timeless Finnish design classics rather than follow a throw-away mentality (see pictures 11 and 12). Furthermore, this approach of long-lasting and durable material choice also follows the airline's environmental program. Finnair aims to realise their ideas of sustainability by choosing environmental-friendly products. In the non-Schengen Agreement lounge in Terminal 2 (see picture 16), Finnair uses low energy lamps and recycles wherever possible. “The furniture we cannot, but different fabrics we can recycle,” says Päivi P., the lounge supervisor. With Isku Interior Oy, Finnair agreed on a leasing contract regarding the furniture in the non-Schengen Agreement lounge. Interior designer Ulpu-Marjo, who was involved in the creation...
of the lounge, affirms that there are only advantages if a customer wants a leasing contract. During the interview she explained that costs remain constant while after the leasing period of three years furniture can be replaced. For the interior of the non-Schengen Agreement lounge, the interior designer from Isku decided to choose textiles and materials which resist heavy use. For her, the most challenging part of the design process was to find durable upholstery contract fabrics since they should not only fulfil the requirements but also suit to Iskus' interior furniture. The upholstery fabrics that can be seen in the non-Schengen Agreement lounge are all extremely durable. They belong to a product family which is called 24/7 by 24/7+ contract upholstery fabric by Camira.
Camira Fabrics, a British textile company. The name of the product family already implies the purpose of use – which is nearly 24 hours per day, 7 days per week (see picture 13 and 14).

However, the concepts of all Finnair lounges strictly follow Finnair’s corporate identity. The colour range is limited and chiefly consists of blue and white. The first visual impression of the lounges is the expression of safety and elegance. Furthermore, a functionally driven design approach is visible in all material choices. Concerning textiles, no extravagant or brave design decisions were taken. The overall look is neat, clean and functional. Soft parameters and aspects, such as comfort and cosiness, do not appear at first sight but are integrated into the concept. Everything is planned down to the last detail based upon user studies and marketing.

10.3. Stakeholders Involved and their Relationship

Since the Finnair lounges at Helsinki Airport were designed during different years, many people were involved in the different creation and constructing phases. All these stakeholders cannot be listed here. However, figure 5 visualises the relationship between stakeholders involved in the creation of the lounges and other representatives of the contract design field. In this case, the stakeholder relationship is an example of the creation of public places, which is strongly related and influenced by the current situation at Helsinki Airport. Some stakeholders who were also involved in the creation and execution of the lounges and economy halls, such as architects and constructing companies, were disregarded since the main interest concerns textile and interior designers and the surrounding network. How contract textiles are chosen and how stakeholders act in accordance with the decision-making process is visualised in figure 5. The chart sets the different parties in relation to each other.

The airport authority, as operator of the whole airport terminal space, rents the lounge space to the airline. Furthermore, the airport authority, in this case Finavia, is responsible for the economy waiting halls. Finavia provides services and space to passengers and other users. The airline, Finnair, provides and creates the space for a specific group of customers. Only those users have priority to enter the lounge.

The airline, who is the customer, calls for interior designers or interior design studios to design the lounge space. In collaboration with the lounge supervisor, the interior designer creates a concept as well as decides on furniture and materials. Textiles and furniture companies supply and collaborate with interior designers since they supply contract fabrics. During the
process, the salesman of the textile company informs the interior designer about the latest developments in contract textiles. Furthermore, interior designers can order samples and ask for catalogues from the textile company. The textile designer, usually an employee of the textile company, develops the designs that will then be offered to interior designers.
10.4. Decision-Making Process Within the Case

Contract textiles endure different levels of decision-making until they are finally implemented in public spaces. The decision-making process is long and tiring, but necessary. So far, this is the only way to filter the most functional and durable fabrics for public places.
The journey begins in the design studio where designers assemble the latest trends and colours. Some use trade fairs as an information platform to brief themselves on the latest developments in the field of contract textiles; others collaborate with textile engineers. For contract fabrics, the designer chooses the material, develops bindings and selects the colours for the collection. Quality control is already an essential part of this designing process. As soon as the designer creates a fabric, the quality control department conducts abrasion tests on the sample. Afterwards the designer adapts or improves the binding of the fabric to achieve better testing results – if needed. Already at this stage, several yarn constructions and designs fail. They cannot fulfil the high requirements of contract design. Those which are suitable will be produced and become part of the collection. After weaving and finishing the fabric, a sample is officially tested for its performances. (R., Hanna.)
An official and objective testing institute, such as the public textile testing institute in Monchengladbach, conducts textile tests according to international, European or national standards. The most common tests for contract textiles are pilling, resistance towards soil, colourfastness, abrasion and flammability tests. An official paper certifies the textile's performances and assures the equality of testing. This enables the market to compare the textile performances with other contract textiles. (S., Heike.)
The salesman of the textile company is the contact person for interior designers, furniture companies and other potential customers. His/Her task is to present and promote the contract textile collection. He/She requires a technical understanding of the contract fabric, its properties and performance in public places. Furthermore, his/her task is to understand customer needs and present textiles accordingly. During meetings with interior designers, an information exchange between customer needs and the manufacturer’s latest products takes place. During these meetings, the salesman provides data about the textile technology by explaining the meanings of technical terms such as Martindale, bindings and other construction matters. (P., Päivi; H., Hannele; I. Ulpu-Marjo; H., Jarkko.)
These processes are valid regardless of the specific project. In the case of Helsinki Airport and the Finnair lounges, customer needs define the starting point. Firstly, the user of the space, the passenger, requires a place to
stay, relax and wait. Finnair wants to reward customers for their loyalty and provides the lounge space by fulfilling these passengers’ requirements at the same time. Secondly, Finnair also aims to visualise their values and retain customers by providing a comfortable and safe place. Moreover, Finnair aims to implement long-lasting and timeless high quality fabrics since more than 40 000 passengers use the space monthly. The design solution should be almost unchanged after two years of usage. (P., Päivi.)

These needs and wishes from the customer side define the starting point for interior designers. They design the overall concept of the lounge and choose materials as well as textiles according to this purpose. Within the design process of lounge development, the interior designer first decides on colours and later on materials. In this case, the interior designer has to choose materials which represent Finnair’s values and colours. Furthermore, as all materials have to fulfil the requirements of public places, a reduction of potential contract fabrics limits the final selection. The same scenario applies for furniture companies. (K., Noora; K., Aino-Liisa; I., Ulpu-Marjo; H., Jarkko.)

The description of the process above discloses the amount of levels which a contract textile has to pass before entering a public place. Therefore, a contract textile solution is always a compromise among many stakeholders. Understanding customer needs and the other stakeholders’ skills enhances the overall process and likely guarantees smooth communication.

11. Summary of the Results

The exploration of contract textiles in public places, the visual observation and the investigation of the decision-making process reveal information which cannot be found in literature. Solely through experience, the experts developed their skills and expertise in understanding as well as communicating. Conversations with experts revealed that the quality of professional training, the service and communication among stakeholders influence the decision-making process to a large extent. The process is enduring and the final interior solution is always a compromise between international requirements, design and functionality. In economy waiting halls, functionality aspects and business-driven design become increasingly important, whilst lounge design aims to involve design-driven solutions and user-experience. Due to the two oppositional applications of upholstery fabrics at Helsinki Airport, the intuition that the choice of textile carries symbolic meaning is confirmed. Despite its functional qualities, implementing textiles in design solutions becomes a question of luxury and comfort. Comfortable business
lounges aim to guarantee a smooth journey and exude a touch of relaxation while satisfying user expectations. Contrarily, economy waiting halls follow functional design approaches and consumption driven ideologies. Moreover, contract design in this environment involves marketing strategies and affects consumer behaviour. Consumption becomes an essential part of the interior creation, similar to retail design. The unique function of airport terminals as merely a traffic junction decreases; whilst consumption of goods becomes an essential meaning of the place.

However, the major result of the case study research is that it provides insights into the contract textile field. The interviews have revealed the complexity of the decision-making process within the project and within the field itself. Since the issue of contract business is intricate and difficult to grasp, the ability to communicate and collaborate becomes essential in this field. As the study illustrates, communication and collaboration between all stakeholders could be improved by creating transparency. Especially the fact that interior designers get almost no professional training in textile technology was a surprising aspect of the research. (H., Jarkko.) Designers and professors alike agitate for more transparency within the field, more collaboration, communication and exchange of knowledge (K., Noora K.; K., Aino-Liisa; I., H., Hannele; I., Ulpu-Marjo). The case study suggests that a common ‘language’ and a sufficient flow of information guarantee successful projects. As the benchmarking as well as the case study reveal, the current situation lacks in collaborative approaches and knowledge exchange, especially among textile and interior designers. The small number of examples, such as Heimtextil and AIT, are not satisfying due to their irregular meetings.

Furthermore, as a consequence of functionally-driven and business-driven design approaches, enhancing user experiences as well as creating comfort is secondary. As described above, this approach can contradict sustainable approaches, such as value-creation. Rather than creating a range of textiles from which customers may make a selection, a collaborative approach before manufacturing begins can improve customer satisfaction and decrease waste.
In order to improve the current situation, this section describes a solution proposal that is based on the results of the case study analysis. Since the contract business is famous for being tough and challenging (K., Noora; K., Aino-Liisa), communication and collaboration become essential. Especially the interviews with Noora K. and Aino-Liisa K., who both work for a Finnish interior and furniture company, illustrate the issue. The company already saw the need for a specially trained person to connect the different parties. In this case, Aino-Liisa, who is trained in interdisciplinary communication, ‘translates’ between company and customer. Furthermore, the company de-
developed an internal strategy to provide a platform for architects and interior designers. The annual tour of presenting reference cases addresses architects, potential customers and interior designers for participating. Generating customer loyalty is the main aim. However, professionals must consider new strategies for customer-oriented services. Enhancing collaboration, providing knowledge and improving communication are the inspirational key aspects for the proposal.

The proposal, described below, offers a solution to the existing lack of knowledge exchange among textile and interior designers. In order to find a collaborative approach, sharing expertise and knowledge becomes essential. Figure 6 visualises the existing communication gaps through dashed lines. This proposal focuses on the first step of improvement: the internal communication between textile and interior designers by providing a service. This service tool will provide essential information on contract textiles for interior designers. The second step would be to use this tool as a communication channel for a collaborative execution of work while focusing on external parameters, such as user and customer satisfaction.

12. Proposal for Website

The results of the field work and research reveal that little information exists in the field of contract textiles. The benchmarking exposes an availability of online tools for interior designers and textiles suppliers. Those tools do not cover the entire field of contract textiles. Written publications are mostly out-dated and lack information on the latest developments. As the conducted expert interviews show, interior designers and other professionals gain their knowledge through direct communication with salesmen or through information exchange on trade fairs. Since contract textiles are functional and technically high quality products, textile suppliers have to communicate and clarify unknown terms and developments to interior designers. Therefore, explaining and briefing customers defines a crucial part of the sales process. Furthermore, the information which interior designers gain through salesmen is not objective enough. Interior designers depend on salesman and must trust their own expertise. In summary, objective information is rare and reliable online information does not exist yet. Thus, the contract business requires a website which provides the latest information about contract textiles and defines terms. Moreover, the intention is to present the contract business from a textile supplier’s point of view. The target group will benefit from a service platform that assures reliable and thorough information based on confidential expertise, experience and research. The
following section will further describe and explain the concept of the website. The proposal underlines the most essential considerations and aspects for setting a website, which include concept description, price estimation and ideas on financing and distributing the website.

12.1. Objective of the Website

The project objective is to create a website that meets the needs of professionals and students alike. The website will provide information about contract textiles and summarises related terms in the sector in order to close the existing gap of reliable information platforms. Furthermore, the website will follow a one-to-many principle, which means that the users are not able to actively create and influence the website content. Instead, one authority operates the website and controls the information.

