PRODUCTION OF FLOW FESTIVAL:

Developing the Logistics of Supplies

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Abstract

This project-based research was conducted to provide a coherent picture of the problems related to the logistics of supplies in the production of the Flow Festival (Flow) and to search for improvements to be applied in future productions. Flow is an urban music and culture festival held annually in Helsinki, Finland, since 2004. This research excludes an important aspect of event logistics, the movement of people, and the stress is laid on the movement of supplies. The movement of supplies is considered as the logistical operations revolving around the supplies that are owned or purchased by Flow, and therefore are under the direct control of the festival organization.

The idea of carrying out research about the logistics of supplies emerged after Flow 2010, where the researcher worked as a Production Assistant. After conducting a comprehensive literature review, the research moved on to describe, elaborate on, and report the development process of the logistics of supplies in the production of Flow. The production team members of Flow 2010 were individually interviewed to provide an overall picture of the logistical challenges, development areas and proposed improvements related to the logistics of supplies. In spring 2011 the interview results, which functioned as the primary data for this research, were presented and discussed in a production meeting with the Production Manager and the Production Coordinator of Flow.

The interviews revealed several opportunities for improving the logistics of supplies on various areas including the planning stage, the on-site logistics, and the shutdown of the festival. Many of the problems, which had been recognised by Flow's production team already before launching this research, had not been properly investigated to resolve them. In the production of Flow 2011, where the researcher worked as a Production Coordinator, several of the proposed improvements concerning the logistics of supplies were implemented, which solved or alleviated the problems. Some of the aspects and observations brought up in the interviews or made by the researcher remain as considerations to be taken into account in future productions of the festival.

Keywords
Event logistics, festival logistics, event production, festival production, Flow Festival

Miscellaneous

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Tiivistelmä

Tämä projektikohtainen tutkimus laadittiin tavoitteena muodostaa johdonmukainen kuva tavaralogistiikan ongelmista Flow Festivalin (Flow) tuotannossa ja etsiä parannuskohtia käytettäväksi tulevissa tuotannoissa. Flow on musiikki- ja kaupunkikulttuurifestivaali, joka on järjestetty vuosittain Helsingissä vuodesta 2004 lähtien. Tämä tutkimus, jonka painopisteenä on tavaran liikkuminen, sulkee pois ihmisten liikkumisen, joka on myös tärkeä osa tapahtumalogistiikkaa. Tavaralogistiikalla tässä tutkimuksessa tarkoitetaan logistisia toimia, jotka liittyvät Flow'n omistamiin tai hankkimiin tavaroihin, ja jotka näin ollen ovat festivaaliorganisaation suoran hallinnan alaisia.

Ajatus tavaralogistiikkaan liittyvän tutkimuksen toteuttamisesta syntyi vuoden 2010 Flow'n jälkeen, jossa tutkija työskenteli Tuotantoassistenttina. Kattavan kirjallisuuskatsauksen laatimisen jälkeen, tutkimus eteni kuvailemaan, tutkiskelemaan, sekä raportoimaan tavaralogistiikan kehitysprosessia Flow'n tuotannossa. Flow'n 2010 tuotantotiimin jäsenet haastateltiin yksitellen tavaralogistiikan haasteiden, kehitysalueiden, sekä parannusehdotusten kokonaiskuvan muodostamiseksi. Haastattelutulokset, jotka toimivat tutkimuksen primäärisenä aineistona, esiteltiin ja käsiteltiin palaverissa Flow'n Tuotantopäällikön ja Tuotantokoordinaattorin kanssa keväällä 2011.

Haastatteluissa paljastui useita eri mahdollisuuksia parantaa tavaralogistiikkaa festivaalin eri osa-alueilla mukaan lukien suunnitteluvaiheen, tapahtuma-aikaisen logistiikan, sekä tapahtuman jälkeiset vaiheet. Monet tavaralogistiikan ongelmakohdista olivat entuudestaan tuttuja ja tunnistettu Flow'n tuotannossa jo ennen tämän tutkimuksen käynnistymistä, mutta niitä ei oltu asianmukaisesti tai riittävän hyvin yritetty ratkaista. Vuoden 2011 Flow'n tuotannossa, jossa tutkija työskenteli Tuotantokoordinaattorina, useat tavaralogistiikkaan liittyvistä parannusehdotuksista toteutettiin, jotka lievensivät tai ratkaisivat ongelmia. Osa haastatteluissa tai tutkijan toimesta esille tuoduista näkökulmista ja havainnoista jäävät harkinnanalaisiksi festivaalin tulevissa tuotannoissa.

Avainsanat (asiasanat)
Tapahtumalogistiikka, festivaalilogistiikka, tapahtumatuotanto, festivaalituotanto, Flow Festival

Muut tiedot

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1. INTRODUCTION

This project thesis concerns the production and logistics of Flow Festival (Flow) – an urban music and culture festival, which was for the first time organised in 2004 in Helsinki, Finland, and has annually taken place since. Logistics, which is essential in the operations of any event, is comprised of the movement of people and supplies. In this research, the aspect of movement of people is excluded and the stress is laid on issues related to the movement of supplies. The movement of supplies is studied and defined as the logistical operations revolving around the supplies under the direct control of the festival organisation, concerning the supplies, decorations, construction materials, tools etc. owned or purchased by Flow Festival. The supplies that are provided by suppliers and subcontractors are excluded or paid less attention. The aim of this project thesis is to provide a consistent picture of the logistical problems and challenges related to the logistics of supplies in Flow 2010, and search for development areas and improvements to be applied to the future productions of Flow.

When this project thesis was started, the researcher had a few months earlier, in summer 2010, worked at Flow as a production assistant. The responsibilities of the job consisted of supervising the volunteer work groups and planning the work on the spot, as well as of various logistical tasks related to the construction of the festival site. In summer 2011, the researcher worked at Flow as a Production Coordinator. The main responsibility areas were to plan and administer the construction schedule, and coordinate the construction and dismantling activities executed by volunteers. The initial idea for conducting a thesis on this particular topic arose in a feedback meeting of the festival's production team after Flow 2010. This project thesis starts off with a comprehensive literature review creating a foundation for the research topic, after which it moves on to describe, elaborate on, and report the development process of the logistics of supplies in the production of Flow, including the starting point and the challenges, the applied developments and improvements, and the outcomes.

2. LITERATURE REVIEW

2.1. ORIGINS OF EVENTS AND FESTIVALS IN TODAY'S SOCIETY

Events are temporal phenomena with a beginning and an end. A distinction between an event and a planned event is that with the latter, the programme is planned in detail in advance and it is usually confined to a particular place. Whether it was planned or not, an event can occur only once. Although planned events may resemble each other in form, some aspect of the setting is always different, which alters the experience too. In addition to that, the expectations and attitudes of the participants at an event will always be new. (Getz, 2007, 18-19) Carnivals, fairs and festivals of today originate from religious and traditional celebrations and events. Throughout the history, in most societies the slightest reasons have often been enough for celebration. Both personal- and local events to celebrate certain times of year, such as religious holy days and various festivals and carnivals, which were scattered around the year to brighten up the routine of daily chores and activities, have played an important role in society. In modern society, the religious reasons for having big festivals are not as important as they use to be. However, many events revolve around either a religious period of the year, such as Christmas or Easter in the Christian calendar, or some other traditional period of time such as harvest time, which gives reason for seasonal celebration in rural areas. Today, the multitude of events and the fact that people are very used to having different kinds of events as part of their everyday lives makes it sometimes hard to understand the extent of events and the way they are operate. (Shone and Parry, 2004, 2-3.) Nowadays, the fact that people have more leisure time and money to spend on entertainment, has led to a multiplication of events. One reason for events being central to our culture is the fact that the governments and corporations support and promote events in their strategies for economic development and image promotion. (Allen, O'Toole, Harris, McDonnell, 2008, 5.)

2.2. SPECIAL EVENTS AND EVENT CATEGORIES

'Special events' is commonly used as an all-embracing term by professionals and authors in the field of event management. The definitions of the term may slightly vary from one author to another; however they share the same basic idea. Allen et al. (2008, 11) state that the term special events describes the "specific rituals, presentation, performances, or celebrations that are consciously planned and created to mark special occasions or achieve particular social, cultural or corporate goals and objectives" Goldblatt and Nelson's (2001) definition is almost the same, only phrased with different words: "A special event recognises a unique moment in time with ceremony and ritual to satisfy specific needs." Getz (2007, 27) has two approaches to the concept, from the perspective of an organiser and a customer:

> *1. A special event is a one-time, or infrequently occurring event outside the normal program or activities of the sponsoring or organising body.*
> *2. To the customer or guest, a special event is an opportunity for an experience outside the normal range of choices or beyond everyday experience.*

Unlike the previous definitions, Shone and Parry (2004, 3) include also the organisational events in their definition:

> *Special events are: That phenomenon arising from those non-routine occasions which have leisure, cultural, personal or organisational objectives set apart from the normal activity of daily life whose purpose is to enlighten, celebrate, entertain, or challenge the experience of a group of people.*

Since the concept of special events covers such a wide range of different types of events, professionals in the field use different ways of categorizing special events into smaller, manageable groups. Bowdin, Allen, O'Toole, Harris and McDonnell (2006) and Allen et al. (2008) introduce two different ways of dividing events into smaller groups: by size and scale, and by form and content. Common categories for events, when characterised by size and scale, are *mega-events, hallmark events, major events* and *local/community events. Mega-events* are events that affect the whole economy and can be seen in the global media. Enormous sporting events such as the Olympic Games or the FIFA World Cup can be categorised into this group. *Hallmark events* are events that are identified by and connected directly to a specific town, city or a region. Examples of hallmark events are events such as the Carnival in

Rio de Janeiro, the Oktoberfest in Munich or the Tour de France. *Major events* stand for events that have attracted a level of media interest and are large enough to draw a substantial amount of visitors, media coverage and economic benefits. Many of the international sporting championships fall into this category. *Local or community* events are festivals and events that are aimed at local audiences and exist primarily because of their social, fun and entertainment value. These kinds of events often have the effect of exposing people to new ideas and experiences, encouraging participation in sports and arts activities, and encouraging tolerance and diversity. Because of the aforementioned reasons, governments are often willing to support such events as part of their community and cultural development strategies. There are three categories that are commonly used when classifying events by their form and content: *cultural events, sports events* and *business events*. *Cultural events*, or as Allen et al. (2008) define the same category as *festivals*, are increasingly linked to tourism to generate business activity and income for their host communities. Arts festivals, which can combine different forms of art and multiple venues, are the most common type of cultural events. The most popular form of arts festivals are music festivals, varying from classical music festivals to jazz festivals to rock festivals. The origins of the second category, *sports events*, go back to the Greek Olympics and beyond. Sport events are an important and growing part of the event industry. Sport events often bring benefits to the host governments, profit the participants of the events and provide entertainment and enjoyment for the audience. Business events, also known as MICE (meetings, incentives, conventions, exhibitions/events), are characterised by their strong business and trade focus. However they can be very diverse and have tourism as an aspect in many of their activities. (Bowdin et al., 2006, 15-22; Allen et al., 2008, 12-17.)