12.2. Concept of the Website

Beside the definition of terms, the website will contain updates and links concerning contract textiles. Explanations of data bases, trade fairs, and eco-labels are as important as reports about the field. Furthermore, the latest developments and important updates will define the content of the website. The website content addresses professionals and students in the field of interior and textile design. Especially inexperienced professionals and students will find useful definitions and practical explanations; but also salesman and other professionals will benefit from updated reports about trade fairs, collection summaries and material developments. As the service is offered in English, the website will be beneficial for interior and textile designers worldwide.

An elaborated interface will structure the content and support the handling as well as the usability. Terms, definitions and reports will be linked with each other since some terms overlap or belong to the same category. This enables users to ‘jump’ from one site to another. By tagging articles, the website will become more user-friendly. These tags help to categorise the content of a website. Moreover, tagged articles will enable users to find topics by using the search machines. Furthermore, a coherent interface will facilitate the content and increase the usability. According to Dimitry Fadeyev (2011), a good interface combines eight characteristics. Firstly, a clear language prevents ambiguity. The user should be able to use the website without further instructions or manuals. Secondly, all information should be concise. Too much text on the screen can make it difficult to find what users are looking
for. Thirdly, the website should contain logical solutions that are familiar to
the user. This means that the internal structure should be inspired by every-
day life. This assures that even users who interact with the interface for the
first time understand the structural system. Another important characteris-
tic is the responsiveness of the website. This includes the speed of a website
/loading pictures, videos etc.) and keeping the user updated about what is
happening on the website. Furthermore, the interface should be consistent.
This prevents confusion among users. Instead, it enables them to easily un-
derstand the configuration of each page. Another important issue which
has to be considered is the aesthetical look of the website. An aesthetical ap-
pearance can enhance the visit of a website and make it more enjoyable. The
same applies for the efficiency of the website. The more efficient the website
is, the more likely the user is interested to use the application. Finally, the
interface should also allow users to make mistakes. Undoing actions and re-
covering deleted posts or files should be assured. All these aspects enhance
the flow of information and the usability of an interface. (8.)
Ideally, the concept of the website will strictly implement these aspects in
order to assure a high usability of the website. However, this is no longer a
concern of textile designers since only professionals have the ability to fulfil
these requirements due to their educational training and experience. The
textile professional’s task will be limited to deciding what content should be
included as well as the description of each term. The visual and technical
development of the website must be conducted by graphic designers as well
as web designers.

12.2.1. Design and Content of the Website

A graphic designer will be charged to develop the visual language (layout
and typography) of the website. Creating a suitable interface would be the
task of the website authority, web designer and graphic designer. Those pro-
fessionals are required in order to make the website look reliable and co-
herent. This includes a concise name for website which represents the con-
cept and intention of the operators. The name should be related to contract
textiles and imply a high recognition value. Similar to CONTEX (Contract
Textiles) or CONTRAXCODEX (Contract – Exchange – Codex), the name
can also imply a wordplay. However, the name will be modified in collabora-
tion with other project members to attract sponsors in addition by present-
ing a coherent and reliable concept.
Another important aspect that has to be considered is optimising the web-
site for search machines such as Google. Through search machines, potential
users can easily find the website. The website authority has to agree on keywords which would be most suitable to simplify the searching process. Once the user accessed the website, the visual language of the first page should be perspicuous and inviting. The reliability and honesty of the website concept should be already visible when opening the first page. This invites users to further use the website as a tool and guide. The first page should include footers where sponsors and supporters could add their logos. In other respects, the website should not include advertisement in the form of banners. Those banners will disturb the visual language of the website.

Concerning the background structure of the website, the website authority should consider using a content management system (CMS) such as WordPress, which enables the website authority to change the content of the website by adding information and updates according to need. Combined with a flat navigation hierarchy and sub-categories, the structure assures excellent usability.

As explained above, the content will consist of different categories and terms, which are introduced in figure 7. This mind map visualises the structure of the interface while connecting related terms and sub-categories with each other. The mind-map, as part of the concept, will be the starting point for creating the website. Depending on success and acceptance of the website, the content can be modified according to users’ needs. One possibility for extension could be offering a consulting service for interior and textile designers. This service would provide professional guidance in terms of contract design. Simultaneously, charging for this kind of service could be a suitable way to make profit out of the page in order to assure high quality. Further potential concerns the implementation of a community platform which includes job offers and calls for research projects. A newsletter service could keep followers updated about the latest changes in the field and on the website and a confidential part of the website could be accessible only for paying customers. This would enable the website authority to provide insightful information on the latest developments while rewarding the effort.
Figure 7 | The mind-map visualises the concept of the website
12.2.2. Funding

Finding sponsors who financially support the website is a crucial part of the developing process. As the website is important for interior designers and textile suppliers the target group defines a large community of users. Therefore, interior studios, furniture companies, universities and design associations might be interested in supporting this project. Furthermore, textile suppliers could reach awareness by promoting their collection and emphasising their products. Even though the main intention of the website is not commercially-driven, this platform would represent the interests of contract textiles suppliers by supporting their industry sector. Moreover, Material Connexion® could be approached for cooperation. Cooperation could be beneficial for both parties by promoting each other. The same applies for trade fairs such as Heimtextil. Heimtextil could provide more useful information for potential exhibitors and improve their contract business concept. Even public institutions, such as associations or universities, could get involved in the project since students and members of associations could use the website as a reliable information source.

In order to approach these companies, the project manager has to set up the project plan and inform potential sponsors about the estimated costs and the benefits that the website provides for potential sponsors. Selling the concept in a serious way is essential in order to gain awareness for the need of such a platform. As professional web designers affirmed during conversations, the estimated costs for this kind of website project will start at around 5000 Euros. Even though the budget could be twice the estimated price or more, 5000 Euros will provide a sufficient starting point for setting up the website, charging graphic designers and website designers.

12.2.3. Distribution of the Website

A functional website should reach the target group. This is only possible by promoting the website to potential customers. Firstly and as mentioned above, the website should be findable through search engines. Secondly, the contract business must be addressed through communication channels, such as reports in trade magazines and newspapers. Thirdly, further promotion opportunities are available through participation in trade fairs and workshops. Introducing the advantages of this website as well as training professionals on how to use the website will increase the usability and level of awareness. Additionally, presentations in seminars as well as lectures both in universities and companies will help establish such a tool in the field of
contract design. In return, through personal contact with users, the website authority will gain customer feedback and comments on the website. This enables the operator to improve the content of the website according to customer needs and expectations.

12.3. Expectations and Conclusion

During the expert interview, interior and textile designers alike showed interest in the concept of providing an online encyclopaedia. The benchmarking reveals that little information about contract textile design is accessible online. Therefore, the potential is high and a market niche exists. Generating ideas is useless as long as the community does not benefit from the results. Hence, the next steps would include the development of a proper project plan. This involves firstly defining the project team and project manager who will be responsible for executing the project. Detailed planning will increase the chances of successful implementation. Thus, fundraising by approaching potential sponsors is the most essential step. If the budget is not assured, the whole project is likely to fail. However, approaching institutes and companies is only possible by presenting the project in a serious, detailed and reliable way. This includes a clear development plan through the definition of milestones. Milestone planning involves a consideration of potential problems and barriers.

The aim of this project would be to launch the first website which provides information on almost all important subjects related to contract textiles. Further, improving, adapting and changing the website according to feedback and developments in the field would be carried out by the website authority. After a successful launch, further applications and services could be embedded in the website concept. This might include a consulting service to offer tutoring about contract textiles. This would be an excellent way to take profit out of the website. Furthermore, the website authority has to consider whether they want to expand the product to other channels. Such channels could imply creating a smartphone application, trade magazines or a compact handbook.

However, these are future utopias as long as no one turns the ideas into reality. Even though the developing process will be demanding as well as frustrating, the final outcome will be an excellent and innovative contribution to the field of contract textiles and a trigger towards collaborative thinking by fostering transparency in terms, definitions and processes.
As an aid to the reader, this final part of the thesis will restate the research problems and review the methods used in the study. Summarising the results defines the major objective of this chapter followed by a discussion of the findings.

The introduction described a lack of collaboration and knowledge exchange among design professionals. For too long design educators and design education systems separated design disciplines (Keane & Keane 2002: 97). Therefore, designers are unfamiliar with interdisciplinary design approaches. Especially in the field of contract design where functional and aesthetical decisions are required in order to serve user and customer needs, a collaborative approach among experts becomes inescapable. International safety regulations and an increasing number of people using the space assign designers and other stakeholder with new tasks.

However, the non-availability of information on contract textiles as well as a lack of descriptions on the entire decision-making process oblige professionals to use oral sources and experiences to build up their expertise. The current situation is unsatisfying for textile and interior designers alike. Hence, the main research question considers how interior and textile designers can better collaborate to enhance the quality and diversity of contract textiles.

In order to create transparency by describing the contract textile business, the relationship between textile designers and interior designers, as well as the decision-making process leading to the creation of public places, Helsinki Airport was used as a descriptive example. This process was explored through observations and investigations in addition to expert interviews and a theoretical framework.

The study relied upon a literature review that focused on topics related to contract textiles, interior design as well as collaboration. This framework emphasised term definition and knowledge foundation by firstly introducing contract textiles and the role of textile designers; secondly, by describing the meaning of space as well as the role of interior designers; and finally, by defining collaboration by naming existing examples. Moreover, the thesis presented a case study describing the integration of contract textiles in
economy waiting halls and business lounges at Helsinki Airport. Research for the case study primarily involved qualitative methods attempting to discern the meaning and use of textiles in airport terminals. This required visual and participatory observation as well as expert interviews, which were conducted during autumn and winter 2011/12. Seven interviews with eight experts, representing different stakeholders in the field of contract design, were held; seven via face-to-face conversation, one via email.

However, the complexity of contract business became evident throughout the entire thesis. The different chapters introduce aspects and considerations of contract textiles in public buildings. In the beginning, the theoretical framework on contract textiles discloses the variety of parameters which influences the properties of textile material and describes the subject from a textile designer’s point of view. Furthermore, the same chapter defines terms which are related to space and other concerns of interior designer’s interest. Additionally, the framework presents the role of textile and interior designers as well as their influence on design and final product implementation by examining ethical aspects in terms of sustainability and value creation.

Following the challenging and complex nature of the contract business, the question of design tools became consequential. Therefore, the meaning of collaboration and knowledge exchange as well as existing examples were investigated. The presentation of existing collaborative approaches such as Heimtextil and AIT, as well as the description of online tools illustrate that the contract business lacks satisfying platforms. The results of the case study research at Helsinki Airport support these claims. The experts described the contract business in airport terminals and the material selection as challenging. They confirmed that contract textiles must fulfil technically high requirements. Due to these requirements, textile choice becomes demanding for interior designers who are not trained in textile technology (H., Hannele & H., Jarkko). Furthermore, Ulpu-Marjo I., the interior designer of Finnair’s business lounge, stated that the most demanding challenges in interior design creation for Finnair was to find resistant fabrics which, “fit as much as possible [to the] seats”. Another challenge was to work with a limited colour range since the colours for the Finnair lounges were limited chiefly to blue and white. The limited colour range was also a challenge for interior designer Jarkko H. In his opinion, they strictly, “had to work according to the brand”, which limited the interior designers’ freedom. For him, colour defines the starting point for choosing materials in every project. Fulfilling technical requirements comes second and considering user needs was not even mentioned.

The decision-making process for contract textile selection in airport ter-
minals reveals a linear communication system. This means that textile designers, on the one end of the decision-making process, and customers, on the other end, do not communicate with each other. Textiles designers receive feedback and comments on their products solely through salesmen (R., Hanna). The same applies for interior designers who cannot influence the textile collection directly. They have to select materials from a range of fabrics offered by textile manufacturers (K., Noora; K., Aino-Liisa; H., Hannele; I., Ulpu-Marjo; H., Jarkko).