Other authors have also presented their views and methods on classifying events. Shone and Parry (2004, 4) introduce a model which arranges special events into four main groups; *leisure events*, including sport and recreation; *cultural events*, including ceremonial, sacred, heritage, art and folklore events; *organisational events*, including commercial, political, charitable and sales events; and *personal events*, including weddings, birthdays and anniversaries. Tum, Norton and Wright (2006, 11-12) split

events into three sectors including *public sector events, private sector events* and *voluntary sector events*. Raj, Walters and Rashid (2009, 11-36), for one, categorise events by their *event objective components* which they divide into three main groups: purpose, people and place. An objective of an event may be a tangible objective to sell tickets or produce a profit, or it may also be a less tangible objective relating to thoughts, feelings and emotions, the latter ones being key objectives for a wedding or some other private party. On the basis of the objectives, Raj et al. (2009) have recognised ten event types: religious events, cultural events, musical events, sporting events, personal and private events, political and governmental events, commercial and business events, corporate events, special events and leisure events.

2.3. EVENTS INDUSTRY AND OVERVIEW OF FINNISH FESTIVALS

As covered in the previous chapter, many authors (Goldblatt and Nelson, 2001; Shone and Parry, 2004; Bowdin et al., 2006; Tum et al., 2006; Getz, 2007; Allen et al., 2008; Raj et al., 2009) have recognised the diversity of events and have created definitions and categories for events to provide better understanding of the extent of the field. There has been some debate whether an events industry actually exists. For example, people who work exclusively with exhibitions view themselves as part of the exhibition industry. Those who work in the live music scene might define themselves as part of the music business. Then again others, such as wedding organisers, may place themselves in a stand-alone industry. Be that as it may, there are multitudes of suppliers whose businesses rely partially or fully on event organisers. (Raj et al. 2009, 4.)

Like already mentioned, events have their origins way back in history when people gathered together for celebrations and rituals often based on religious themes. There is a lot of evidence in history that events, and event sites and venues had a significant influence on the formation of societies and the building of towns. According to Robinson, Wale and Dickson (2010), this particular fact is apparent for example in the ancient Roman cities, which included arenas and amphitheatres for

shows and events, churches for religious gatherings and marketplaces for community and trading events. Events also play a key role in the structures and planning processes of today's towns and cities. In the 12th and 13th centuries, events started achieving identity by their regional status, which influenced the birth of famous annual events, many of them still celebrated today. In the Middle Ages, the development of town planning and the disposition of marketplaces in the city centres gave events the added element to events of being part of everyday lives of the citizens. The Industrial Revolution in the 18th and 19th centuries brought forth rapid expansion in the manufacture of products and equipment, which led to growth in world trade. This, in turn, led to the development of trade fairs and exhibitions. The 1970's introduced a generation of large, multi-purpose venues. Sports stadiums, for instance, started seeking a wider range of events to host and new venues were constructed keeping this diversity aspect in mind. Based only on a few historical milestones, it can already be concluded that events are influenced by the social, political, economic, environmental and technological growth in society and as these factors keep constantly changing, so will the events sector. (Robinson et al. 2010, xiv-xv.)

The swiftly growing events have developed into a recognisable industry during the past decade or so. The main components of the event industry are event organisations, event management companies and event industry suppliers. Events are often run by event organisations or project teams under an organisation. Event (or events) management companies usually consist of a group of professionals who organise events for their clients. These companies usually organise several events at the same time and establish long-term relationships with their clients. The event industry supplier is an individual or a group of people that works directly in event-related areas or in the associated areas of events. An industry supplier who works directly in the event-related areas can be responsible, for example for, staging, sound production, lighting or audiovisual production, whereas the one who works in associated areas can be responsible, for example, for the transport, security or legal services. An important component of today's events sector is also the industry associations, which provide benefits such as networking, communications and liaison

within the industry, training programmes and lobbying on behalf of their members. In addition to the main components of the industry, events are affected by external regulatory bodies such as laws governing the preparation and sale of food or the waste management and removal. Like in any other industry, event organisers and managers have to follow the laws related to employment, contracts, taxation and so on. (Allen et al. 2008, 17-22.)

Finland Festivals (FF) is an event industry association which collaborates with nearly one hundred cultural events in Finland, including multi-arts festivals and special events in different genres of music, theatre, literature and visual arts. The main activities of FF consist of representing the affiliated events and lobbying on their behalf; gathering information and statistics and conducting researches of the industry; supporting in marketing and public relations; and providing training to its members (festivals.fi, 2010). Finland Festivals gather and report annually the attendance ratings of their member events, which illustrate the size of the whole festival sector in Finland. According to the attendance report of 2010, the number of tickets sold was 750 873, which was an 8.8 percent increase compared to 2009. Even when excluding the figures of Seinäjoen Tangomarkkinat, which rejoined FF in the beginning of 2010, the increase in the number of tickets sold was 3.8 percent. The overall attendance of the festivals in 2010 was 1 912 812. This figure includes the various free-of-charge events and is approximately the same as in the previous year. Helsinki Festival took the first place in both categories - tickets sold (103 713) and the overall attendance figures (271 896). The festival-specific rates vary significantly year by year, however it must be pointed out that in terms of the population of Finland, the attendance rates are enormous by international comparison. (Finland Festivals, 2010a.)

According to a research, conducted by Finland Festivals in co-operation with Media Clever, 70 percent of festivals in Finland are self-financing. The research investigated the financial structure of 66 member festivals of FF and the findings were based on the financial figures of the year 2008. The remaining 30 percent of the revenues consist of subsidies from local and central governments as well as from different

foundations. The overall budget of the festivals participating in the research was over 39 million euros, and based on this figure, Finland Festivals' conservative estimate of the aggregate budget of all festivals in Finland was between 45 and 50 million euros. The main revenue for the festivals was derived from ticket sales, which accounted for 43 percent of the 70 percent self-financing proportion. 11 percent came from collaborations and 16 percent from other sources of income, such as restaurant and merchandise sales. The biggest expenses were generated from artist and production costs, which were 51 percent of the overall budget. The marketing costs were 10 percent and the fixed office and rent costs were 8 percent. The fixed salary costs were only 10 percent of the overall budget, due to the reason that festivals hire a lot of temporary workers for the festival periods and voluntary workforce plays a key role in the success of festivals. 21 percent of the expenses were unspecified because several festivals are unable to specify the production and other costs as they are often related to a larger expenditure item such as the cultural activities budget of a local authority. Finland Festivals emphasize that all the figures in question are average statistics in the field and the festival-specific figures may vary a lot because of the diversity of the festival sector. (Finland Festivals, 2010b.) Herein, it is important to distinguish between the ticket sales figures of Flow Festival and the average festival figures as according to Suvi Kallio, the Managing Director of Flow, 80 percent of the income for Flow Festival is generated from ticket sales (Nuutinen, 2010).

2.4. EVENT PLANNING AND OPERATIONAL EVENT MANAGEMENT

Now that the origins, different categories and the industry of events have been outlined, it is important to gain an understanding of the managerial aspects of events. The increased professionalism, new innovations in event education and a wider recognition of the event industry's political, social, cultural, economic and environmental impacts have expanded the scale and scope of the events industry during the past few years. Events in the modern industry are often searching for a balance between creating innovative, impressive production and preventing strong

emotional attachments related to traditions and nostalgia. At the same time, an event is usually expected to gain financial profit, assure its market value and sustain professional production standards. These issues place increasing demands on the skills required from persons working in the industry, especially from those in managerial positions. While the industry is under constant development, the need for eligible and qualified managers is rapidly increasing. (Robinson et al. 2010, xiv.)

Every definition of the term *event* relates to the idea that 'something happens'. The concept of *management* is associated with words such as 'organisation', 'administration' and 'control'. Raj et al. (2009, 11) define event management as "the capability and control of the process of purpose, people and place." According to Shone and Parry (2004, 81-84), the nature of events is non-routine, whereas the techniques to organize and manage them are the opposite. The most important aspect of event management is the planning process. The preparation of a plan requires thinking ahead about the event that is going to be executed and identifying the elements that need to be sorted out. The planning process has to be a systematic approach whereby the plan is broken down into smaller components, so that every important aspect of the event will be covered. While planning is time-consuming, it has the benefit of creating a higher level of focus, offering the experience of thinking ahead and providing a plan for effective control of the progress and outcome of the event. Figure 1 shows the planning process of events management illustrated by Shone and Parry (2004, 83).

FIGURE 1. Planning Process of Events Management. Adapted from Shone and Parry (2004, 83)

The starting point for a planning process of any event is the objectives, which should not be too complicated, comprising one or two primary objectives and preferably not more than six detailed aims. One of the purposes of planning is to indentify potential problems by taking into account the environment of the event, the stakeholders and the circumstances in which the event is taking place. Before moving towards a more systematic approach to the planning process, an outline plan can be drawn up by for example brainstorming around the event idea and gathering information related to the event. Once all ideas and information have been gathered, the plan can be given a proper structure and adopted into the systematic detailed planning process. Following the point when the detailed plans are ready, there should be a gap between the planning process and the actual execution of the event so that there is sufficient time to internalize the plans, check their status and get feedback of them. (Shone and Parry 2004, 82-95.)

There are a lot of similarities between Shone and Parry's (2004) *planning process of events management* and Watt's (1998) idea of planning, who claims that the planning process consist of seven stages. Stage one looks at the *aims and objectives*, presented by the business, client or key stakeholders to start the process for developing an event. Stage two, the *idea and proposal* stage, includes the process of accumulating information on the key areas of the event and its environment. The *feasibility study* and *implementation requirements*, which are the third and fourth stages of Watt's planning process, use the information gathered in stage two to further investigate the internal and external environment of the event and assess all financial risks and other possible impacts of the events on the business. Stage five, the *implementation plan,* is the operational project management period of the planning process. (Watt, 1998, 9.) This stage is directly comparable to Shone and Parry's (2004) *systematic detailed planning process*. There is also a significant level of similarity between the last two stages of Watt's idea of planning – *monitoring and evaluation* and *future practice* – and Shone and Parry's *divestment/legacy* (see Figure 1.).

Tum, Norton and Wright (2006) point out that "an event manager must work with eyes, ears and mind open to activities that are going on around the organisation…" The *Event Operations Management Model* (Tum et al. 2005) was created to help people working in the events field to deal with challenges they confront in the process of managing and planning events (see Figure 2.). In their book Management of Event Operations, Tum et al. (2006) have gathered the most relevant information and theories related to event operations management and introduce and explain the different sections of the Events Operations Management Model. The model is divided into four sections which have several elements that are in common with Shone and Parry's (2004) and Watt's (1998) theories of the planning processes.