Regarding the communication among design professionals and the knowledge exchange, textile designer and professor Hannele H. confirms that interior designers lack knowledge in contract textiles. She advocates a change in design education towards collaborative thinking and knowledge exchange. Furthermore, interior designers saw a need for training in contract textiles (I., Ulpu-Marjo; H., Jarkko), and endorse an online platform as communication tool. Thus, the results merged in a proposal for a solution that describes a concept for a service tool in form of an online encyclopaedia. The intention of this website was to address interior and textile professionals alike by clarifying terms and creating transparency in the contract textile business. However, as a conclusion of the case study, one can state that especially in airport terminals at Helsinki Airport, requirements for contract textiles are tough and influence designers’ decisions on materials in many ways; but, referring to Heike S., the spectrum of design varieties is not yet utilised. This involves an opportunity to develop the field of contract design towards more collaborative as well as user-oriented design approaches by creating diversity and quality.

Even though the thesis investigated a small aspect of the contract business (contract textiles at Helsinki Airport), I am pleased to contribute a statement to the ongoing discussion about contract textiles, their meaning, as well as the potential that the business offers for design professionals. I am encouraged to see that textiles still enhance human experiences in anonym places such as airport terminals. Textiles have the ability to enhance experiences by implementing meaning and pleasure. Although, the thesis reveals difficulties and challenges within the contract business, I am motivated to enter the field of contract textiles with the awareness that collaboration can improve design solutions towards sustainability and user satisfaction. Furthermore, I hope that designers, design educators and especially the textile industry further develop concepts towards collaboration and knowledge exchange. In my perception, this approach is essential in order to create valuable as well as functional products.


Caan, Shashi. Rethinking design and interiors: Human beings in the built environment.


K., Noora. Personal interview. 17 Nov. 2011.


Entry/265838#eid10216549


P., Päivi. Personal interview. 22 Nov 2011.


R., Hanna. Personal interview. 4 Nov 2011.


S., Heike. Personal interview. 22 Dec 2011.


Votolato, Gregory. Transport design: A travel history. Lon-


G. List of Illustrations and Figures

All illustrations and figures were made by the author, except the followings:

Figure 2:

Table 1:

Picture 3:

Picture 6:

Picture 13:

Picture 14:
Appendices

A: Example of Invitation Letter

Request for an expert interview about contract textiles in airport terminals

Dear [Name],

my name is Victoria Fislage and I study Textile Art & Design at Aalto University, School of Art and Design, Helsinki.

Under the supervision of Maarit Salolainen, lecturer at School of Art and Design, I am currently writing my master thesis.

The working title of my thesis is "Contract Textiles in use – a case study on contract textiles in airport terminals". My main research question is, how designers and other parties concerned can better collaborate to enhance the variety of textiles in airport terminals.

In the empirical part of the thesis, I would like to approach my research question by conducting guided expert interviews. Concentrating on two contributing questions, which are:

>> How is the decision making process on contract textiles in airport terminals?
>> What are the challenges, possibilities and limits of contract textiles in the airport environment?

These interviews would help me to investigate how contract textiles are chosen and how collaboration between designers and other parties concerned works.

Due to your broad expertise in Finnair’s customer service, I would highly appreciate if you find some time to meet for an interview to talk about the Finnair lounge at Helsinki-Vantaa airport. Your valuable contribution would mean that I can provide a view from the inside.

The interview itself might take approximately 30 minutes and will be hold in English.

I would like to get in touch with you via phone, to discuss the further planning. Therefore, I would highly appreciate if you send me your contact details.

I look forward to hearing from you soon.

Thank you very much and kind regards,

Victoria Fislage
MA student in Textile Art & Design
Aalto University, School of Art and Design

Helsinki, 8th November 2011
B: Interview Transcriptions

Seven out of eight interviews were held in English. For all participants, English is a foreign language. Since the transcriptions of the expert interviews focus only on the content and a written reproduction of the interview, grammar, sentence structure and expression were disregarded.

Hanna R.

MA Textile Designer from Aalto University
Date: 04.11.2011, 10.00 h, personal interview
Place: Café Lasipalatsi, Helsinki

Current position/ function: graduated student from School of Art and Design, Helsinki, Finland

Academic career bracket (short): 2004 – BA in TAIK, after that MA in TAIK; went to a Polytechnique before but spent only one year there since she did not like it

Working career (short): Austrian company: 5 months internship; Marimekko and Vallila few months internships; freelancer work for a design office (from graphic design to production)

I: Interviewer (Victoria Fislage)
HR: Hanna R.

I: In the preparation of your master thesis you completed an internship in Austrian weaving mill. This company specialised in development of interior textiles. What was your motivation to do the internship there?

HR: I think the most important thing was the jacquard weaving. I came to known about jacquard weaving at TAIK. We had this course which was included in the pattern lab. We just learned the basics about jacquard weaving. And I thought this is so great and something I haven't done before. I got so excited about it that I already - when I tried it for the first time - decided this has to be the thing what I do for my Master Thesis. I want to do something with the sustainability because I had a big interest in it and I did this course, one module, called ”Sustainable Design in Business” and I kind of did that because I really into the topic but I think the first choice which was for to go to the internship was jacquard weaving. And I couldn't do it here. There is no company in Finland really who does it and I kind of wanted to learn it. Like really full scale what it means. Doing it and then it was my teacher who said: okay we could find you a place; somewhere in Europe. And I had two options from which I could choose, one was in Italy and the other one was in Austria.

I: And both companies were in contact with your teacher?
HR: I am not sure, if she wrote to both of them – maybe she ask if they can take some interns. But then I was kind of the first to say "hallo" and who I am “ could you maybe take me” and then also I sent my portfolio there so they kind of chose me then and I had to choose.
It was really hard then – I had no ideas what it was to be in one or another. I knew one was really close to Milano and I was like "Oh that sounds wonderful, I have never been to Italy” and then other one was in the middle of nowhere in Austria in a tiny village. But then it was really harsh to decide I just didn't know much at all of each of them and then I just chose a company among those two. The thing it was that my teacher said maybe that would be the thing for you and I didn't regret. It was a good experience. I enjoyed the time even though it was a tiny place.

I: And then also together with the company, did you find your topic with them or how did you find your thesis topic?

HR: When I went there they didn't really have ready topics for me or anything; I was hoping they have something for me waiting there so I would know where to start working and I worked while there, but then I went there and they said: “Well, you think of something and well, you need something right now.” Once learning the technique and getting something out of it is a short time.

I: So, did you use the 5 months for the whole thesis process or only for the internship and afterwards you continued working on your thesis?

HR: Yes, because I did the collection, the practical side, over there and then I did the writing part here, when I returned at the end of June. So, I divided it. And I think that was very good. I first concentrated completely on the collection, which I developed over there and the thinking about the technique itself, thinking about the company kind of getting most out of it. I did some interviews with the head of the company to start the research over there and tried to get as much information I could get from there but still I mostly concentrated on the materials and such. And I really think it was a good way. But I developed the kind of the research part – in my mind even though I didn't think about the process all the time. I was not really thinking it was kind of following what I was doing and I was lot of trying to see the sustainability in the work and the factor in and the work that I was doing was related to the redoing part. When you are actually working somewhere you should see how it is related to what you do and how you do it, because you cannot think of them as separate things really. Then, the main thing is to understand to get really deeply into the topic. Because then I really combined things and they went hand in hand all the time; this really helped me to understand what it means, this sustainability in textile industry.

I: When I checked the website of the company, I read about their concept of returning fabrics, which is also related to the cradle to cradle concept – this is at least what they say. How is your thesis related to this concept of the company? Is it related at all?

HR: It is related, because even before I went there, I already decided that all my collection fabrics will be made out of this "returnable"-material, which is Trevira CS. The concept there means: all the fabrics,
made out of this Trevira CS, can be recycled, basically back to the row material. Most of the fabrics nowadays are made out of that. I think some percentage of the whole production is still viscose or cotton, because they export a lot to the USA and over there they only take cotton and viscose; but anyway the returning of fabrics is a big thing. They market the concept a lot – as you can also see it from the website. Still, wherever they go they constantly promote it. Sometimes when they go and see customers, who are not so interested in the concept, the salesmen might even go too far. That is at least what I have heard and learned while I was over there. If you try to sell it and you sell more the ideology behind, then you cannot make so much profit of course – but they do at least. I got the impression that the head of the company or the others, they more "used" the concept. I think it was not as deep as it felt like, when the CEO was talking about the issue. I started to criticise the way, because they talk a lot about it and say how great and important the thing it is, but still... I mean, the material was part of the returnable concept and they developed the system and collect the fabric in the end, but then there were plenty of other things which were not considered at all! If you think of sustainability you have to think of the whole thing and the whole circle of production, the factories and the whole business. But I think they did not consider all these aspects.

I: Did you talk e.g. to the CEO about this? Were they open to listen to you because you were doing a research on it?
Yes, I had interviews with the CEO and I tried to get into it. I gently criticised what they are doing in a way, because I was questioning about the system how the concept works – how the fabrics work, how they build it up and all these things related to it. They gave answers – but still, there were a lot of things they couldn't answer because they called it "business secrets" and one thing which I couldn't find out was, if they already use any of the recycled and returned fabrics in the production or is it still that they use virgin material to produce their fabrics.

HR: You haven't been able to figure out or they didn't give the information?
I couldn't get the correct information, because they claimed it to be a secret. They were open but they were not open enough. They circled around it but they never get into it. I wanted details, but I could not get them. So, I think what I know, what I understood, is that they cannot yet, they don't use the recycled fabrics. The fabrics that they recycle or collect back go into other factories which make products out of polyester, which can use also the fabric in it. And I think, that is how it is; they don't yet get enough material back to close the circle. They would need a lot of material to be able to make all the yarns and all the new products out of the recycled material and I think it just cannot happen yet. They started in 2008 with the whole thing, so now it is 2011 and they say that the kind of average usage time of the fabrics is 5 to 10 years. So, they still have to wait. When they launched the concept and when they sold the first fabrics they have to wait at least two more years to get them back. They aim to last their fabrics long.
I think this is one way to make sustainable fabrics. You produce good quality, so you don't have to renew them constantly. They last for 10 years and they still don't quit. I think that the quality issue is very important and the long relationships with the customer as well. The customers can be sure that they get the same quality again and again and if they need to get new fabrics for their furniture or some interior items, then, they order the next samples also from them. That's how it goes. But what I criticise is that...
the openness in this business towards sustainability and to promote this issue one should be more open. If you don’t tell the deep details then you cannot say anything about sustainability. I think that’s really annoying.

I: What do you think is the main problem? Is it a money issue or are they afraid of something?

HR: They are afraid that if they say that you cannot make new fabrics out of the recycled material yet then people ask why you are marketing this as returnable fabrics - this is stupid. This feels like nothing has changed. It is like you changed the heading, but the inside hasn’t changed yet. They are afraid that the image will crackle. They build up this great image and are really proud of this sustainability solution, which is not actually working yet. But on the other hand, what we also talked about in my thesis presentation is that it is better than nothing; that something happens slowly and you have to take the first steps, even though the first steps are tiny and it can take long time, but at least you do something. You are going in the right direction. Still, you can criticise and say, well, they just talk. Anyway, I think at least they are doing something. Their aim is to be better and to do things better and that’s always great.

I: Do you think in the textile branch we are still in the beginning of sustainable thinking?

HR: Definitely! I think always money is the issue. They always try to make things cheaper and cheaper. And it is also the attitude people have. The customers or the people who are actually buying the things. We want cheaper. And we don’t really think about what is the cost of the cheapness.