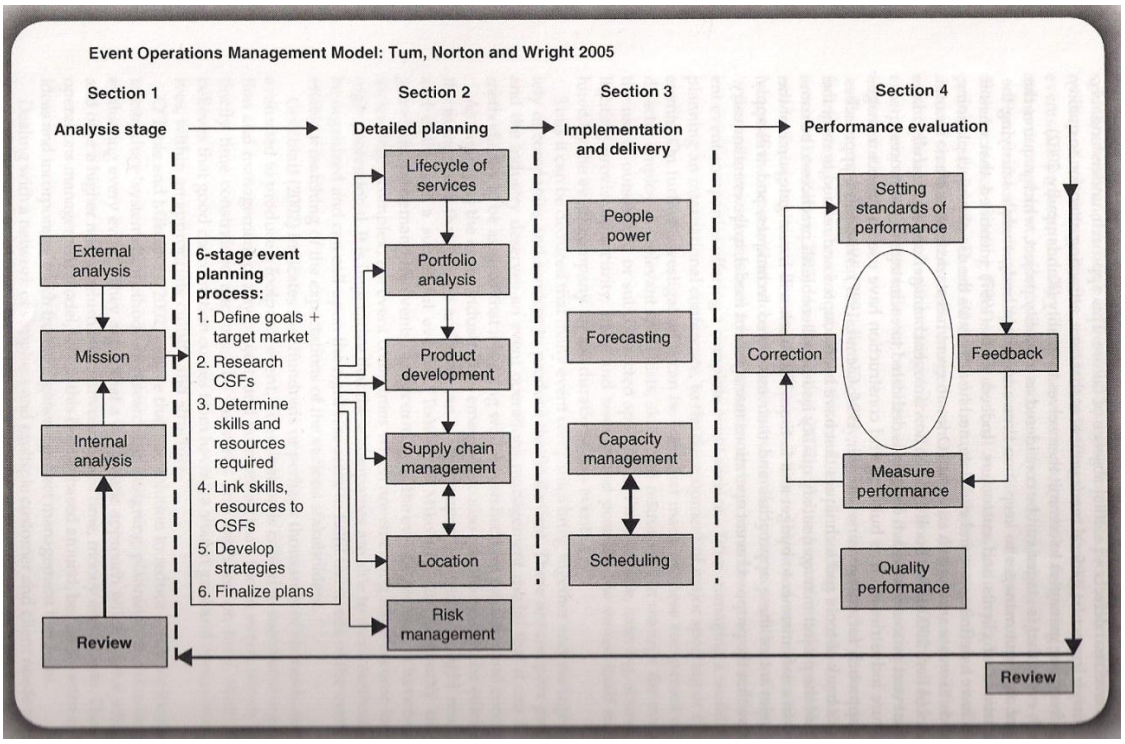

FIGURE 2. Event Operations Management Model. Adapted from Tum, Norton and Wright (2005)

The *analysis stage* explains the process of exploring the external and internal environment of an event organization. The analysis of the environments is based on how different aspects affect the expectations of customers. The external factors affecting the organization include political and legal, economic, sociological and technological factors as well as competition and stakeholders. The collective acronym used for the aforementioned factors, excluding *competition* and

stakeholders, is PEST. The internal factors that affect an event organization are issues such as the corporate culture, the desire for quality, the information systems and finance, and the ownership. The traditional SWOT (strengths, weaknesses, opportunities and threats) analysis is a viable method for exploring the environment an organization operates in, with opportunities and threats representing the external factors and strengths and weaknesses resembling the internal factors. After completing the analysis of the internal and external environments it is possible to begin the actual planning process. The second section of the model covers the process of *detailed planning*. Tum et al. (2006, 93) point out that "planning takes place at several levels and can cover several different timeframes". These include corporate-wide plans, business unit plans, department plans and operations plans, the first three representing long-term plans and operational planning referring to medium-term, short-term and daily plans. The detailed planning process can be broken down to six stages: defining the goals and the target market; researching critical success factors; determining the required skills and resources; linking the skills and resources to the critical success factors; developing strategies; and finalizing the plans. In *the implementation and delivery*, which is the third section of the model, the detailed operational plans made on the basis of the environmental analysis are executed. This section focuses on the key operational issues of managing people, forecasting, capacity management and scheduling. Events are heavily dependent on people, the human resource, and the way people perform and carry out their tasks. A rule of thumb is to keep the people working for an event motivated. The aim is to develop the organization culture to a level where the staff do not regard their jobs only as a source of income but take pride in carrying out their responsibilities. The term organizational culture refers to the way individuals see the organization they are in, including working conditions, wages and rewards, job security etc. This is also an important aspect to be considered in the area of volunteer work of an event, without which many of today's events could not be organized. The forecasting element of the implementation and delivery stage could also be part of the detailed planning stage; however it is a crucial element within the Event Operations Management model. Almost all management decision-making involves forecasting. Although most decisions are based on information about things

that have already happened, forecasting is important in evaluating the circumstances the future will bring along. As mentioned before, at the operational level of event management plans range from medium to short-term plans. The shorter the timeframe is, the more detailed the forecasts should be. Tum et al. (2006) discusses capacity management and scheduling in the context of the process of organizing resources to meet their demand. In a nutshell, the capacity of an event is determined by, as Tum et al. (2006, 202) refer to Wild (2002), "by the resources available for it – space, time, the number of staff and their varied skill level, the management expertise required and many other resources, depending on the scale and style of the event." All of the activities in *the implementation and delivery* section culminate in scheduling, which consists of deciding the order and timing of completing activities and arranging the necessary resources to complete each activity. Also the term 'logistics' is used when discussing the abovementioned activities. (Tum et al. 2006, 163-236.) The fourth section of the Event Operations Management model, *performance evaluation*, is practically identical to the last stages of the planning processes by Shone and Parry (2004) and Watt (1998), which were introduced earlier in this chapter.

2.5. PROJECT APPROACH TO EVENT MANAGEMENT

A production of an event is a project. According to the leading literature on project management, world business is moving towards using separate independent projects to accomplish business objectives (Bowdin et al. 2006, 265; Allen et al. 2008, 159). Shone and Parry (2004), who claim that events are non-routine, is congruent with Gray and Larson's (2000, 4) definition of a project: "a project is a complex non-routine one-time effort limited by time, budget, resources and performance specifications designed to meet customer needs". Heerkens (2009, 2) states that project management has two sides, science and art. The science side is about defining, coordinating and documenting the work and getting familiar with the tools in these areas. The art side is about developing judgement and learning how to lead people, where a worthwhile advice for managers is to pay attention to details but

not get wrapped up in them. Allen et al. (2008) claim that project management can be seen as an 'overlay' integrating all the tasks of management in a process of producing any sort of an asset such as a building, film, software system or festival. In event management the role of project management is to integrate all the different areas of management – including planning, leading, marketing, design, control and budgeting, risk management, logistics, staging and evaluation – together so that they all work towards the event objectives. Allen et al. (2008) refer to Event Management Body of Knowledge (EMBOK 2006) stating that event and festival management is accurately described as comprising five domains, namely administration, marketing, design, operations and risk, which are subdivided into categories or classes. The domains are presented in the different phases of the project of *initiation, planning, implementation and shutdown.* (Allen et al. 2008, 160-163.) Cook's (2004, 3) idea of these phases, or steps as he calls them, is very similar:

1. *Initiate: What is the challenge or problem?*
2. *Plan: How should we go about it?*
3. *Control: Are we on track?*
4. *Close: Finish the job, assess how we did, and capture lessons learned.*

Most of the techniques used in project management are useful to event management. A fundamental technique in the initiation phase is to define the scope of the project. In event management the scope refers to the amount of work required to pull off the event. This involves gaining an understanding of the event and its management. For categorizing, documenting and communicating the scope, project management uses *a work breakdown structure (WBS),* which is a technique that displays the vast number of tasks that have to be completed to deliver the event. The WBS is readily understandable because it groups the tasks into different areas of the project or into different manageable units. For a festival, for example, the WBS groups may include finance, marketing, legal or risk, human resources and administration. Once the WBS is created, it can be utilized to analyse the required resources and to identify tasks and responsibilities in the planning phase. The resources may be services or supplies or a mixture of the two. Analysing the resources assists the event management in deciding whether the services and supplies should be outsourced to suppliers, sourced from a client or a sponsor, or

specially created or constructed for the event. One of the most important outputs in the resource analysis is the human resource plan, which is related to identifying the tasks and responsibilities. The analysis of tasks and responsibilities need to be integrated into a schedule to answer the questions *who* does *what*, *where* and *when.* A Gantt chart is a tool that has been adapted to project management to define these questions and control the project. It was originally created by Henry Gantt, a management science theorist, who applied task analysis and scheduling to the construction of navy ships. A Gantt chart visually summarises the project or event schedule by listing the breakdown of tasks, setting the timelines for each task, defining the priorities of the tasks and monitoring the progress of the event. It is an effective communication and control tool and it can point out problem areas or clashes of scheduling. A network analysis can be created to analyse the relationship of the tasks to each other and to define the priority of the tasks. The basis of the network is its critical path analysis indentifying in which order tasks and activities should be scheduled and performed. Reports and meetings are the most common ways to monitor and control a project or an event. Event management companies typically hold weekly meetings to go through reports from teams and individuals from different responsibility areas. An example of a report used for controlling a project is the *work in progress report (WIP)*, which describes the status of the project. Quality control is also an important area in project management. Merging practical aspects of controlling quality with the overall strategy of an event is called *total quality management (TQM).* There are various techniques of TQM that event companies use to continually improve the quality of their services. As in the planning processes of an event and in the operational event management introduced in the previous chapter, the last phase of project management is the evaluation phase. The acronym *PIER, post implementation evaluation and review*, is commonly used in project management to describe this particular process. (Allen et al. 2008, 169-183.)

There are a variety of different project management software systems to support and assist the practising project manager. Allen et al. (2008) question the direct compatibility of project management software applied to event management; however they state that much of the event management software is excellent for

planning the event management. As examples of some of the leading project management software they mention Kepner-tregoe, Project Cycle Management and Prince 2. For a highly considerable system for event management they recommend the *event plan, achieve and review system (EPARS)* created by William O'Toole. EPARS represents the adaption of the traditional project management process to the event environment (Allen et al. 2008, 184). O'Toole (2011) has evolved the system and currently presents the planning and control of an event as the *EPMS-schema, Event Project Management Schema.* The system is a working model and is continually being compared to actual events and refined (epms.net, 2011). Etouches, Festival Systems and Ungerboeck Systems International are examples of companies that provide different event management software. Etouches provides thirteen different web-based event software tools and cover all major areas of the event lifecycle including planning, marketing, management and execution (etouches.com, 2010). Festival Systems is a similar software provider but specializes in music festivals (festivalsystems.com, 2009). Ungerboeck Systems International (USI) has operated in the field of event software since 1985 (ungerboeck.com, 2010). Thorsten Kolbinger, the General Manager of USI, recently spotlighted the advantages of mobile business solutions in event management. Kolbinger (2010) states that the revolution of smartphones has resulted in a stream of mobile applications developed for users worldwide. In the event industry, mobile applications have been mostly designed for event attendees; however, specialized browser-based mobile applications have recently been created for businesses, especially in the area of customer relationship systems (Kolbinger, 2010). Allen et al. (2008) maintain that all software systems are similar to each other and claim that the most popular software system used in event management is Microsoft Project, which can easily construct a Gantt chart and is a useful tool in explaining the event to its clients. However, using software for an event is not necessarily always effective or worthwhile because of the complex, changing and uncertain environment of the events industry. Software may be successfully applied to some areas of an event but not to be used for comprehensive planning and management of an event. (Allen et al. 2008, 184.)

2.6. MANAGEMENT OF EVENT LOGISTICS

As has been stated, *logistics* or as some call it, *scheduling*, is an important area in the process of managing and planning events. It does not make a significant difference whether it is discussed in the context of event planning process, operational event management or project approach to event management. It is really about authors using different terms to elaborate on similar ideas and adapting them into theories or as Allen et al. (2008, 163) explain it succinctly:

> *The phase approach to describing the management of an event is purely descriptive – as with any description, it approximates reality. The aim is to provide clarity to the confusing tasks involved in event management.*

This chapter will look into the concept of event logistics and the management of logistics activities in an event.