I: Coming back to your collection: You developed a jacquard collection with the cradle to cradle principle. The fabrics are made for the home textile branch or what is their application?

HR: It is more for the public space. [...] I think it is both because I think they are also suitable for home textiles. But the company I worked for is most famous for using Trevira CS and the price for Trevira CS is a bit higher because of its fire-resistance. That is, why it is used a lot in public interiors. There are rules and laws that the architects need to follow. So I think that is their biggest field. All kind of hotels, theatres, all kinds of places like that belong to this group. Therefore, because of the Trevira CS, I would say that it is more for public places.

I: And this was a collection for upholstery fabric or a curtain?

HR: Mmh. Most of them were I think upholstery. And some were more of, they call it “effect fabric”; because they had such long floats of the yarn, that they won’t handle much of this roping or you cannot really sit on them for long because they just don’t last that long. But most of them would be suitable for upholstery. I made the Martindale test and also pilling test to them, to check out, how they behave. Then of course, the greatest thing would be to develop the fabrics so that they would get better but this would need much more time, because I made 13 fabrics in my collection and I did some changes to one or two fabrics and get them better results, better Martindale results by making small changes, and I think that
this is one field of its own to develop and improve them in this way. Anyway, I would call it a bit of both but mostly public.

I: Did you do other tests as well? So we talked about the fire-retardant feature of Trevira CS and the Martindale and this pilling test. Did you do any other test e.g. colour-resistance or wash ability...

HR: Not really because they use Trevira CS so much, that those things, like the colour re-sistance and also the wash ability they were quite well. The material handles light very well, it does not fade. And that is the good thing about Trevira CS. It is very easy to wash, even in the washing machine, but of course if you have upholstery fabrics you don't wash it much. Then I did the finishing of course and I was thinking about the finishing of the fabrics, because those also influence how they will handle the graphic. They also really go hand in hand. You have to think about the graphics and all the binding you use for the fabric. Especially the bindings influence the durability of the fabric. [...] When designing fabrics for public spaces it's very important. The whole chain of different fields, different changeable processes. One thing influences the other. And then you have to develop the whole thing as good as you can in order to get good results and to make fabric last according to the usage which is normal in hotels, restaurants or cafes.

I: For your collection you used Trevira CS which is made out of polyester. Why did you choose this material? What are the advantages and disadvantages of this material concerning the cradle-to-cradle principle?

HR: I chose it because they had it in the company. That was the main reason. Out of the materials they had, this was one they had and since I wanted to make my collection as sustainable as possible - that was my idea even before I went there. Those are the main reasons why I chose that material. The advantage of the fabric is that it lasts very long. It is very strong. It is anti-allergic and it does not get a lot of dust. It is also flame-resistance, which is also a great advantage of Trevira CS. If you use cotton or any other material for public places, then you have to some kind of liquid or whatever to make it flame-resistant. Those are crazily poisonous chemicals. [...] The disadvantage is that it is still polyester and it's still made out of oil. [...] It's still a non-renewable resource. I think that's a big problem. The only thing we can think about in the future is to avoid using those materials. There has to be something to replace those materials. Some other materials must be developed.

I: But are there other materials, you know about? Did you find other solutions during your research?

HR: I think instead of such materials, used in public spaces, wool would be one very good option for polyester. Also in the company, they have developed fake polyester, which is made from all natural renewable materials. I cannot remember the name. But there are new inventions in this field, really. But they are still so expensive and they are not available in a scale in which the industry would need it. They are not available in industrial scale. The required amount is so huge that it's very hard. They have to have materials which they can constantly have so that production flows and the whole company can
work. Such a material which replaces polyester doesn't really exist yet. There is also viscose which is made flame-retardant and which they developed here in Finland. There was one factory, but I think the factory went down.

I: Do you remember the name of the factory?

HR: I don't actually remember it now. But it's like the only viscose making factory in Finland. Options are coming and there are some but it takes time. But, yeah, the main problem is the polyester material itself I would say.

I: During the internship, have you been involved in collaboration or cooperation with interior designer or with designers from other fields?

HR: Ah, not really. Not really over there. Because, when I went there I didn't get one topic for my thesis, they only said to me that we have European editors, fabric editors, we present some fabrics every now and then and we are going to do the same this spring. My task was to design fabrics which could be presented then. So, that was my kind of a wide, broad, very open topic which I started to work with, so I did a collection based on what the editors might like. They are high-end European fabric editors. So, I looked what they have, I saw their collections and then I developed mine out of that. In the end, I couldn't go and meet them when they went and presented the fabrics. The other designers, from the atelier where I was working for, went. But I got good feedback from those editors also. At for some my fabrics were very useful. That was the only collaboration I had while I was there. They had some interior designers going and like I said, they presented mine to some other customers, but I wasn't there, I wasn't doing it by myself.

I: How did you know how to design for public spaces, how to design contract textiles for this target group?

HR: Well, I think the best thing was to be there and talk with the other designers and learn from them. [...] I think this was really the most important thing; to be in the company, working with the designers and helping them and seeing what they are doing and constantly asking questions. They were explaining things to me. Otherwise, I really learned about what it means to work industrialized and I learned what I needed to know in order to design for public places; how they collaborate with interior designers or editors requirements; I saw parts of it, since I speak only little German and Austrian. Due to that, I couldn't follow all the things. They had meetings and such so. I was present but I wasn't really with them. I was in the same space and I saw how the things went and I could understand something, but of course not the whole thing. I think I had five months for all that and I got much out of it. Now, I really know what is demanded if you design for public places and I know how they work as designers in a company. Those things I wouldn't have learned in any other way than being there, working there.
I: What do you think is so demanding about this field of contract textiles? What are the challenges to work in this industry?

HR: I think it is always difficult to meet the needs of the customer and to develop the designs in this way, so that they sell well. Meaning the whole chain, in the end you have fabrics which last long and which are suitable for the space, but it is also the design which has to be good. It should look good and suits the place where it is implemented. I think those are the main things. Working with the customers is always challenging and there are so many different needs. Sometimes it's really hard to meet the needs of someone. Also the speed can be very fast. They get a call and then within two weeks you need to have the fabrics ready. In this case you don't have so much time to develop great designs. Then it has to be something simpler. To combine all of these things needs a lot of practice. You need to work a lot in this field. The more you work in this field, the better you get in it.

I: Based on your experience during the internship, what do you think or what do you estimate... or probably you even know who are the responsible decision-makers in the contract textile industry. So, who decides: “We go for this contract textile”, who decides to take this or that collection?

HR: So, who are the ones who decide?

I: Mmh, or do you have an overview of the whole chain or how the process works?

HR: I think I don't, because I didn't go and meet the customers. I was there working in the atelier and the CEO came there really often; also the head of the international sales office and those people came there. They mark an important part of the development of the collections. They keep up the customer relationship. So, I was working in one end. But I missed the customer side. I would say I got an overview of the process, how the system works, but I lack something because the selling was a completely different world of its own. You have to have professionals, who are able to promote. The salesmen are professionals of their own field.

I: What do you think is the future perspective of sustainable textiles in the contract field?

HR: I think it's a great challenge. And, I think now, when we have the economic crisis or something like that, the sustainable issue goes down. Then, people are not so much into those topics. But, I think the main challenge would be to change the customer. Whether it is a company or is it a private company, they need to change their attitude towards the price to not only buy the cheapest. This happens in textile industry very much. The company makes these special jacquard fabrics, which are really expensive and serve the high class, but still people think they cost too much. They want it cheaper. Then, they go to Turkey or India to get them cheaper. There are people who think in sustainable ways but there they are still such a minority. It takes a lot of time. But, I think we, who use the products, we can start demanding things and that's the most important thing to do. If we change the general attitude, then the change
will really start to happen. When I was there, I talked to the CEO about this and I asked him, how much companies, or architects or whoever the customers are, how much they are interested in sustainability and the use of returnable fabrics. And he said it is more or less half and half. Half of them really say: “This is a great thing, this is a good thing and wonderful that you use it.” The other half doesn't give a damn about it. [...] They only think that it’s the price... The price of the fabrics is a bit higher, it’s only 2% or something but it’s still higher so they only question that. They don’t understand how it can be and why the price is higher. He said that he hopes people to be more excited about the returnable fact, which they are not yet. And it's so complicated! It's such a complex issue this sustainability in the textile industry. Luckily there are people who think and do; they really act, but there are so many who just not yet do anything at all. It really takes time.

Noora K. & Aino-Liisa K.
Finnish Furniture Company
Date: 17.11.2011, 12.00h, personal interview
Place: company’s headquarter, Helsinki

Current position/ function:
Noora K.: Colour/ material specialist (from the design part not engineering part); works hand in hand with the interior designer team to get straight feedback
Aino-Liisa K.: Contact manager, keeps contact with architects and designers outside our company. Keeps contact with students and design schools in different cooperation projects. Team leader of our interior design work program; our company has 18 interior designer, 9 of them work in headquarter, others in offices around Finland. With those designers she meets once in Quarter to discuss about different topics (e.g. fabrics). She is somehow between the Sales people and architects.

Academic career bracket (short):
Noora K.: Studied Industrial Design at TAIK
Aino-Liisa K.: Studied Art Education at TAIK

Working career (short):
NK: She worked with Nokia before, got a lot of experience about colours and materials over there.

I: Interviewer (Victoria Fislage)
ALK: Aino-Liisa K.
NK: Noora K.

I: The Company you are working for has more than 60 years of experience in creating working environments. Nowadays, however, your company has far more areas in which you operate. What are your
divisions and how do you divide the different fields?

ALK: We divide by office segment, school segment, welfare segment and hotel segment. And then we have services. Those we do in every segment. But all segments have different kind of clients. E.g. architects, who have been specialised in planning schools. These segments are also different because there are different people involved (e.g. principle from the city and principle of schools). And the decision-making is different among cities in Finland. Hotels are also very different. Compared to office segment the materials differ very much.

NK: The auditorium segment could be a little bit compared to the airport; because those go all over the world.

I: During our email conversation NK mentioned that your company has an ongoing project for the airport. Could you further explain the project?

NK: We had one meeting so far. The project is called Suumanto. The idea is that different Finnish companies are working together. It is for the WDC 2012 project. They do three or four of these small islands in the airport where you can relax and take it easy. We bring the furniture and somebody brings the floor. It is a little project, for one year only.

I: And after this one year they will remove the furniture?

NK: We don't know how it is going to continue. We are at the starting point.

I: Will it be here at Helsinki airport?

NK: Yes. We met two weeks ago with the person who is in charge of this. And then I realised that it was so tough. Because we usually don't do this – dealing on the airport side. We have been dealing on the opposite on the working environment on that side. But, well she practically said that nothing lasts. The environment is so tough. There are problems with everything. In textiles, you have chewing gums there. And seriously, no colours because it should be easy to keep them clean.

I: Is it the first project for an airport or did you co-operate with this so called hard-core section already?

ALK: We already worked for the border police (custom-service) and we have specific needs for them because they have this equipment (phone, etc.). We had to change the backs of the working chairs quite often. We have specific fabrics. The name of the fabric is 24/7. It's for this kind of heavy use. I think, for this border police, there is the most demanding use for textiles. At least those that we are using in upholstery.

I: Do you use the same material which you use for the police customs, or do you plan to develop other materials for the airport project?
ALK: I think, from what I understood, they do not plan to use any fabrics in the airport.

NK: The 24/7 is really rough, so I was wondering if the chewing gum is really into...

ALK: But then we have other examples, e.g. the welfare segment (hospital, dentist waiting rooms and so on) and those, especially for the elderly people, they have to be antibacterial. And also they have to be easy to wash and change; and also for the moisture. They use different range of textiles in this segment so it might be similar in airports.

Till now, we only made working areas in the airport e.g. offices, but no waiting room areas.