The fact that event logistics is influenced by military and modern business logistics has been identified in the works of several authors (Raj et al. 2009; Allen et al. 2008; Bowdin et al. 2006). The historical heritage of logistics has its roots in the Roman Empire, when people and resources were moved across large geographical regions (Raj et al.2009, 203). The ancient Romans used the term 'logistics' for the administration of its armies. As warfare became more complex, logistics developed into a science dealing with the speed of operations, communications and maintenance of the armed forces. After the Second World War modern business started confronting similar challenges with transport and supply to those faced by the military and therefore started applying experiences and theories used in military logistics. (Bowdin et al. 2006, 352.) Lowe (2002) has two approaches to logistics and initially defines the term in his 'Dictionary of Transport and Logistics' as:

> *Total concept covering the planning and organising of the supply and movement of materials/goods, etc. from original source through stages of production, assembly, packing, storage, handling and distribution to final consumer. Distribution is but one element of whole logistics concept and transport a single element only of physical distribution*.

In his second approach Lowe (2002) condenses the idea, referring to the *ILT Supply-Chain Inventory Management SIG* by stating that logistics is "the time-related

positioning of resources to meet user requirements". Yoeman, Robertson and Ali-Knight (2004, 237) describe the concept from the perspective of events: "Logistics in the context of event management refers to the distribution and flow of service providers and goods to the venue." Allen et al. (2008) and Bowdin et al. (2006) discuss logistics in the context of project approach to event management and assert that the movement of people and material is essential to all special-event operations. The management science of logistics helps the event manager to identify the elements of the operations. The difference between business logistics and event logistics is the time. Unlike business logistics, event logistics takes place over a relatively short time and it has to succeed on the first attempt. Business logistics is an on-going activity of a continual management process of an organization, whereas event logistics often concern a project rather than continual management. Another aspect in comparing business and event logistics is that most business logistics theories concern the supply of products to customers. Event logistics, however, concerns the efficient supply of customer to the product and the supply of facilities to and from the event site. Therefore, event logistics has more in common with military logistics than with modern business logistics. (Allen et al. 2008, 487-488; Bowdin et al. 2006, 352-353.)

Allen et al. (2008) and Bowdin et al. (2006) created a structure of event logistics by organizing the elements of event logistics into a logistics system (see Figure 3). There are three supply areas: *customer*, *product*, and *facilities*, which create the basis for the logistics system. The *event site logistics*, also known as the on-site logistics, concerns the flow of the supplies around the site during the event, and *event shutdown* includes the logistics considerations for the removal of supplies and clearing the site. (Allen et al. 2008, 488; Bowdin et al. 2006, 353.)

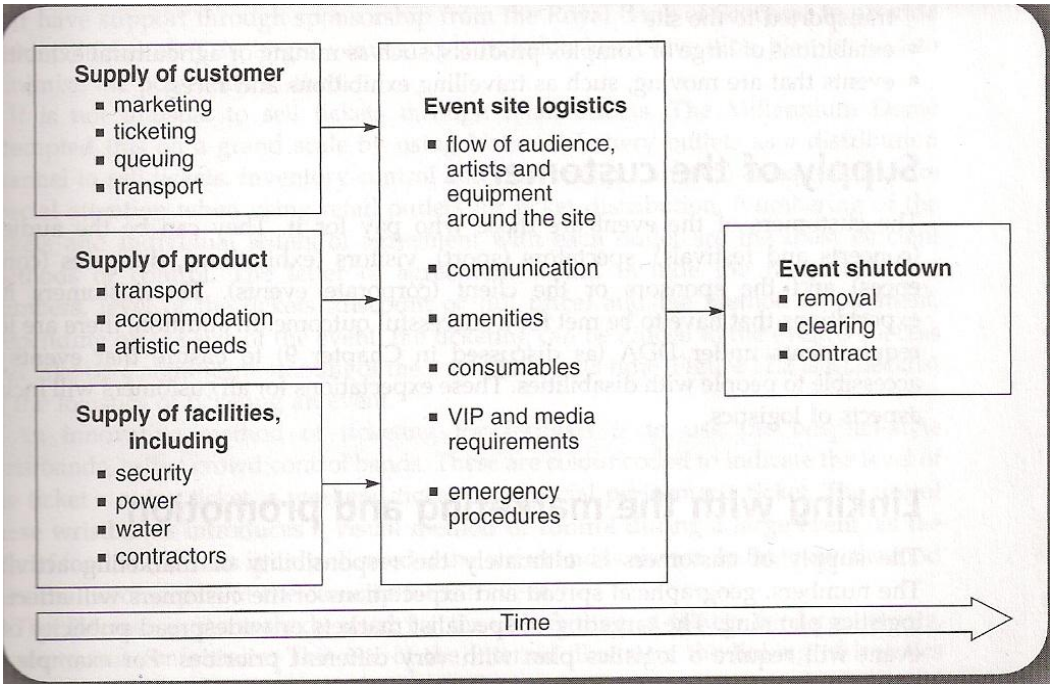

FIGURE 3. Elements of the logistics system. Adapted from Bowdin, Allen, O'Toole, Harris and McDonell (2006)

The customers of an event, consisting of the audience and sponsors, have various expectations from an event, which often include logistical aspects. Therefore logistics has to be integrated in and linked to all areas of the overall planning process of an event. (Allen et al. 489.) The logistics plan is not an independent operational process – areas such as financial management, marketing, and human resources are necessary in the management and delivery of the plan (Raj et al. 2009, 204). Within the marketing activities of an event, for instance, logistical aspects are brought into play when finding the right target markets for the event. The target markets may be geographically widespread and the transport requirements for each target group may vary according to the distance travelled. The transportation issues of customers are also essential in general when preparing the logistics plan for an event. The first impression of an event can influence all subsequent experiences at the event. For the audience, the first and the last impression of the event is the parking facilities and traffic control. Therefore the method and timing of arrival should be closely considered in the logistics plan. 'Queuing' is also a major issue affecting the customer experience. The customers confront queuing in various forms – first, queuing for a ticket or parking, and inside the event venue they queue for food, toilets and seating.

The event experience for the customer can be improved by calculating the perceived waiting time of a customer at an event and finding ways to reduce it. 'Ticketing' is also highlighted as one of the important areas of supply of customer. Ticketing is not generally considered as an area of logistics; however, the distribution, collection and security of tickets require logistical planning. (Allen et al. 2008, 489-494.)

Any event can be regarded as the presentation of a product. Events usually have a variety of products and services, known as the product portfolio, with individual logistic requirements. Besides tangible products and services, the performing groups of the product portfolio may also include, for example, the venue facilities or the audience itself. In indoor events, the *supply of facilities* is often provided by the venue; however, for example a larger outdoor festival needs to source almost all of the facilities. The supply of facilities or the supply of the infrastructure to an event site involves many of the concepts of business logistics. (Allen et al. 2008, 496-497.) The variation of resources for an event can be sourced from many different suppliers. Some of the resources can be under the direct control of the management of the event, whereas others may be outsourced or subcontracted to specialists. All the different suppliers, put together, form a chain which enables the flow of the products and services into, through and from the event organisation. A break in the chain, meaning that one or more suppliers fail to carry out their responsibilities, will have an adverse effect on the event and its customers. Ergo the management of this chain, the *supply chain management*, is an important aspect of event logistics. The salient points in managing the supply chain are to question the required number of suppliers and compare purchasing and sourcing opportunities. Some products may be bought and owned by the event organization while others will be used just for one event. In some cases, for example in leasing agreements with caterers, it is the whole service that is purchased and the contracted company will provide their own products and staff. The relationships with these purchasing and leasing activities should be planned and managed carefully since they constitute vital supply chains for the event. (Tum et al. 2006, 116-117.)

After the required resources and suppliers have been compiled, the next step is to manage the flow of them around the site (see Figure 3). Allen et al. (2008) and Bowdin et al. (2006) highlight communication, amenities, consumables, VIP and media requirements, and emergency procedures as key areas in the event-site logistics. It was already noted by Korza and Magie (1989, 51) over two decades ago that "even the smallest festival will surprise you with the vast volume of details to be coordinated in the areas of site and logistics". The larger the event, the more complex the event-site logistics considerations will become. During the lead-up to an event, subcontractors can take care of several aspects of the logistics by transporting their products to the event site. However, once the resources or facilities are on site, their positioning, movement and operation is the management's responsibility. (Bowdin et al. 2006; Allen et al. 2008.) The event logistics should be explained as on-the-ground activities including communication, emergency planning, fire safety management, crowd management, on-site transportation management, waste management, venue site design, medical facilities/welfare, and barriers and fencing (Raj et al. 2009, 207). On-site logistics needs an efficient communication system combining a variety of communication methods and devices. Perhaps the most common communication devices for large events are two-way radios, where certain channels are reserved for emergencies and the police. On-site signage is another important part of communicating to the attendees of an event. An important aspect of on-site signage is position and clarity. It can be anything from simple messages on a whiteboard in the dining area for the attention of volunteers to large on-site maps showing the public the locations of facilities. A map of the event site is a necessary communication tool for the management operations of logistics. The map for larger festivals can be for example an aerial photograph with the logistic features drawn onto it. A logistics map includes very different information compared with the site map used for promotional purposes, and the information in the site map for logistical purposes can be very diverse and detailed. (Bowdin et al. 2006; Allen et al. 2008.)

The shutdown of an event (see Figure 3) can take a considerable amount of time and effort, which is usually in direct proportion to the size and uniqueness of the event. The most difficulties arise in inaugural events, whereas repeated events have often

refined their shutdown schedule over the years and therefore the shutdown can run quickly and smoothly. The tools of project management can be used to manage the shutdown process. The plan for the shutdown should include a work breakdown structure, a task/responsibility list and a schedule. The first concern of the shutdown process is the crowd dispersal and making sure that the crowd exits the site safely. Usually, at this stage, no major dismantling work can be done until the crowd leaves. After the crowd has left, the dismantling work may begin. All the subcontractors should know exactly how to get their equipment out and where they are placed in the order of removal. The equipment, owned or leased by the event, must be collected, repaired and stored, or returned to its owners. The final step of the event shutdown is assessing the effectiveness of the management of the event. This may not be the responsibility of the person in charge of the logistics. However, since the logistics plan is part of the overall event project plan, it has to go through the assessment too. There has to be written documents and files on the logistics, or otherwise it is hard to suggest real improvements for the next event. (Bowdin et al. 2006, 369-371; Allen et al. 2008, 510-513.)