I: Would you say that the textile material choice might be challenging for the upcoming project?

NK: I think it is the most challenging one. But if the project stays there only for a year, then we can compromise.

I: Is it only about the material or what else is so challenging about this field? Is the fulfilment of standards the only reason?

ALK: Fire standards as well as other standards are extremely high in the airport section plus the use is 24/7. Furthermore, the people have their trolleys and all kinds of bags and they wear outdoor clothes.

NK: On the other hand, if there is a fire in the shop, all the products are going to burn. This is a contradiction. Sometimes it is funny how strict they are in certain fields in the airport and sometimes not, if you see it as a whole.

ALK: Furthermore, the airport is never closed. It is always in use. Schools, e.g., they close during the summertime and you can change the upholstery if needed. But in the airport it is very difficult to work in the areas to change the materials.

I: Do you have any numbers of how long the material should last in airports?

ALK: We have a 5-year guarantee.

NK: It is up to the salesman to understand what kind of place it is. And sometimes we have to say sorry, because some furniture is the most suitable one for the place, even if the client prefers something else.

ALK: But in the airport there are mainly plastic chairs and benches plus leather.

NK: Plus aluminium... The one they have at the Helsinki airport now is quite good. It looks like you can move it; Metallic with black on top.
I: For the upcoming project at the airport, where do you plan to set up the installation?

NK: At those three gates; ordinary places; not big areas 3m and 2m.

I: How would you describe the collaboration between the different stakeholders, especially designers, involved in the creation of public spaces/ in particular airport environment?

ALK: The interior architects, who made the Finnair lounges is koko3. We collaborate very much with them. A.B., she was leading the project. She can give further information on how they made the decision and how they decided on the material of the lounges. Usually we have hundreds of interior architects and designers in Helsinki area who are making only the public spaces.

I: Do you mainly work with in-house designers or designers from outside? What is more challenging also with a focus on the designer's background? What about the communication?

ALK: A “translator” might help – like me. Interior designers call me and I can advise. Then, I can decide who is a good salesman, suitable and helpful in this case and for this project. For bigger projects, we have project managers who are responsible then, for smaller ones, we have salesmen. Sometimes I even help in Tampere, if they have a meeting and need help with the communication. Furthermore, our company has a long family based history in the design field and many family members are even designers. People know that we do public premises only, also through the membership in different associations. We have 65 years of experience in this field. Due to the experience we know how to work. The outside interior designers usually don’t know so much about ergonomics of working chairs etc. So we give advice and knowledge.

I: Are the interior designers aware of the latest developments in the field of furniture?

ALK: It depends, if the designer has a lot of experience in creating the working environment, then she/he knows it already. But if somebody does not know, they want to participate in our tournament, which we make every year. We show some reference schools so they can participate and the school principals explain about what is good and what is bad in that particular school. So we offer this kind of experience. Versus vice, we hope that they call us, if they have a school project and need school furniture. But the most important thing is the dialogue with the designers.

I: How is the response? Are interior designers looking for this kind of explanation and tournaments?

ALK: It is helpful. Sometimes they even ask where they can see references. Once, a whole delegation even came to see our headquarter office as a reference. This was about open space office. For bigger customers and projects we can seek for specific references.
I: How would you describe the whole decision-making process when it comes to contract furniture, textiles and interior? Starting from the location to the final set up.

ALK: If there is a project with interior architect from outside we have a basic material selection and they choose fabrics from there. They are cheaper and in fast delivery. But if it is a long lasting project and they know the schedule beforehand, they usually use other material as well. We have a very good material library here. Usually, the architect comes here and chooses the material.

NK: The fabrics are cheaper because we have them in our collection. Otherwise they can be even very expensive.

ALK: Furthermore, we have a package for architects, and they are supposed to have it in their offices. This package contains materials and catalogues. Beside this, they can call and we discuss if the material should be thicker or in different colour, etc.

I: In the creation of furniture, do you integrate additional functions in your furniture? E.g. fold-out desks, sockets for electronic devices etc.? Why or why not?

NK: For the airport it is difficult. They say that everything that might come off comes off. Or they are really sceptical about turning tables. They were totally sure that they will crack. Which is not realistic but it was interesting anyway. But the upcoming project, we work on, is not a real project; it is more a concept project. So, there is a big difference. This one year lasting project might require not so high demanding purposes. But right now, I am thinking of black leather, which is not so surprising. They had orange chairs with upholstery before there and they said it did not work at all. The chairs looked horrible after a time.

I: Pascal Berberat, the head of airport divisions at Vitra (Swiss furniture company), says that the classical airport furniture by Charles and Ray Eames are the mother of all airport seating but today, those are too comfortable. For selfish reasons, airports don't want couches; they want people up and shopping.

NK: Yes, it is a kind of Mc-Donald's principle. They want you to sit only 15 minutes.

ALK: I heard also, that if they make the chairs too comfortable, people start to lie there and have a nap. And then there is less space for other people. That is one thing they don't want.

NK: For our project it is different. It is called "Suumanto". It means something like lagoon. If you think of a Finnish lagoon. Other companies are involved as well. One company makes the floor and the other one provides energy. All these companies want to use this space to promote their stuff.

I: In your opinion, what is the future perspective of your company in this field [airport section]? Could you imagine extending your field?
ALK: It is an alternative, but I think there is one place where they buy all the interior items of the airport because they look similar everywhere. Actually we do not have this kind of furniture in our collection.

NK: We are more Finland-based, even though we are international, but still. There are not so many airports in Finland so there is no good point. This is more an exceptional project.

ALK: What we expect from the collaboration with the Finnish airline is that we make the offices, which is more our field: Working environments and meeting areas.

NK: Finally, if you think of those halls, they don't have much furniture. There are mainly benches and those are made so that you cannot easily move them. But at every gate there is a desk and every desk is a working place. Those long benches are more like outdoor furniture. They are closer to that, where you are not allowed to move them at all. And practically they put leather on top and it becomes indoor furniture. But the airport in Denmark for instance, there are a lot of chairs with textiles. I think Finland is in that sense a bit a harsh country. We are expected to use our chairs much longer than e.g. in Sweden. In Sweden we might never have the same problems with fabrics that we might have here in Finland. Here in Finland you use the product till you cannot really use it anymore. You can compare it to the Finnish man: I think the Finnish man spends least money for clothing among whole Europe.

[Discussion continues about Finnish attitude towards design and product choice]

NK: The overall interior also should reflect security.

[Further general chat about airports]

Päivi P.
Assistant Manager, Lounge Services, Ground Customer Service
Date: 22.11.2011, 10.00h personal interview
Place: Helsinki Airport

Current position:
Lounge supervisor (responsible for the lounges and spa section)
Lounge service in on her responsibility

Academic career bracket:
She started 1982 to work for Finnair at check-in; worked in several different places and positions (arrival service, agreement hotel department, ticketing department); worked several years for Finnair Plus; was event manager; since 2008 she is mainly responsible for the lounges.
She came straight from school and started working with Finnair.
I: Interviewer (Victoria Fislage)
PP: Päivi P.

I: In 2009 the new Finnair Lounge and Finnair Spa and Saunas area by Finnair was opened. Many of the lounge furniture have upholstery fabrics. Why did you decide to use textiles in the lounge? What are the advantages and disadvantages?

PP: First we thought of leather and textiles. But sometimes the furniture looks just better with textiles. Nowadays the textiles are so good and almost as durable as leather. Furthermore they are softer. But in the Schengen-Lounge we also have leather. So it depends on the use and the design of the furniture.

I: Do you see any disadvantages by using textiles?

PP: Maybe the cleaning. You need to maintain them more. But same for leather you also need to maintain but textiles even more because you can see stain easier on the textiles.

I: How important is the implementation of Finnair’s visual identity into the new interior of the Finnair Lounge? (It’s now called Finnair Lounge Schengen and non-Shengen area)

PP: We wanted our brand to be like a chain over the whole service concept; starting from the ticketing, website, lounges, cabin interior to the aircraft. It is part of our identity, but it is not the main purpose. We wanted to create places where people feel comfortable and enjoy staying. But whenever possible we also wanted to reflect the brand. The “Finnishness” also comes through – and that is also nice. That is why we tend to collaborate with designers. Then, we can also have smaller limits like these lamps. Finnish design and architecture stands for quality and long life and it is very important that people feel that the Finnair lounge has quality furniture and durable and long timeless design classics. It is also part of our environmental program. We want to use quality fabrics and products that last long. We don't follow a “use and through” mentality. It is sustainable as well. We use also low energy lamps and we recycle all the way in order to act environmental friendly. And whenever possible, the furniture we cannot, but different fabrics we can recycle. This is also a very big and important issue.

I: In one Press release by Finnair about the renovation of the (now former) Wings Lounge, Anssi Komulainen (Finnair’s Senior Vice president Customer Service) says, that the “customer needs and wishes are increasingly individual" and that Finnair is in accordance with their vision aiming to tailor the service better to meet the customer expectations.

What are the exact customer needs and how do you know about them?

PP: Frequently, we do surveys. You can fill out the survey on the internet or we have small surveys in the blue-wings – those kinds of surveys are continuously going on. But we are also doing twice a year a
customer survey in the lounge. There we ask how satisfied customers are with the different areas of the lounge; the greeting, the reception and the skills of the staff - I mean the professionalism, the food and drink service, the cleanliness of the lounge. So we have quite a good view on how satisfied our customers are. Anssi was very right when he said that customers demand more these days. They know what service they are entitled to and our aim is - of course - to fill these needs. Preferably we even try to go beyond and predict their needs. So that there is this "Wow" effect. Here in the non-Schengen lounge we were elected as best lounge in the world, so I think we managed quite well. But in previous times, lounges were something more mysterious – nowadays it is not anymore. During those times, you went behind this red velvet curtain. It was something special, almost secret. But it is not that anymore. The customers need a place where they can just sit and relax for a while. They have an environment where they can work efficiently. They need fast network connection. They need shower facilities and food service. But also the food service: it should not be too light and not to heavy either. It should be something in-between. We always try to change it a little bit. We can easily see if customers like some products or not. We also consider the different seasons, e.g. Christmas and summer seasons. We want customers to feel a little bit at home.

I: How do you try to enhance the customer experience at Helsinki-Vantaa airport terminal? Where do you see differences between economy and business traveller?

PP: The airport authorities are renovating the airport, so it gets more customer-friendly and easier accessible. Once thing, which is very important is the signage. It should be clear and big enough. So that customers know where they are and where they go.

Then of course, if a customer pays full fee for the ticket, compared to those who are going on leisure trips and maybe pay only half the ticket price... of course we want to reward those customers who have paid higher price for the ticket. So the lounge service is one thing, business class check-in, and fast-track security for business class passengers and other small things to make the journey as smooth as possible are there as well. We are also continuously trying to improve our service in cases of irregularities, delays or cancellations. So that customers feels that “okay, my flight is delayed but when I arrive, there is somebody who has taken care of my business” possible come to meet me, giving me my new ticket, escorting me somewhere; so that we can provide this piece of mind for our customer. They should feel that we care and that his needs are taken care of. They should see that we have gone beyond their expectations and make a travel journey as smooth as possible because for a business traveller, time is what he lacks the most. […] gives more examples

I: Compared to business lounges, economy waiting hall lacks in outstanding furniture and material. Referring to one quote by Pascal Berberat, who is the head of airport division at Vitra, he says that classical airport furniture is too cosy today. Airports don't want couches; they want people up and shop. What is your impression? Do you agree with this statement? Why, or why not?

PP: I think it is partly true that the lounges at the public airport waiting hall are less taken care of. I will show you, it is not completely true. We also want to offer comfort to all passengers of airport authori-
ties. It is of course true that airport authorities want people to spend more [money]. For example in the beginning of the entrance there is the tax-free shop. Here in Helsinki you can avoid it, but in Manchester, Stockholm or London, you come from the security and you go straight into the tax free shop. They want people to spend their time in shops. But I do not think it is completely true at Helsinki airport.