In some cases, especially with events arranged once a year, the volume of the supplies owned by the event can be so large that it needs storage facilities during the off-season of the event. Allen et al. (2008) and Bowdin et al. (2006) mention the storing of equipment being part of the logistics system of an event shutdown process; however they do not explain it in detail. This issue seems to be congruent with the other literature dealing with event management. However, as Allen et al. (2008, 522) state, event logistics has the advantage of building on the basis of business logistics, and the same statement can surely be applied to storing the event supplies. Before it is possible to store the supplies properly, they should be arranged in some logical order. From the industrial perspective, this process can be identified as inventory management. Narayan and Subramanian (2008, 2) define inventory as ‘the blocked working capital of an organisation in the form of materials’. In their more down-to-earth approach to the topic, they refer to the daily purchases of households. Households buy milk on a daily basis, vegetables on a weekly basis and groceries on a monthly basis, building up a stock to be maintained. This stock of

items is called the inventory. When the inventory is managed properly, it 'provides information to efficiently manage the flow of materials', 'to effectively utilise people and equipment', and 'to coordinate internal activities and communicate with customers'. Inventory management does not make decisions or manage operations but provides information that helps managers to make more accurate and timely decisions. An *inventory catalogue*, which is a list of all the items in the inventory, is a commonly used tool in industrial inventory management. The list should contain an identifiable number or a code for each item, a description of the item, data on its annual consumption, names of its suppliers, its average life, and the stock of the item. (Narayan and Subramanian, 2008, 3-31.) There are various ways to information for the inventory catalogue. Inventory Operations Consulting L.C.C. provides tips and information on inventory management and warehouse operations on their website (inventoryops.com, 2010). Dave Piasecki (2002), the owner and operator of Inventory Operations Consulting L.C.C., explains the basics of *Automated Data Collection* (ADC), also known as *Automated Data Capture,* which concerns the hardware and software systems used for collecting data and processing transactions. The most common ADC technology is barcodes. There are two types of barcodes, one-dimensional (1D) and two-dimensional (2D). 1D barcode is the traditional form of barcodes used by most shops and warehouses. 1D barcoding is an inexpensive way to keep track of supplies and in most cases can hold enough information to access associated records in the inventory system database. 2D barcodes use 1D barcodes as counterparts and are capable of storing more information in them. An optional system for barcoding is radio frequency identification (RFID), which refers to devices attached to an object that transmit data to an RFID receiver. RFID has advantages over barcodes, such as its ability to hold more data and to change the stored data as processing occurs. In addition to that, they are very effective in harsh environments where barcode labels do not work; however, it tends to be cost prohibitive for most inventory tracking applications. The hardware costs of ADC equipment continue to come down; however, the cost and quality of integration have often proved to vary. The comprehensive use of ADC is rarely beneficial for a project and therefore it is wise to start small with processes that can benefit from ADC applications. (Piacecki, 2002.)

Alongside the importance of creating a logical inventory, the location of the storage also plays a key role in the process of storing and organizing supplies. The most important aspects when choosing a location for a warehouse is to minimise the total kg-km of transportation of materials within the constraints imposed by other environmental aspects: availability of suitable land, water, power, manpower, approaches, source of raw material and markets. Keeping the environmental aspects in mind, it is advantageous to have the warehouse close to the point of use. After choosing the location for the storage, the next step is to plan the layout and storage methods for the supplies, which can be considered as the physical aspect of warehousing. An important area of physical warehousing is the utilisation of heights and floor space. In industrial warehousing, utilisation of floor space is better in single-product warehouses than in multi-product ones. The storing height has to be considered on the basis of ease of storage, retrieval, type of packages, load characteristics, flooring, roofing, ladder facility and handling facilities. Another important consideration of physical warehousing is the width of the aisles, which have to be designed on the basis of material handling equipment. If the warehouse uses forklifts and trucks as handling equipment, it is difficult to utilise more than 60 percent of the floor space in addition to the aisles. When it comes to choosing the appropriate stacking methods, the simplest way is the block stacking, where unit loads are stacked one over the other. The advantages of this method are that no special storage equipment such as bins or racks is needed and space utilisation is high. A major disadvantage of it is that gaining access to the supplies is difficult. A storage method of that uses bins, racks or shelves, allows direct access to every single item. This special storage equipment usually comprises wooden or metallic structures that divide storage space into compartments and provide various arrangement options for the supplies. (Gopalakrishnan (2009, 10-19.)

2.7. FLOW FESTIVAL

Flow Festival (aka Flow) is an urban music-, arts- and culture festival, which has annually taken place in Helsinki since 2004. The event is organised by Flow Festival Oy (formerly Nuspirit Helsinki). In the first two years, Flow was held at Makasiinit, which was a set of old warehouses in the heart of Helsinki. (flowfestival.com.) In 2002, after a long-lasting controversy, Makasiinit were condemned to be demolished and replaced with a new music centre. In spring 2006, three days before the commencement of the demolition work, a fire in the area, set by a bunch of teenagers, destroyed some of the buildings. (Tervola, 2010.) The Helsinki Music Centre is currently under construction and will open on 31 August 2011 (musiikkitalo.fi, 2010). In 2006, Flow was held at four different venues around Helsinki, and in 2007, the festival moved to its current site, the old Suvilahti power plant area (flowfestival.com). The power plant was inaugurated in 1909 and it was designed by architect Selim A. Linqvist. The power plant operations discontinued at Suvilahti in 1976, and in the beginning of the 1980's, the area was for the first time used for cultural projects. Today, the Suvilahti power plant is under the administration of Real Estate Company Kaapelitalo and numerous culture and business-related activities area operated in the area. (suvilahti.fi.) In 2010, Flow comprised an opening concert, held on 11 August 2010, and the actual festival, held on 13-15 August 2010. Altogether, during the four-day-event, the festival attracted approximately 50 000 visitors, setting a new attendance record for the event. (Flow Festival/ Nives, 2010.) The 8th Flow Festival was arranged on 12-14 August 2011. The festival site was developed and extended for Flow 2011; however the capacity of the audience did not significantly increase. (flowfestival.com.)

3. RESEARCH PROBLEM

The most salient challenges of logistics in the production of a relatively large festival, such as Flow, are the number of details to be observed and the project nature of the event, which sets designated time frames and deadlines for different activities and operations within the production. At Flow 2010, for instance, the construction period of the festival site was less than two weeks. In such a short time, there is not much room for hesitation and all the operating activities, including the logistics of supplies, have to be executed effectively and run smoothly. In 2010 there were several occasions when tasks, especially those conducted with volunteer work, were interrupted because of problems in some area of the logistics of supplies. At times, this also led to repeating and starting once-completed tasks all over again, which reduced the efficiency of the work. One of the areas where problems most often occurred in the logistics of supplies at Flow 2010 concerned the disorganised storage system of the supplies owned by the festival. Not only the insufficient and impractical storage facility caused problems, but also the disorder and the lack of a clear inventory system aggravated the smooth movement of material. In November 2010, the supplies were transferred into a new warehouse. However, several considerations were yet to be determined in organising the supplies in the warehouse. All in all, the planning of the logistics of supplies has to be intensified in the production of Flow. In forming a comprehensive picture of the challenges and searching for improvements concerning the logistics of supplies at Flow, the following questions should be examined:

1. What were the biggest challenges related to the logistics of supplies in Flow 2010?
2. What are the considerations to be taken into account concerning the new storage facility and how should the supplies be organised?
3. How to improve the efficiency and attain a smoother logistics of supplies?
4. Which actions were taken in order to improve and develop the logistics of supplies in Flow 2011 and what considerations should be taken into account in future productions?

4. METHOD AND METHODOLOGY

4.1. METHOD

Before setting the methods for this research, it was generally known that the challenges concerning the logistics of supplies in Flow mainly emanated from the discussions within the production team. Therefore, the researcher found it appropriate to use a qualitative research approach. The aim was to review the logistical problems and development ideas from different perspectives of the production by collecting primary data for the research. Primary data refers to the empirical material including first-hand information on the research subject collected by the researcher (Hirsjärvi, Remes and Sajavaara, 2007). The most common exploratory qualitative methods to collect primary data include focus-group interviews, in-depth interviews, observations and surveys (Carson, Gilmore, Perry and Gronhaug, 2001). In this research, the method for collecting primary data was to use a semi-structured theme interview, where the interviewer has a list of topics but has considerable freedom in the sequencing of questions, in the exact wording, and in the amount of time and attention given to each topic (Robson, 2002, 278).

4.2. METHODOLOGY

The research started off with forming a framework for the subject by studying the special events industry, planning and management models as well as traditions of events, and the logistical aspects of events and festivals. The second phase of the research was to individually interview each production team member of Flow 2010 and form a consistent picture of the logistical black spots, development areas and improvement suggestions related to the logistics of supplies. After analyzing the primary data from the interviews, the interview results were presented in a

production meeting, where there was discussion about what kind of actions would be implemented in order to improve the logistics of supplies in Flow 2011.
In the third and last phase of this project thesis the original plan was to record the production feedback meeting of Flow 2011 and evaluate the outcomes of the development process concerning the logistics of supplies based on the discussions that took place in that meeting. This recording of the meeting was not however carried out due to technical problems with the recording device and the researcher had to settle for compiling the evaluation by writing notes and making observations.

4.3. INTERVIEW

The intention was to conduct a total of six face-to-face individual interviews with the Flow 2010 production team members including Production Manager Piia Lääveri, Production Coordinator Tomi Mutanen, Production Coordinator Antti Moilanen, Production Assistant Lauri Talja, Production Assistant Jaakko Suni and Runner/Haulier Tony Moisio. The interview with Production Assistant Lauri Talja was conducted by videophone via Skype due to Talja being abroad at the time. Production Assistant Jaakko Suni's busy schedule prevented conducting a face-to-face interview with him; however the key questions used in the interviews were sent to Suni via e-mail. Due to the fact that Runner/Haulier Tony Moisio was acquainted with only some of the logistical areas in the production of Flow 2010, and therefore did not have viewpoints about all of the areas, his interview was combined with the interview of Production Coordinator Tomi Mutanen. Each interview was designed to last approximately sixty minutes based on Robson's (2002, 228) statement about the ideal length of an interview:

> *Anything under half an hour is unlikely to be valuable; anything going much over an hour may be making unreasonable demand on busy interviewees , and could have the effect of reducing the number of persons willing to participate, which may in turn lead to biases in the sample that you achieve.*

All of the interviews conducted for this research followed the same structure and the interview questions were divided into four sets of questions and discussion areas concerning the storage of supplies, event site logistics of the supplies during the

construction period, event shutdown logistics of the supplies during the dismantling period, and a summary of the overall logistics of supplies. In the beginning of each interview, the interviewees were explained the purpose of the interview and the meaning of the logistics of supplies in the context of this particular research. In addition, the interviewees were asked to explain their roles, job descriptions and responsibility areas in Flow 2010. The discussion on the storage of supplies consisted of enquiring about the biggest challenges related to the old warehouse, the considerations to be taken into account with the new warehouse, suggestions on how to organize the supplies in the new warehouse, and charting general improvements for the storage of supplies. The interview questions related to the event site logistics during the construction period focused on inquiring about viewpoints on the arrival of the supplies at the site, the temporary storage of the supplies on the site, and the movement of materials and tools during the construction activities. The interview questions related to the dismantling period sought the key challenges that occurred in the dismantling activities of the festival site and probed for solutions how to improve them. In the last section of the interview, the summary, the interview questions were designed to inquire about thoughts and opinions of the interviewees related to all the discussion areas covered in the interview and generally concerning the movement of material and supplies in Flow.

5. INTERVIEW RESULTS

5.1. LEAD-IN

The following interviews were conducted in the listed order to collect primary data for this research. In addition, the key questions used in the interviews were sent to Production Assistant Jaakko Suni, who replied to them on 11 May 2011 (Appendix E).

INTERVIEW 1

Interviewee: Piia Lääveri (Production Manager)
Interview Date: 4 April 2011
Interview Length: 60 min 30 sec
Tasks and Responsibilities in Flow 2010:
- Planning and coordinating the infrastructure of the festival site
- Technical production
- Some areas of the artist production
- Personnel administration
- Worked for Flow since 2008 as a Production Manager

INTERVIEW 2

Interviewee: Antti Moilanen (Production Coordinator)
Interview Date: 4 April 2011
Interview Length: 55 min 13 sec
Tasks and Responsibilities in Flow 2010:
- Planning and administrating the construction schedule
- Some areas of the subcontractors' schedules
- Recruiting and coordinating the volunteer workers
- Estimating the requirement of workers for construction activities
- Administering the construction and dismantling activities
- Worked for Flow since 2008; first time as a Production Coordinator in 2010

INTERVIEW 3

Interviewee A: Tomi Mutanen (Production Coordinator) ***Tasks and Responsibilities in Flow 2010:*** - Planning and coordination the infrastructure, construction, and dismantling of the festival site - Managing the supply chain of subcontractors and suppliers - Coordinating on-site activities - Administrating the supervision of work - First time as a Production Coordinator in 2010
Interviewee B: Tony Moiso (Runner/Haulier) ***Tasks and Responsibilities in Flow 2010:*** - Transporting supplies, materials, tools etc. into and out of the festival site - Collecting and returning the rental supplies - First time as a Runner/Haulier in 2010
Interview Date of 3a/3b: April 5 2011 ***Total Length of Interview 3a/3b:*** 72 min 56 sec

INTERVIEW 4

Interviewee: Lauri Talja (Production Assistant) ***Interview Date:*** 6 April 2011 ***Interview Length:*** 48 min 22 sec ***Tasks and Responsibilities in Flow 2010:*** - Supervising the construction activities conducted with volunteer work - Constructing the festival site - Transportation of the supplies - First time as a Production Assistant

In all of the interviews, the interviewees were asked to give general viewpoints about the logistics of supplies in the production of Flow, before proceeding to the more detailed questions. According to Moilanen, during his three-year working experience at Flow, the overall logistics of the festival has improved; however there is still plenty of room for further development. Moilanen also recalled that in the production of Flow 2010, the amount of supplies and materials was more than ever before and the production schedule was tighter than in previous productions. From the top of his mind, Moilanen stated that the biggest problems concerning the logistics of supplies in 2010 were the unnecessary packing and unloading activities, which generated extra work on several occasions. Lääveri confirmed that the amount of supplies will increase in the upcoming festival, including, inter alia: new furniture for the artist backstage areas; new signs, fence tarpaulins and banners; and one sea container of construction materials for a new restaurant. Lääveri noted that one consideration in

the near future will be what shall be done with old supplies that are no longer used by the festival. The fact that three of the interviewees were first-timers in their roles in Flow 2010 generated some challenges for them to get acquainted with the festival site and the production in general. Especially Mutanen accentuated that piecing together the overall picture of the production took quite a lot of time for him.

5.2. STORAGE OF SUPPLIES

5.2.1. ADVANTAGES AND DISADVANTAGES WITH THE OLD WAREHOUSE IN VALLILA

The first question concerning the storage of supplies was to enquire about the interviewees' opinions about the old warehouse that had been used for storing the supplies owned by the festival from 2008 until November 2010 and which was situated in Vallila, approximately two kilometres from the festival site in Suvilahti. It was mentioned in all of the interviews that the biggest advantage with the Vallila warehouse was the nearby location and short transportation distances, which according to Lääveri supported well the green values of Flow. Another advantage with Vallila, according to Lääveri and Mutanen, was that it was a relatively cheap storage solution for the supplies in Helsinki. A predominant problem with the Vallila warehouse, which was brought up in all of the interviews, was that there was no direct access to the actual storage space from the road. Moving the supplies into or out of the storage space required using an elevator or alternatively stairs, which slowed down the whole transportation process of the supplies. Moisio and Talja, who were most of all involved in physically moving the supplies, stated that manoeuvring large objects and articles was extremely challenging in Vallila. Moisio recalled that the time that was consumed for emptying out the warehouse and transporting the supplies to the festival site in the beginning of the construction period took approximately three days. Mutanen estimated that even if the workforce had been increased in handling the supplies at Vallila the transportation process would have not been faster. In all of the interviews it was mentioned that the Vallila warehouse started being too small and cramped for all the supplies. This made it

hard to organize the supplies into a clear order. Lääveri and Talja also pointed out that the low height of the storage space made it possible to stack only a limited amount of supply units on top of each other. According to Moilanen, a lot of time was wasted in finding the supplies in the warehouse, because they were cluttered and scattered around.

5.2.2. CONSIDERATIONS WITH THE NEW WAREHOUSE IN RAJAMÄKI

In November 2010, the supplies owned by Flow were moved into a new warehouse in Rajamäki, located approximately 50 kilometres from Suvilahti. The five sea containers, which function as additional storages especially for construction materials, are situated in the same area as the new warehouse. Lääveri listed the biggest advantages with the Rajamäki warehouse as being that the rent per square metre is approximately the same as it was in Vallila, the size of the new warehouse is bigger and the layout is better in general compared to Vallila, and there is an opportunity for renting more cold storage area at the location if necessary. According to Mutanen and Talja, moving the supplies into the new warehouse was already a significant development step in the logistics of supplies as such. When the interviewees were asked what would be the most important considerations to be taken into account with the new warehouse, they were unanimous about the fact that the supplies should be organized into a clear order and into conveniently manoeuvrable units so that the storage space would be utilized efficiently and the supplies would be easily found. In addition to the clear order of the supplies, Mutanen and Moisio emphasized that the trips for transporting the supplies back and forth between the festival site and the warehouse should be reduced due to the fact that Rajamäki is so much further away than Vallila. To reduce the trips, both Moisio and Mutanen stated that the vehicle used for transporting the supplies to the festival site and back to the warehouse has to be bigger. Mutanen also stated that rather than using only a truck and a van for transporting the supplies, as in Flow 2010, the quantity of the vehicles could be increased to avoid multiple trips.

5.2.3. ARRANGEMENT AND INVENTORY OF THE SUPPLIES

All the interviewees agreed that to get the supplies into a clear order, a proper inventory is required. According to Lääveri, in the process of organizing the supplies, it has to be considered how they are most efficiently and compactly packed, what kinds of vehicles are used to transport the supplies, in which areas on the festival site the supplies are needed, and in which order the supplies are transported to the festival site. According to Mutanen and Mosio, when organizing the supplies on the basis of the festival site areas where they are needed, the supply categories in the inventory should be formed by the fixed elements and areas in the festival's infrastructure, and not by transient areas that exist in one production but may be different in another. Mutanen estimated that this would entail forming five to six main supply categories with subcategories in the inventory. According to Talja, the ideal arrangement of the supplies would be to arrange them according to what leaves first from the warehouse to the festival site. Talja realized, however, that defining this order is difficult, and therefore supposed that similar supplies should be placed in the same categories and units. Lääveri stated that organizing the supplies of Flow into convenient categories and units is challenging due to the fact that the supplies are so diverse. Despite this, she agreed that there should be an annual inventory made of the supplies, where the supplies are arranged into manoeuvrable units and tagged or numbered. Lääveri added that making the inventory should not only pertain to the supplies stored in the warehouse but also to the supplies in the sea containers. Moilanen pointed out that when packing the sea containers, which hold mainly construction materials, they should be organized so that the materials that are needed first in the construction activities would be packed last in the containers. Moilanen recalled that in 2010, for instance, all the materials used for constructing a floor for the large food tent were first removed from the containers and then organized into the order of use. Another hands-on suggestion from Moilanen was that the forklift pallets were packed in such a way that they could be stacked on top of each other. Moilanen asserted that with a clear order of supplies a lot of unnecessary headache would be reduced. In general, Moilanen emphasized that the construction schedule and the construction activities should be linked better

together with the process of planning the logistics. He also pondered that in the past the logistics side in the production of Flow has not been given as much attention as it perhaps would have required. According to Lääveri, there has been consideration in the past years of lending out some of the supplies during the off-season of the festival. This however has never been carried through, partly due to the fact that the supplies at the warehouse have been so scattered. If the supplies, however, were in a clear order, lending them out would be an option in the future. Lääveri's hesitation at the possibility of lending out the supplies is the location of the new warehouse, which is a lot further away than the old one, and the fact the supplies would be subject to wear and tear while on loan.

The general consent among the interviewees was that there should be an annual inventory made after each festival. Especially Mutanen emphasized that the warehouse should be reorganized and an inventory created already before the upcoming festival, for instance in the beginning of the summer. According to Moilanen, the profitability of reorganizing the warehouse before the next festival depends on the estimated expenses, although Moilanen assumed that if the warehouse was in an order it would presumably save a lot of time and reduce the amount of extra work from the construction period. The issue of how many resources should be put into generating a functional storage system was discussed especially with Lääveri and Mutanen. According to Mutanen, the feasibility of creating a clear inventory and storage system is realistic. In spite of everything, the storage of supplies is a relatively small area of the overall production of Flow and therefore it could be developed soundly; however it has to be considered to what extent it is profitable. Mutanen stated that for example applying barcodes or other electronic data collection devices is most likely unnecessary for Flow's purposes. Although the volume of supplies in the Rajamäki warehouse is rather small compared with big industrial warehouses, the range of individual units and articles is diverse and therefore data collection devices would not be useful. Time-wise Lääveri believes, based on her own experience of working at a large warehouse, that reorganizing the warehouse and creating an inventory would only take a couple of work days.

5.3. CONSTRUCTION PERIOD (ON-SITE LOGISTICS)

5.3.1. THE ARRIVAL OF SUPPLIES AT THE FESTIVAL SITE

In Flow 2010, the construction period of the festival site started on 4 August 2010, a week before the opening concert. In terms of the logistics of supplies, the construction period started by emptying out the warehouse and transporting the supplies to Suvilahti, where most of the supplies were temporarily stored in one of the indoor venues, the Diesel Garage. In addition to this, the four sea containers, which mainly contained construction materials, arrived at the site and were placed in the area where the main stage was built later on. After the sea containers were emptied, they were removed to the maintenance area. All of the interviewees thought that using the Diesel Garage as a temporary storage for the supplies generated some challenges, especially at the point when the preparation of the venue started and the remaining supplies had to be removed elsewhere. According to Moilanen, storing the supplies temporarily in the Diesel Garage and soon after removing them to another place was not the most efficient solution and suggested that the supplies that are brought into play in the beginning of the construction period should be transported directly to the areas where they are needed. According to Lääveri, the same issue applies with the sea containers, which should be situated closer to the areas where the contents of the containers are needed. Mutanen proposed that the sea containers could be kept on the festival site throughout the construction period, rather than being removed to the maintenance area until a day before the event, so that they could be utilized more efficiently.

The option of using the sea containers as temporary storage space after emptying out the construction materials from them was discussed with all of the interviewees. The problem that came up with that solution was the fact that the sea containers are accessible only from one end. This would mean that the order in which the supplies are be packed in the containers is be crucial, though it would be extremely tricky to

implement. All three – Lääveri, Moilanen and Mutanen – stated that the sea containers would function as temporary storages if they could be opened from the flanks, in which case the supplies could be accessed with a forklift. Lääveri, Moilanen and Mutanen also came up with an alternative solution for the temporary storage space, which involved using one of the big tents on the festival site. They noted that this solution would, however, require round-the-clock security provided on the site from the beginning of the construction period and it should be a tent without a floor constructed inside of it, so that the forklifts could drive inside the tent to fetch the supplies. Mutanen stated that in any case there should also be a locked indoor storage space for the supplies. Lääveri remarked that even though the Diesel Garage generated some challenges in 2010, there are not many alternative temporary indoor storage spaces available on the site. Talja mentioned that an advantageous aspect of the using the Diesel Garage as temporary storage was that it is located on a central spot on the festival site.