I: With focus on the creation of the Finnair lounges, how would you describe the collaboration with the interior designer (e.g. Isku and Koko3) and other stakeholders?

PP: ...also “Vertti Kivi design” has done the extension part. We have been fortunate to have excellent interior designers. The result is one proof, but it has been also very easy to work with them. They already have experience on designing public spaces and they know what kind of needs there are. For example if I, a customer, want to have white carpets they say no. They have experience but at the same time they were very sensible to listen to what we want to have and what we want the lounge to look like. Also because we know the customers needs the best. So, it was very easy to work with them. They all belong to the new generation of designers; very skilful. A good interior designer also needs to know how to create the ‘wow’-effect. There are many things which limit the fantasy and innovation. To create a space where these limits exist, there the challenge is to create it so that you cannot see them.

I: Even though you had really good experience with those interior designers, is there something you wish to improve or you see lacking from the other side?

PP: Not with these once. But in other projects, where the vision of the architect or designer was so strong, she/he did not want to compromise on our needs. E.g. there was another architect, who did the fixed items, e.g. the reception desk and the bar desk. Then it was a little bit difficult to get our own opinion through. For the reception desk we could have succeeded better in that. It is not working as we would have liked it to work. But we try - at least at an early stage of the creation of the public space - to also take the staff into account. Because it is their working place, so we want to listen what their needs are so that their working space is as good as possible, also economically.

I: How would you describe the decision-making process on the interior of the lounges?

PP: Well, the designer and we, we come with different kind of proposals and then we com-promise more or less in each item. For the colours, it is probably more the designers’ task to see, what matches together. And also a good designer knows which material is the best for different spaces. For example the upholstery material, the Martindale... we give the specs. We have 40.000 passengers a month in this space and we want it to look clean even after two years. And same for the furniture – they should look clean and fresh, even after two years. [...] It should be easier accessible for the customers as well as for the staff. Of course, it is always a compromise, but we always of course expect that the designer comes with some nice details that could then enhance the product and the interior.

I: You expect the interior to last at least 2 years?
PP: Well, it was just an example. Now, we have a leasing period for 3 years for this furniture. But when needed, they are replaced or fixed. And then, we are up keeping the furniture. We can prolong the lifespan of the furniture and that is also an essential detail of the design – that you can wash it with the industrial cleaning products, so that you don't need any special cleaning products. And it is always important to keep them that they don't get in bad shape. So you have a continuous maintenance of the space.

I: In your opinion, what is the future perspective of textiles in the particular field of airport terminals? Could you imagine implementing more or less textiles why/ why not?

PP: Why not. We always wait what the interior designers come up with. They have a hint for what is new. Textiles and the upholsteries are all the time developing and improving, e.g. the plastic material which we have here. It does not feel like plastic material. Of course we can even consider more textiles. In my opinion, textiles bring soft features into this kind of clinical and standardised environment. Then, the lounge looks nicer and better. But it is not a must. It always depends on how and what it is used for which purpose and how textiles fit to the furniture itself. […] Some designs I cannot imagine them with textile, since the original look and design is with leather only.

Hannele H.
Senior textile designer, employee of Aalto University, School of Arts, Design and Architecture
Date: 7.12.2011, 15.30h personal interview
Place: Aalto University, Arabia Campus

Current position:
Employee at Aalto University

Academic career bracket:
Graduated from School of Art and Design, Helsinki, as textile designer.

I: Interviewer (Victoria Fislage)
HH: Hannele H.

I: During you career, did you collaborate with interior designers and architects?

HH: Yes, very much.

I: How would you describe the collaboration between the different stakeholders, especially designers, e.g. interior designers, textile designers, who were involved in the creation of public premises?
HH: It was always the best part of the work that my customers had the same kind of background than I had. Let's say "design educated people". Then, it was very easy to communicate. From company's side, I made my own initiative. I could work as marketing person, and guide the discussion between design educated people and those from company side; same in many other businesses. It was easy and we got very good results. Overall, it was very positive.

I: If you could improve somehow the decision-making process and/or the collaboration between textile and interior designer, is there something you would have liked to improve. If yes or no, why?

HH: It is long time ago, that is why it is difficult to remember those challenging points. But perhaps it is like always – also here at university and in this position I have right now – you give value to specialist to whom you are speaking with. It must be on the same level and no one should be abased. For example, if I am selling something: if they give me the chance to do my best, then the results were the best. It was not always like that. But the collaboration with customers who had no art or design educational background was even more challenging. That is why we all should be educated as leaders. Only if you know what that means, then you can be a good customer. It is always teamwork! And it has to be equal!

I: Some experts, even some teachers, say that interior designers have a lack of knowledge in textiles when it comes to public premises. Would you agree on that? Why?

HH: Yes, I agree. If they can use my knowledge and I can help them, then the situation is good. Me, for example, I prepared a "lecture", when I went to show my fabrics. Or we had some cooperation project to give the knowledge to them. E.g. what means flame-retardant, what means Martindale, and other technical framework for textiles? Information about dyeing and structure (binding) were also necessary to give. That was the specialty which I had and which I could provide. In good cases we became a good team. Here at university as well, we also have to develop design education in terms of how to communicate with people who are representing other fields. You need to improve the common language in between and find a common balance. Can I explain my work clear enough? Can they (experts from other fields) understand my work with the words I use?

I: About those interior designers and architects you worked with; was it something new for them when you talked about Martindale or the meaning of Martindale?

HH: The meaning of Martindale, yes. Of course they are trained to understand and read all this information. They know that there a several places where they can use fire-retardant fabrics etc. But what it means in textiles – that was my knowledge which I gave to them. I learned to understand the whole thing and I understood that my part was this and that I could help them.

I: What tools did you use to understand the interior designers and customer needs? Was there a kind of exchange? Did they also have a kind of lecture for you?
HH: I worked with Martela and Isku, e.g., they tell about their needs and they show what they need. So it is very much about trust. All the furniture designers tell me, what is important. With Martela, e.g. I used to work many years and with one person, I really became friends and we shared the ideas. It was very much balanced from both sides and the results were very good.

I: As a final product of my thesis, I plan to create a handbook. This guide should provide an opportunity to enhance the collaboration between textile and interior designers. Furthermore, the brochure should help interior designers to better choose the right textiles and to provide required information. E.g. what is fire-resistance, what is Martindale? Not only the number, also the technique behind it. From your point of view, do you think there is a need for such a handbook? What might be the advantages and disadvantages?

HH: Absolutely, there is a need for that. Still, interior designers don't have any textile knowledge course. Maybe some of the interior design students will take some textile design courses but it is not part of the material knowledge.

I: Do you think the brochure is too late? Instead, should there be a change in the education system already?

HH: Yes, absolutely.

I: I have one quote by Pascal Berberat, the head of airport divisions at Vitra (Swiss furniture company), says that the classical airport furniture by Charles and Ray Eames are the mother of all airport seating but today, those are too comfortable. For selfish reasons, airports don't want couches; they want people up and shopping.
Do you think this statement also concerns other sections of contract textiles? Why or why not? How important is functionalism in this field?

HH: Very nice to hear that. I was wondering why chairs are not so comfortable anymore. I think people would like to shop, even if they are not so tired and irritated. But that is my own opinion; but for the aesthetics... I have been travelling quite a lot. The best airports are nowadays in Asia. They are customer-oriented. I like also very much the new part of Helsinki airport – the Schengen area. I am very proud of that. It is very good interior design as well as a good selection of materials and fabrics.

I: Those lounges are only accessible for business travellers. Otherwise the economy waiting halls lack in comfortable furniture.

HH: I agree on that. The whole package should be about aesthetics. And that happens in Asia. I have been only in some lounges in Asia... good examples are Beijing and Shanghai, those come to my mind; with beautiful architecture.
I: In your opinion, what is the future perspective of contract textiles in general and in the particular field of airport terminals?

HH: I do not know much about airport textiles except that, what I have observed. But future for public spaces and those textiles, I feel very sorry that the Finnish production is not there anymore and neither Finnish design. It is really sad. What does it mean? It is very much an aesthetical question. We do here (in Finland) things in a little bit different way – even in other Nordic countries; we should be somehow involved in the design of those fabrics. That is why I came to this university. But furniture and clothing are on the same list. But it can be better, one day. [...] For example we have the media factory at TAIK and the interior designer, Elina Aalto, used recycled material only. Nothing was bought from the shop. She made new coverings. I think, especially in this field, textiles can change a lot. I really like her way of working. Her concept is to use recycled furniture only – and that is not always cheaper. You cannot see it, when you go there. [...]  

_Ulpu-Marjo I._  
Interior Designer for a Finland based Furniture Company  
Date: 8.12.2011  
Questions were answered via email.

Current working position:  
Interior Designer

Career background:  
I have worked for this interior company since years.  
At first for the branch office in Espoo and after that in the branch office in Vantaa and now I have been here in Helsinki three years.

Academic career bracket (short):  
I graduated in 2000 Kymenlaakso University of Applied Sciences, Furniture and Stone designer.

I: Recently, the Finnair Lounge in the non-Schengen area of Helsinki-Vantaa airport was announced to be the best lounge in the world. Also because of its "innovative design". Congratulations on that. Was this your first airport project? What were the challenges and limits in the design process of the airport lounge compared to the creation of other public spaces (e.g. schools, hotels, offices)?
UMI: Yes, this Finnair Via Lounge (2009) was my first airport project. Challenges were to find a resistant/contract fabric and to fit as much as possible seats.

I: Who were the other stakeholders involved in the project and how would you describe the collaboration with them (Difficulties, flow of information, misunderstanding, etc.)?

UMI: Finnair partners were T.K. (YIT), P.P. (Finnair), M.R. (Finnair), U.L. (ISS Proko Oy), M.L., architect (L2): My part lasted seven (7) months and during this time I made two Lounge suggestions for Finnair. Architect and Finnair contact persons had some difficulties to discuss issues, so I never met or talked to architect.

I: Which textile materials (upholstery, carpet, etc.) did you choose and why? What were the criteria and who were the fabric suppliers?

UMI: Supplier: Camira Fabrics
24/7+; Continual WK004, Pendulum WK023, Zenith WK002; 24 hour heavy duty performance fabric, anti-static option available (250 meters minimum),
10 year guarantee of wearability
Abrasion Resistance 500,000 Martindale Cycles
Panaz Sheema; 901 silver, 900 black; Composition: 95% vinyl, 5% polyurethane
Martindale: 100, 000+

Backhausen Volini Carpet; U05819 colour blue

Supplier: Lauritzon’s; Trevi A3000; 3999 colour light grey

Laminates: Isku Interior Oy; White laminate 215; Oak laminate D3056

Metal parts: Isku Interior Oy; Chrome

I: What are the advantages and disadvantages of textiles in the airport terminals?

UMI: Because Lounge is in use 24/7 hours, I would see that textiles are in heavy use. Also people are eating there, so the possibility of that something falls (like win) is true. So I think that there are more disadvantages. Only advantage I can think of is, that airport is a very good market place for Finnish Design: furniture, textiles, dishes etc…

I: How do you keep yourself up with the latest technical developments in textile materials (e.g. about fire-retardant materials, material composition)?
UMI: Fabric suppliers keep us up to date; they visit us on a regular basis. I am also a self-active information seeker.

I: The furniture in the Finnair lounge is leased by your company for the next three years. What is the reason for this agreement? Why did you offer to lease instead of sell?

UMI: There are only advantages if a customer wants to do a leasing contract. Finnair chose a leasing contract. Costs are uniformly distributed for use. After the lease period furniture can be replaced by new ones.