Although Lääveri herself was not so closely involved with the arrival process of the supplies at the site, she presumed that generally better organisation of the supplies would facilitate the whole process. Lääveri therefore emphasized the fact that it would be wise to make a clear inventory of the supplies before the next festival's construction period. Moilanen pointed out that a lot of the supplies were brought to the site before they were actually needed and once again accentuated the importance of linking the construction schedule and the logistics plan. Moilanen also stated that he personally would support fully relinquishing the use of sea containers as storages, though he was aware of the cost efficiency in the use of them. In the beginning of the construction period, Moisio found it difficult at times to transport the right supplies to the right area on the festival site, due to the fact that he was not acquainted with either the supplies or the festival site.

5.3.2. CONSTRUCTION ACTIVITIES CONDUCTED WITH VOLUNTEER WORK

One aspect in the interviews was to contemplate the construction activities conducted with volunteer work from the logistical perspective. The construction activities consisted of constructing a floor to the large food tent; assembling the fences; installing carpets in various indoor venues, tents and backstage areas; assembling the public convenience areas; on-site signage; and some other general construction work. Although the roles and the level of involvement in the construction activities varied a lot among the interviewees, the prevailing feeling about the floor construction project was that it was executed expeditiously and professionally. According to Moilanen and Mutanen, the reason behind the smooth floor construction was the foreman of the work, who skillfully supervised the project. According to Moilanen, a development step would be to have the same person also supervising the dismantling process of the floor so that the supplies would be packed sensibly back into the sea containers. Moilanen recalled that in Flow 2010 the floor was dismantled and crammed into the sea containers without any logical order. Also Mutanen stated that it has to be considered whether to properly organize the supplies in the containers or continue as before by emptying out all the construction materials from the containers and then organizing them into a practical order.

It became clear in the interviews that most of the problems that occurred in assembling the fences stemmed from the supplier. There were a lot of problems with the shipment of the fencing materials including the fence stones. When the required supplies were not on the site at the agreed time, some of the fence stones, for instance, had to be replaced with stones that were reserved for the signs. According to Moilanen a lot of additional issues were accumulate from the problems with the supplier. Mutanen stated that in spite of all the challenges, the fence project was carried out successfully in the end, although he pointed out that it was worth noting how an issue that may seem minor at first can develop into a headache. He added that if, for example, the fencing supplies had been harder to replace, the whole fence construction process could have been catastrophic. According to Lääveri, the fence supplier used in 2010 would be replaced in Flow 2011 with a supplier that provided

the fencing materials for Flow 2009. Then the right amount of supplies was delivered to the site at the agreed time. Mutanen and Talja pointed out that considering the fact that the assembly of the fences was conducted almost entirely with volunteers and with a couple of supervisors, who were two production assistants, the project went irreproachably. Mutanen's only suggestion for this area was to more efficiently utilize for example sport clubs in the assembling and dismantling of the fences.

In Flow 2010, installing carpets in various indoor venues, tents, bars and backstage areas was a substantial construction area conducted with volunteer work. The biggest challenge concerning the carpeting project in 2010, brought up by general consent already straight after the festival by the production team, related to installing the carpet in the large artist tent. The problem was that the carpet could not be properly attached to the ground and therefore had to be repaired and reinstalled several times during the festival weekend. Lääveri confirmed that the former artist tent, which will serve as a large club tent in Flow 2011, will no longer be carpeted. Mutanen remarked, that having less carpets installed will reduce the amount of waste generated by the festival, which is an advisable direction for a festival production. Nevertheless, both Talja and Mutanen stressed that the colourful carpets function as significant elements creating the image of Flow's festival site, which distinguishes it from the more traditional festivals in Finland.

In Flow 2010, the festival site comprised one large and four smaller public convenience areas assembled from portable lavatories. According to Moilanen, Mutanen, and Talja, the assembly of the public convenience areas went rather well, except for some minor problems with the supplier of the portable lavatories, such as not delivering the ordered number of lavatories when agreed. Moilanen added that there could be more emphasis on transporting the correct number of lavatories to the designated areas in order to avoid relocating the lavatories manually.

According to Lääveri, the on-site signage process has always gained negative feedback in previous productions. Mutanen claimed that the on-site signage process has been messy due to the fact that it has not been clearly designated as a

production area with a responsible person or a team. Lääveri and Moilanen agreed that the on-site signage process would require a person in charge. Moilanen and Talja also stated that the whole process should be planned better and made clearer, and that all the technical details, such as how the signs are attached, should be considered more carefully.

5.3.3. GENERAL COMMENTS ABOUT ON-SITE LOGISTICS

When asked for general comments about the on-site logistics during the construction period, the first thing that Lääveri brought up was the weather conditions. Lääveri recalled that in 2010 almost a full working day was spent to fix the fences that had been damaged in a storm. She stated that the weather conditions must be more closely considered in future productions. If for example the temperature is extremely hot in June and July, as in 2010, it is likely that there will be storms in August. In contrast, Lääveri also mentioned that rain is another factor that significantly slows down the construction activities. Lääveri remarked that in the upcoming summer no one had rented the area directly before Flow's construction period, which provided flexibility with regard to determining the starting date for the construction activities.

One area that invoked discussion about the on-site logistics in general was the location of the maintenance area, where all the tools and construction materials were kept. Talja recalled that in 2010 quite a lot of time was spent on going back and forth between the maintenance area and the areas where the construction activities took place and stated that in the future it would help a lot if the tools and materials were situated closer to the construction activities. Talja added that, although the construction schedule was rather tight in 2010, the emphasis should not be so much on wondering whether or not there would be enough time, but rather on how the time would be spent on different activities. Lääveri pointed out that in Flow 2011 the festival site would be even bigger than previously and the primary maintenance area would be situated even further away from some of the construction activities. Therefore, according to Lääveri, there should be two maintenance areas on the site, or at least a temporary storage area or facility for the tools and materials that would

be situated closer to the construction activities. Mutanen, who already earlier in the interview emphasized the more efficient utilization of sea containers, once again mentioned that the containers could be used as temporary storages for the tools and construction materials, and they could be situated on a central spot of the festival site up to the eve of the festival weekend before moving them to the maintenance area.

The majority of the general comments about the on-site logistics were related to the usage and availability of tools and materials during the construction period. According to Mutanen, a clear development area for Flow would be reserving a sufficient amount of supplies that are needed every year. These would be supplies such as cable ties, tools and some other construction materials. Lääveri, Mutanen and Moilanen stated that these kinds of supplies should be ordered beforehand, for example directly from the importers or factories in sufficient quantities. Lääveri and Mutanen stated that ordering the supplies in advance in large batches reduces fuel consumption and prevents hold-ups in the construction work. An additional suggestion from Lääveri for reducing fuel consumption was to have the runner attend a green-driving course, which according to Lääveri has evidentially reduced fuel consumption in other festival productions.

The idea of providing tool boxes or belts for each volunteer work team was brought up after Flow 2010. According to Lääveri, Mutanen and Moilanen, this would be an excellent idea, and Moilanen assumed that the volunteer work as a whole would become more efficient if the requisites were provided for them. Talja was the only one of the interviewees who slightly hesitated over the tool belt idea. He stated that the tools could get mixed up during the working day simultaneously with the line-up changes in the volunteer work teams and was not sure how easy the whole tool belt system could be controlled. Talja however emphasized the importance of reserving a sufficient amount of tools and materials for the construction work and keeping track of missing items after each working day. Lääveri, Moilanen and Talja all stated that to facilitate the flow of tools and materials during the construction period there should

be a person in charge for administrating and checking the tools and materials and informing the runners of the shortcomings.

5.4. DISMANTLING PERIOD (EVENT SHUTDOWN)

> The third focus area in the interviews concerned the logistics of supplies in the dismantling period of the festival site, which started on 16 August 2010 directly after the festival weekend and lasted for approximately three days. The supplies owned by Flow as well as the rented supplies were mainly gathered under the big bar tent for cover and some of the larger supplies were placed in front of the emergency exit close to the guest, press, artist, and staff entrance. From those spots, the supplies were transported to the warehouse and the rental supplies were returned back to their owners.

According to Lääveri, the dismantling process in Flow 2010 ran more efficiently than in previous years. In 2008, for instance, supplies were still scattered around the festival site two weeks after the festival weekend. Although in 2010 there were more supplies than previously, the dismantling process was carried out in a few days. Lääveri nevertheless believed that there is plenty of room for improvement in the dismantling process. The first suggestion mentioned by Lääveri was to provide larger vehicles to transport the supplies back to the warehouse. This aspect was also brought up in the interviews with Mutanen and Talja. Another important aspect brought up by Lääveri and Mutanen was organizing the supplies in a logical order. Lääveri stated that all the pallets should be organized and numbered before the dismantling period to facilitate the process of loading the supplies on the pallets. Mutanen accentuated that conducting a proper inventory should be merged into the dismantling process. Moilanen stated that in general the operating activities during the dismantling period has until now lacked sufficient planning. Moilanen continued that the dismantling process, which directly affects the beginning of the next production's construction period, should be carried out by keeping in mind in which

order the supplies are needed in the following year. Talja, who like Lääveri thought that the dismantling process had been executed quite quickly, stated that the dismantling period could be more structured and planned better. Moisio thought that schedule-wise the dismantling period was pretty tight and also perceived some disorder in the dismantling activities. Mutanen, Moilanen, and Talja all stated that one of the main challenges in the dismantling process is the tired workers, especially in regard to the supervision of work. Mutanen remarked that due to this a number of the dismantling activities are often executed sloppily. Talja noted also that the motivation of the workers during the dismantling period is not, perhaps, as high as during the construction period.

Lääveri, Moilanen, Mutanen and Talja found that there would be room for a person in charge of supplies in the production of Flow, who would know what supplies belong where and so on. Mutanen added that a person in charge is required to instigate the dismantling process and remarked that the first few hours of the dismantling period, when all the dismantling activities start running, is vital. Mutanen suggested that this person could be one of the production coordinators, who would have an opportunity to rest more during the festival weekend. Talja had doubts whether one energetic person would work miracles during the dismantling period, due to the fact that most of the workers would still be tired. Talja emphasised that it would be useful to decide on the persons in charge for the different areas of the dismantling process well in advance. Mutanen would prefer having the persons in charge of the construction work also involved in the dismantling period. Mutanen recalled that in 2010 often the person in charge of a particular construction activity was missing in the dismantling process. Mutanen stated that there should be a change in attitudes and the scheme of things towards the dismantling process on all levels of the festival organization.

5.5. PRIME IMPROVEMENT AREAS IN THE LOGISTICS OF SUPPLIES

The issues under discussion in the last section of the interviews were the summary of the logistical aspects that were covered in the interviews, main improvement areas in the overall logistics of supplies, and suggestions for development steps to be taken in future productions of Flow.

Lääveri thought, that generally the overall structure of the logistics at Flow is satisfying. The main development steps according to Lääveri are to amend the scheduling; to maximise the efficiency, especially concerning working hours and resources, in the process of transporting supplies into, around, and out of the festival site; and to create a functional inventory and marking system for the supplies. Additionally, Lääveri emphasised the importance of taking into account the environmental aspects in the logistics operations. According to Lääveri, the movement of supplies during the construction period along with the artist logistics is the most transport-kilometre generating process in the production of Flow. The biggest environmental burden generated by Flow is the flights, followed by the disposal of rubbish and waste; the third biggest burden to the environment is the construction activities and the movement of supplies related to the construction activities. Lääveri reckoned that in the production of Flow there would be room for one extra person who would concentrate on the environmental aspects and administrate the logistics of supplies.