I: In your opinion, how much does a Martindale test result tell about the life of a fabric? What are other important factors for you to choose textile fabrics for the airport environment?

UMI: In a public spaces Flame resistance must be SL1 and Martindale starts in a 50 000 Martindale cycles. My personal opinion is that 40 000 Martindale cycles is enough, of course it depends on a planned in. Generally: Important factors are: Contract fabric, flame retardancy, excellent abrasion resistance, impermeability, mildew resistant and of course the most important thing HOW DOES THE FABRIC LOOK AND FEELS LIKE.

I: Compared to the business lounges, the economy waiting halls lack in outstanding furniture and material. Referring to one quote by Pascal Berberat, who is head of airport division at Vitra, he says that classical airport furniture is too cozy today. Airports don’t want couches; they want people up and shop. Do you agree with this statement? Why, or why not? Do you think beside the design and comfort components, furniture in airport terminals have a “business-driven” function? Where do you see a difference between lounges and economy waiting halls?

UMI: Lounge areas are usually a certain user group benefits: they travel a lot and also they spend a lot of time in airport. So I think it is a good thing that lounges are very comfortable “public” spaces, but I don’t see there home couches either. A Difference between lounges and economy waiting halls is this comfortable thing and also service. But if passengers consume time, they also consume money.

I: What are the future perspectives of textiles in airport environments? Do you think the integration of textiles in such public areas will increase? Would you choose textiles again for such a project? Why or why not?

UMI: I think that the textiles are required more in the future. Similar kinds of challenges are my work, and I would like to do Lounge projects again. I have been with other projects in Helsinki-Vantaa airport.

I: As a final product of my Master Thesis, I plan to develop a brochure/ small handbook for interior
designer, with a special focus on textiles and fabrics. From a textile designer’s point of view, it would be a collection of data about fabrics and considerations for the implementation of textiles in public spaces. Furthermore, it could be a contribution to enhance the collaboration between textile and interior designer and help to find the right information about fabrics and the latest technology in textiles.

Do you think this kind of brochure might be useful for your work? Why or why not? What else should be content of the brochure? Would your company be interested to sponsor/support this kind of project?

UMI: I am not the right person to decide our company’s interest in this issue, but you can contact our Design director XY.
This kind of brochure/small handbook would be good for all interior designers, especially just graduated designers and also our sales people.

Heike S.
Textile Engineer
Date: 12.22.2011, 10:00h, personal interview
Place: Moenchengladbach
Face-to-face interview which was hold in German; it was translated into English by the interviewer

Current working position:
Employee of public testing institute for textiles (Public Body), Moenchengladbach

Academic career bracket (short):
Diploma in Textile Engineering (University of Applied Sciences)

I: Interviewer (Victoria Fislage)
HS: Heike S.

I: Textiles for the public space, so-called contract textiles, have to fulfill high standards and requirements. What are the most common tests which you conduct for upholstery fabrics for public buildings for example?

HS: Regarding the durability, the Martindale test is essential. Moreover, one must also consider the fastness, especially light fastness, and possibly aging and degree of coating, i.e. longterm tests. With regard to safety issues, one must mention flammability. Furthermore, the susceptibility of dirt (dirt accumulation) is relevant in the field of contract textiles; especially dirt-repellent finishes, which certainly will be applied. For carpets, I think cleaning properties play a large role. This means, it matters whether cleaning and hovering are easy or difficult, etc. These are tests which we do not fulfil here in the institute. In our case, we would apply classical textile tests: abrasion, resistance towards aging and of course flammability.
I: To what extend does the customer (interior designer) know about the importance of testing? Is s/he in the end interested only in the result or does s/he also care about the method?

HS: To be able to compare test results, it is not enough to name the testing machine only. One must also mention the standard of testing, because different Martindale testing machines and types coexist. Only by using the same standard one can guarantee same conditions. Most of the standards do not ask for minimum requirements. In contrary, some do. Requirements typical for the industry are more common.

I: I assume that most of your customers are textile producers. Do they know about the informational value of the Martindale testing method?

HS: Generally said, Martindale is already one of the most popular testing methods. However, consistently we have cases, in which the customer is from a totally different field, e.g. they have a commercial background – sometimes even secretaries. For these people, we have to make the testing procedure accessible. Also to develop an understanding for what we are doing. We often have people who say, "Here we have a problem, can you check what the problem is?" But this is not the way how it works - we follow a very methodical approach.

I: Contract Textiles in airport lounges have to fulfil certain standards. In addition to high Martindale results, they must be flame retardant. How do you conduct the tests in the laboratory in order to proof these kind of criteria. What do the results say about the fabric?

HS: The Martindale result is expressed in rounds. In certain intervals, the testing sample will be analysed. This happens after 2000, 4000, 8000, 14 000 cycles, etc. I do not know the exact requirements for contract textiles by hard. But key of the test is rubbing and a permanent friction. Aim is to test how many cycles are necessary to see first signs of wear; the first sign of wear defines the end of the test. The cycle number (maximum cycles) is recorded and set in relation to minimum standards of the field.

For the flammability test, we take one sample from the fabric. The size of the sample depends on the norm. The sample is then vertically clamped in a metal frame. After this, the device is fixed in the burning chamber. There we inflame the edges or the surface. This happens in a defined time period. Whether hole appears, the sample drops or particle melts; these are all important information which we record. Another method uses three reference lines, which are marked on the sample. We stop the time till all three reference lines are burned. In fact, this is the same test, just the other way around. Important is that you use the norm which is required for your final product.

Once you have the result, you can set in in relation to other results from the field. If the fabric is allowed to burn holes; or if melting is allowed or if the flame has to smothered immediately depends on the standards used in the specific field.

I: Do you also give recommendations for fabrics?
HS: That we cannot do. We cannot set standards. We can record the results and compare those with required minimum requirements, which we find in literature. We are not able to say whether the result is okay or not. I mean, we can say that but it has no value. After a long time working in this field, my experience tells me of course whether the fabric is acceptable or not, in case of no minimum requirements; but in fact, I cannot proof it.

I: What are the costs for a Martindale test and for the flammability test? How long does the process take?

HS: The duration of the test depends on the number of cycles. 20 000 cycles take long; couple of hours, sometimes even more. For each sample, the first 10 000 cycles cost 28,50 €. After that we charge 6,50€ every 5000 cycles. This is a relatively inexpensive test because you do not have many working steps. You have to assemble the machine and then it just rubs the sample. After that you just check the sample every now and then. If nothing changed you continue the test till the first signs of wear appear. The burning test is not as time-consuming as the Martindale test, but the amount of work is larger. For ISO 15-125, a classical flammability test for protective clothing, would cost 125€ each. This price gives you an idea of the costs.

I: What influences the abrasion properties of a fabric; the binding or material? According to your experience, what material and which bindings are the best to get high Martindale results?

HS: Concerning the material, we mostly speak about synthetic fibres. These fibres are already more durable than most of the natural fibres. The fibre count is also important as well as the binding and the embedding in carpets for example. It depends how dense the whole fabric is and how the fibres are embedded in the coating.

I: Which bindings are most important in upholstery fabrics?

HS: In general, the less floating the better. The warp and weft yarn should cross as many times as possible per unit area. A plain weave is better than twill. Many upholstery fabrics have chenille yarns which are sensible towards abrasion due to their voluminous construction. Indeed, manufacturers prefer to use synthetic yarns; but it also depends on the construction. For example if you have a twisted yarn and embed staple fibres; this implies a certain sensitivity.

I: How do you rate the importance of fabric testing the fulfilment of standards? Is Germany stricter when it comes to standard fulfilments?

HS: We usually speak of ISO standards. Therefore, these are international standards it does not matter whether the fabric gets tested in Germany or Finland. This standard defines the exact method. The conduction will be the same worldwide. Beside ISO standards, other country specific norms exist, e.g. ACM standards in the USA or specific British standards. Partly they might be similar to ISO standards; but regarding the method, the standard has to be exactly the same.
I: How do you evaluate the test results? What do the results say about the actual abrasion resistance? For example, humans do not move exactly as it is simulated in the Martindale test.

HS: That’s correct, but you need standardized tests to reflect practice. Therefore I think Martindale is not a bad testing method. Of course it does not represent the actual life in 100%, but if you get bad Martindale results, then you can assume that the performance will be bad in practice too.

I: Who sets standards in the textile industry? Are you – as an objective and public institution – involved in the development of these standards?

HS: No, international standards committee set the standards. Individual companies and institutions are not relevant. Such committees consist of textile experts from all areas. These committees define on standards. However, no private individuals or private companies are involved in the development process as well as no public testing institutions. We can only develop internal standards. For example, if a local sewing thread manufacturer wants to evaluate the yarn performance, we can develop standards which apply for customer and supplier only. These are called in-house standards. However, these have internationally no valid.

I: Do you think that the high requirements of contract textiles, compromise their material variety and design? Do you think that within the set boundaries, innovative and interesting designs and material combinations are still possible?

HS: I think both things are important. You have to keep to certain conditions. Otherwise it would be negligent, because you develop fabrics which do not fit, do not last or even endanger safety. Nevertheless, I believe that within the boundaries a lot of design varieties are possible, at least concerning colour and construction. I think there is still enough space for innovations and creativity. If you do not fulfil certain standards, you will have trouble in the end.

I: Thank you very much for the interview.

[Original version in German]

I: Textilien für den öffentlichen Raum, sogenannte Objekttextilien, haben hohe Standards zu erfüllen. Welches sind die gängigsten Tests, die Sie beispielsweise bei einem Polsterstoff für öffentliche Gebäude prüfen?

HS: Bezüglich der Haltbarkeit ist der Martindale-Test ausschlaggebend. Zudem muss man auch die Echtheiten beachten, speziell die Lichtechtheit, sowie eventuell Alterung und Grad der Beschichtung, also Langzeittests. Bezüglich Sicherheit wäre dann die Entflammbarkeit zu nennen. Was sicherlich auch noch relevant ist in Bezug auf Objekttextilien, ist die Anfälligkeit von Schmutz (Schmutzanfälligkeit). Bzw. speziell
Schmutzabweisende Ausrüstung, die sicherlich aufgebracht werden müssten. Bei Teppich denke ich spielt die Neigung zur Reinigung eine große Rolle. Ob eine Reinigung einfach oder schwierig ist, ob der Teppich einfach zu saugen ist etc. Das sind dann aber Prüfungen, die wir hier nicht durchführen können. In unserem Fall würden dann die klassischen Textilprüfungen zutreffen. Verschleiß, Beständigkeit gegen Alterung und natürlich Brennbarkeit.

I: Inwiefern weiß der Kunde (Innenarchitekt) um die Bedeutung der Testverfahren? Interessiert ihn letztendlich nur das Ergebnis oder auch die Methode?


I: Die meisten Ihrer Kunden sind sicherlich die Textilproduzenten selbst. Wissen die um die Aussagefähigkeit eines Martindale-Testverfahrens?

HS: Martindale ist im Allgemeinen schon eines des bekanntesten Testverfahren. Wir haben aber immer wieder Fälle, wo der Kunde aus ganz anderen Bereichen, z.B. mit kaufmännischem Hintergrund, zu uns kommen - oder Sekretärinnen. Diesen Menschen müssen wir das natürlich erst mal nahe bringen. Um eben auch das Verständnis für das was wir hier tun zu entwickeln. Wir haben hier öfters Leute die sagen: „Wir haben hier ein Problem, können Sie mal gucken was das ist?” Aber so funktioniert das hier natürlich nicht – wir haben ein sehr methodisches Vorgehen.


nis mit den Branchentypischen Mindestanforderungen in Relation setzen. Z.B. darf es überhaupt zu einer Lochbildung kommen? Darf es zu einem Schmelzen kommen? Muss die Flamme nicht sofort ersticken?

I: Stellen Sie denn dann auch solche Empfehlungen aus?

I: Wie hoch sind die Kosten für die Durchführung des Martindale Testverfahrens und des Verfahrens zur Prüfung der Entflammbarkeit? Wie lange dauert der Prozess?
HS: Die Dauer der Prüfung hängt von der Tourenzahl ab. 20 000 Touren dauern schon sehr lange. Also etliche Stunden, wenn nicht sogar mehr. Pro Probe wären das für die ersten 10 000 Touren 28,50€ und dann wir im 5000 Touren-Abstand weiter gerechnet. Also dann nochmal je 6,50€. Das ist also eine relativ preisgünstige Geschichte. Man hat nicht so viele Arbeitsschritte. Man muss das Gerät bestücken und dann scheidert das vor sich hin. Dann schaut man sich den Prüfling in den Intervallen an und wenn sich nichts verändert hat, setzt man das Gerät wieder an.
Die Brennprüfung ist zwar zeitlich nicht so aufwendig, aber vom Arbeitsaufwand sehr groß. Da kostet z.B. die ISO 15-125, das wäre eine klassische Brennfunktion als Schutzkleidung, die in unserer Brennkammer durchgeführt wird, 125€ pro Probe. So was könnte man einfach als Anhaltspunkt nehmen.

I: Wodurch wird die Abriebfestigkeit beeinflusst? Bindung, Material? Nach Ihrer Erfahrung, welche Materialien und Bindungen eignen sich am besten um hohe Ergebnisse in Martindale und der Scheuerfestigkeit zu erzielen?
HS: Im Prinzip das Material, meistens reden wir ja nur über Synthesefasern. Die natürlich insgesamt schon haltbarer sind als die meisten Naturfasern. Dann kommt es sicherlich auch auf die Faserfeinheit an. Auf die Bindung, und bei Teppichen die Einbindung. Wie dicht ist die Ware und wie die Fasern in die Beschichtung mit eingebettet werden.

I: Welche Bindungen sind von Bedeutung bei Polsterstoffen?

I: Wie schätzen Sie die Wichtigkeit der Testverfahren und der Erfüllung der Standards ein? Ist Deutschland im Vergleich zu anderen Ländern strikter wenn es um die Erfüllung von Standards geht?

I: Wie schätzen Sie die Ergebnisse ein? Was sagen die Ergebnisse über die tatsächliche Scheuerfestigkeit aus? Zum Beispiel bewegt sich ja kein Mensch so exakt regelmäßig wie es im Martindale Prüfverfahren simuliert wird.

HS: Das ist richtig, aber Sie brauchen ja standardisierte Verfahren, um die Praxis abzubilden. Daher denke ich, dass Martindale nicht schlecht ist. Natürlich repräsentiert das nicht zu 100% das tatsächliche Leben, aber wenn Sie jetzt ein schlechtes Martindale Ergebnis haben, dann können Sie davon ausgehen, dass die Performance im täglichen Gebrauch auch schlecht sein wird.

I: Wer legt die Standards im Textilbereich fest? Sind Sie als neutrale und staatliche Einrichtung bei der Entwicklung dieser Standards beteiligt?


I: Glauben Sie, dass die hohen Anforderungen an Objekttextilien die Variationsvielfalt in Bezug auf Material und Design beeinträchtigt? Oder sind innerhalb der gesetzten Grenzen dennoch innovative und interessante Dessins und Materialkombinationen möglich?


I: Ich bedanke mich sehr für das Interview und möchte Ihnen abschließend noch die Möglichkeit geben Fragen an mich zu richten.

HS: Nein, eigentlich nicht. Danke.
Jarkko H.
Head designer and co-founder of a Helsinki based interior design company.

Date: 27.1.2012; 10.30h, personal interview
Place: Interior design studio, Helsinki

Current working position:
Head interior designer

Working career background:
Design Office since 1997, before several internships as design assistant, studied at School of Art and Design (TAIK) in Helsinki.

I: Interviewer (Victoria Fislage)
JH: Jarkko H.

I: In 2001 and 2008 you developed the interior for the Finnair Lounges at Helsinki Vantaa international airport. Compared to private interiors, public premises are famous for being challenging. What was the most challenging part of the creation of the Finnair lounges?

JH: Maybe the colour is quite limited; it is white and blue. We worked and kept strict to those colour codes. We had to work according to the brand, so there is not much you can do like we usually do otherwise.

I: How would you describe the overall collaboration with other stakeholders in either this Finnair lounge project or in general with other projects? Are there any difficulties in collaboration or com-munication?

JH: No. We have a very fluent flow of information exchange. We get quite fast information from all different providers.

I: Is there anything you expect while you collaborate with other stakeholders?

JH: It depends so much on the project. Overall it is quite hard to say. For Finnair, I do not re-member anymore, because it is quite a couple of years ago and we had many projects inbetween. But no… not in particular. There haven't been those kinds of problems. I was more involved in the creation of the first Finnair lounge, In the second my colleague from our office was more involved.

I: When it comes to material choice for certain places, which role do textiles play for you?

JH: For us, normally we like to use textiles, because they are acoustical elements. And you can usually bring softness and colours into the space while using them. We used them in the first Finnair lounge. In
the second one we were not really allowed to use textiles because of efficiency and cleanness. We would have liked to use curtain in the second lounge but we were not allowed to have it.

I: Is it because of the requirements and the high international standards?

JH: No, I don't think there would have been any problems. It was just maybe one person's opinion who dominated the decision of not having curtains there. I think it would have improved the acoustics of the space and given a nice feeling.

I: Who was your client?

JH: Finnair.

I: How do you select textiles for specific places, e.g. for airports, but also for other demanding public premises? How much do the given requirements and international standards affect your work and design.

JH: Not very much. We do not start with the standards at all. We start with the feeling and what kind of colours the material has. And then, we go more into the standards and see what we can have. We have a couple of firms and products we use. We are not linked to them but they have a good range of things.

I: How do you keep yourself updated about the latest developments in textile technology and also about fire-retardant materials etc.?

JH: It is the agent of the textile company who comes here to the office and presents new things. Or they ask us to come to their showroom and there we check the latest developments.

I: How many times a year or in a season do you meet them?

JH: Maybe once or twice a year; probably more twice a year. We look at the new things and get samples if we want.

I: Do you also go to international fairs, e.g. Heimtextil trade fair?

JH: We do so, yes; e.g. Stockholm and Milano. But especially for textiles, we usually have seen them already when we go to the fairs. Or we see them quite fast after. For textiles we maybe do not need to go to the fairs. But it is nice otherwise.

I: The salesman of the textile company keeps you updated about their products?
JH: Yes. That’s true. But of course, when you go to fairs you might see something new – you never know. There is also a lot. For example the fair in Helsinki, there is only a small fair and there is really nothing. But Milano is so huge, that you do not really have the energy to go through everything. Stockholm is handier; but still we only go to certain parts of the fair.

I: Do you also use some handbooks or internet platforms for your work, e.g. Material Connexion?'

JH: I don’t know about Material Connexion°. We don’t use it.

I: On which bases do you evaluate the quality of fabrics? E.g. is colour the main thing or is the binding or material more important? Or do you evaluate based on your experience?

JH: First of all the salesman is very important. Then the colour range seems to be quite important for us, sometimes the structures and the prints. But prints are getting a bit boring, because you can do your own prints these days. So prints are not so interesting somehow.

I: It is more about woven textiles?

JH: Yes, so we have one company we collaborate quite a lot with – Kvadrat. And they have quite a good range and everything works really well for us. Therefore, we use quite a lot of their products. We have other companies as well, but somehow, the others don’t service as well as Kvadrat does. It is also a question about service for us. If we have one good product and we get pretty good service, then we use that instead of searching something else. Of course it gives us much more work if we search for other materials. But sometimes there are other companies too.

I: Do you know about the testing methods in textiles, e.g. Martindale?

JH: Yes, we follow them a bit. Of course we choose those one, which are the best for our purpose. But then not all companies have and use Martindale.

I: How important is the number of Martindale rotations for you? Do you only follow the number or do you also know about the technique?

JH: Well, that is usually what we ask them. For us it is important that when we place the material that it stays there for long time. It should be sustainable in such a way, that the product should last long. That is quality in my opinion.

I: During your education at TAIK did you get any teaching in textiles?

JH: No, I don’t think we got any. If we need to use fixed furniture with padding, then we collaborate with the carpenter how to do the stitches and how to fill up the cushioning and the soft parts of it. So of
course we have grown up. So now we know how to do it but in the beginning we did not know so well.

I: In summary, all the knowledge you gained about textile materials came through experience?

JH: Yes.

I: Compared to business lounges, the economy waiting halls lack in outstanding furniture and material. Referring to one quote by Pascal Berberat, who is head of airport division at Vitra, he says that classical airport furniture is too cosy today. Airports don’t want couches; they want people up and shop. Do you agree with this statement? Why, or why not? Do you think beside the design and comfort components, furniture in airport terminals have a “business-driven” function? Where do you see a difference between lounges and economy waiting halls?

JH: Yes, of course. For example at Helsinki airport; they had kind of an open cafe earlier. Now they vanished the whole thing and made the corridor straight and it became a shopping mall nowadays. I think that is really boring. I think shops are important in the airports somehow, you are quite used to it and it is one way of spending your time there. And some people buy things there, because they are cheaper. But they know what they want to buy. But otherwise, in the airports, there should be some nice areas, not only commercial areas. A cafe is a nicer area, even though it is commercial too. But not as much as shops. [...] There should be some kind of openness in airports.

I: Is there any other public place that comes to your mind where there is the aspect of commercial driven design?

JH: The shopping malls are quite equal. An airport terminal is like a shopping mall, it is just behind the gates. Of course there are differences because in airports, there are more value brands, high end brands than in normal shopping centres.

I: What do you think is the future perspective of public premises? Do you think the importance of the creation of these places will increase or decrease? Will there be more projects in the future?

JH: Yes. I think they could start mixing again. I see a bit a problem that all the life in city moves to private areas. I see that a bit as a problem because there is no nightlife for shopping for example. And that is quite interesting – also the shop windows. And the shopping mall is definitely not an answer for that. Furthermore, shopping malls close completely for the nights. You cannot go through them. It is in that sense a bit boring. But for a shopping mall itself I think they will start a bit to change to integrate more cafes. But people are not supposed to hang out there too much, because it is commercial. But I see some interesting things in mixing. For example public services, like libraries and mixes in those kinds of institutes. Somehow the shopping malls are the centres of the places. It is only the city-centre itself that can compete with them. And if you compare those, the city centre is much more interesting, because it has trams and busses and cars, and people and rain and all these aspects.
I: During your work here at the design studio, do you see that there is an increasing need for professional interior design? For example for companies on how they present themselves in publicity?

JH: Yes, I think that's important. Maybe it gets a bit more important in future as it is nowadays. At least I hope it increases a bit here. There is still a need for it.

I: As a final product of my Master Thesis, I plan to develop a brochure/ small handbook for interior designer, with a special focus on textiles and fabrics. From a textile designer's point of view, it would be a collection of data about fabrics and considerations for the implementation of textiles in public spaces. Furthermore, it could be a contribution to enhance the collaboration between textile and interior designer and help to find the right information about fabrics and the latest technology in textiles.
Do you think this kind of brochure might be useful for your work? Why or why not? What else should be content of the brochure?

JH: I don't know. We would check Wikipedia for that, and usually we find quite good answers there. So that is maybe a challenge. You need the information quite fast. So a brochure should be more online. I think that might be more useful.

I: Do you find all the information you are looking for in the internet?

JH: Well, at least there is no information that I am missing right now. So I guess you find it. Well, yes there is some information you need to discuss a bit more about. Then you cannot find it in Wikipedia. You have to discuss it e.g. with a carpenter or other experts.