Like Lääveri, Moisio stated a more coherent schedule as an improvement area in the production of Flow. Talja thought that moving the supplies to the new warehouse is already a great improvement. The main emphasis areas in the logistics of supplies for the future, according to Talja, should be providing clearer objectives for the process of transporting the supplies to the festival site, creating a clearer inventory system, and taking into account weather conditions in the scheduling of the construction activities.

Moilanen stated that the main improvement areas of the overall logistics of supplies at Flow concern reducing extra unnecessary work, reducing transportation of supplies, achieving more accuracy with the dismantling activities, and making the plans clearer and more effective. Once again, Moilanen pointed out that it is important to apply "reverse thinking" to the dismantling activities, meaning that in the dismantling process it should be considered how the supplies could be organized and stored most efficiently for the following year's production. Moilanen also suggested that in the future, when building new articles for the festival, such as bar elements, they should be designed so that they would be functionally stored and not scuffed easily when manoeuvred. Thus far, according to Moilanen, there has been no logistical thinking when designing elements of these kinds. Moilanen pointed out that naturally festival logistics cover various other areas, and not only the logistics of supplies. Therefore, Moilanen proposed that logistics should be covered from a wider perspective, and in the production of Flow, logistics could be separated into its own responsibility area covering all the aspects related to logistics. Moilanen assumed that there could be room for a couple of new responsibility areas in the production of Flow, including a person in charge of logistics and a person in charge of supplies.

According to Mutanen, there are several weak points in the overall logistics of supplies, which must be addressed. Mutanen envisaged that a lot of development would take place, due to the fact that the production team remained the same to a great extent in Flow 2011 as in Flow 2010. For the previous three years, according to Mutanen, the production of Flow has been handled mainly by Production Manager Piia Lääveri, who has led the production flawlessly, though at times this has hindered the dissemination of knowhow. As Mutanen mentioned already in the beginning of his interview, in 2010, working for the first time as a Production Coordinator, it was at first challenging for him to get all the relevant information related to his responsibilities and to form a clear picture of the overall production. Moilanen also mentioned that the communication should be streamed efficiently so that the pieces of information would not be scattered around in the minds of different people. Mutanen stated that some basics of project and production management elements

could be more efficiently utilized in the production of Flow, such as reporting and evaluation aspects. Mutanen proposed that after each festival a report including the considerations and challenges of each production area should be required, and based on the reports one or two persons from the production team could formulate a collective report of the whole production for the following event. Mutanen remarked that a clearer production plan with a debriefing section would help to form a consistent picture of the production. In spite of all Mutanen stated that he likes the production and the organization of Flow for the reason that it is so people-centred, and that without certain individuals in the production the Flow Festival would not exist. Mutanen admitted that not every organization can operate in such a people-centred manner and stated that ideally every area in an organization ought to be replacable, because otherwise the organization will become its weakest link. However, Mutanen thinks that it is great to notice that there still exists organizations like Flow, and according to him there is some hidden beauty in such organizations, although at times it may be a bit risky.

6. DISCUSSION

Flow Festival 2011 was held on 12-14 August 2011. This chapter describes the actions that were implemented in order to develop and improve the logistics of supplies in Flow 2011, starting with the planning of the production and then proceeding to the on-site logistics and shutdown processes.

On 13 May 2011, the interview results were presented and discussed in a meeting with Production Manager Piia Lääveri and Production Coordinator Tomi Mutanen. Although the logistics of supplies does not cover all aspects of event logistics and it is a relatively small area in the overall production of Flow, the interviews revealed several development areas where the logistics operations could be executed more efficiently. The order of the supplies and materials and the way they are organized and controlled, not only at the warehouse but also during the construction and dismantling periods, are areas which should be given close attention in the planning processes of Flow.

The production team of Flow 2011 underwent some changes in staff from the previous year. Production Manager Lääveri and Production Coordinator Mutanen remained in their posts, but Production Coordinator Moilanen had moved on to a different job and was no longer working for Flow. The researcher of this project thesis, Niko Wilkinson, took over Moilanen's job and hired two new interns to work as production assistants. Also Mutanen hired a new assistant for himself, and Lääveri, for the first time during her career at Flow, engaged an assistant to ease her workload. Otherwise the production team and the responsibilities of the team members remained substantially the same as in the previous year.

6.1. IMPROVING THE STORAGE SYSTEM AND CREATING THE NEW INVENTORY CATALOGUE

It transpired in the interviews that the order of supplies has an impact on most of the operations concerning the logistics of supplies in the production of Flow. It was therefore decided in the meeting with Lääveri and Mutanen that Flow's warehouse in Rajamäki would be reorganized before the upcoming festival in August 2011, and a proper inventory catalogue would be created for the supplies in the storage facilities, including the festival's warehouse and the sea containers. The responsibility for planning and conducting the inventory catalogue and supervising the reorganizing of the warehouse was laid on the shoulders of the researcher of this thesis.

The starting point for creating the new inventory catalogue for Flow was to follow Narayan and Subramanian's (2008) ideas of beneficial inventory management where a properly managed inventory provides information to efficiently manage the flow of materials, effectively utilize people and equipment, coordinate internal activities and communicate with customers (see p. 24). In the previous years, Lääveri and one of the festival site decorators had been the only ones somewhat familiar with all the supplies and materials at the storage facilities. This had inexorably tied them to being involved, for instance, in the transportation process of the supplies to the festival site by providing the required information for the runners and other workers who were responsible for executing the physical work concerning the transportation of the supplies. A sufficient inventory catalogue with all the required information related to the supplies was expected to remove the demand for having a designated person in the production who has total recall of the stored supplies. The constituents of traditional industrial inventory catalogues were modified to be applicable for Flow's purposes, and the suggestions that were brought up in the interviews concerning the arrangement of supplies, were taken into account when designing the inventory catalogue of Flow's supplies. The former inventory catalogue, which was conducted after Flow 2010, was nothing more than a list of the supplies specifying the amount and giving a brief description of the supplies. Based on the old inventory catalogue,

the supplies were divided into categories and outlined into units according to packing methods. The option of adopting methods of automated data capture (ADC) and using barcodes was considered when planning the new inventory catalogue and the warehouse system. The diversity of Flow's supplies however made the adoption of ADC very difficult, and it was estimated that the benefit from such technology would not be the worth the investment.

In order to create manoeuvrable supply units and packages, it was decided that most of the forklift pallets would be renewed and, in addition, it was decided that some specially-made pallet rims would be used with some of the packages. Investing in pallet lids, which would have enabled adopting the block stacking method, was also considered. Nonetheless, due to the existing metallic rack structures in the new Rajamäki warehouse and because the block stacking method does not allow easy access to the supplies, it was decided that using pallet lids would not be feasible. After estimating the demand for the new pallets and finding the cheapest supplier, which also appeared to be the best, a total of 25 new forklift pallets and 125 pallet rims were ordered. The warehouse in Rajamäki was reorganized between 28 and 29 June 2011 and the inventory catalogue was finalized. During that process, not so much attention was paid to the inventory of the sea containers due to lack of time. The reshaped inventory catalogue divided the supplies into ten supply categories and contained the name, packing method, the amount (where calculable), additional description (where needed), and the location of the supplies in the warehouse. In addition, it included a rough list of the supplies stored in the sea containers. This information was believed to be sufficient enough to improve the transportation process of the supplies from the warehouse to the festival site.

6.2. SUPPLY OF TOOLS, EQUIPMENT AND CONSTRUCTION MATERIALS

The challenges related to on-site logistics and the logistical operations concerning the construction activities conducted with volunteer work occurred mainly from problems with some of the suppliers. This matter falls under supply chain management, which was not a focal area in this research. Nonetheless, it was educational to realize that an essential business logistics theory – supply chain management – plays a key role also in event logistics. This became apparent not only through the literature explored for this research (see Tum et al. p. 22), but also through the interviews conducted and tangible examples encountered in Flow 2010. Based on the interviews, it could be concluded that Flow could relatively effortlessly develop the on-site logistics by estimating more carefully the demand for tools and equipment used in the construction activities as well as by ordering them before-hand and providing them to the festival site at once. The benefits resulting from these fairly simple actions, which in fact are just a question of intensifying the on-site logistics planning process, were estimated to prevent unnecessary hold-ups in work, maximize the efficiency of the work-force, save time, decrease transport kilometres and exhaust emissions, and clarify the on-site logistics in general.

The required supply of tools, equipment and materials needed in the construction activities was considered carefully before the beginning of the construction period. A detailed list of the tools and equipment was conducted based on the requirements of on-site decorators, stage and venue managers, and other staff members supervising the construction activities. Different tools and equipment suppliers were invited to tender, after which most of the tools and equipment were ordered from the same supplier. The list of the tools and equipment to be ordered beforehand included also the tool belts, which had been proposed by one of the on-site decorators after Flow 2010 to prevent the disappearance of tools. The utilization of tool belts or tool boxes was a suggestion also brought up in the interviews.

6.3. DEVELOPING THE ON-SITE LOGISTICS

When planning the on-site logistics of supplies and the infrastructure of the site, issues with the location of the maintenance area were closely considered. The options were to provide two separate maintenance areas or alternatively to provide smaller maintenance spots by utilizing the empty sea containers in addition to one main maintenance area. The production ended up using a combination of the two solutions. It was decided that two maintenance areas would be provided at the site, due to the fact that the festival site was going to be approximately a hectare larger than in 2010 (see Appendix F. *Flow Festival 2011 - Site Map.*). One maintenance area was used mainly for parking the vehicles of staff members, subcontractors and other partners, and the other functioned as the primary maintenance area for various festival operations. The primary maintenance area was relocated due to the extension of the festival site. The option of having smaller maintenance spots was also partly executed, which will be covered later in this chapter.

The construction period of Flow 2011 started on 4 August 2011. In the process of planning the schedules for the construction and dismantling activities the production team realised that the overall scheduling would become more feasible if the logistical activities were separated from all the other activities taking place during the construction and dismantling periods. The construction schedule of Flow 2011 consisted of two schedule sheets based on the same lay-out: one schedule for the construction and dismantling activities and the other for the logistical operations during the construction and dismantling periods (see Appendix G. *Flow Festival 2011- Construction Schedule.*). The first logistical operation related to the logistics of supplies owned by Flow was the arrival of the supplies at the site. The operation began with the conveyance and disposition of the sea containers, containing some of the construction materials and supplies owned by Flow (Flow containers), at the site. Four of the Flow containers were positioned next to each other on a central spot of the festival site, from which they were removed to the primary maintenance area two days before the festival weekend. One of the sea containers was positioned in the primary maintenance area in the beginning of the construction period for storing

and setting up the site signs, and in addition one new sea container was purchased, which was used by the lighting crew during the construction period and the festival weekend to store their equipment. This container was used in the dismantling period for packing and storing Flow's construction materials and supplies.

The next step was to transport and store the supplies from the festival's warehouse to the festival site and the temporary storage facilities. The transportation of the supplies arriving from the warehouse was planned so that the free-standing supplies, such as furniture and some of the decorations, were transported first to the site by using the festival's own runner. After the warehouse had been emptied out of most of the free-standing supplies, an outsourced carriage service was used for transporting the supply units loaded on forklift pallets to the site. The carriage service included an articulated truck with a driver and the service was needed for three round trips between the warehouse and the festival site. The festival's own runner made a total of five round trips with a smaller truck for transporting all the free-standing supplies to the site. When the free-standing supplies started arriving at the festival site, some of them, e.g. the backstage furniture and decorations, were delivered directly to the areas where they would be needed. The rest of the supplies, mainly other furniture, were stored in the Flow containers whose contents had been already emptied and taken into use. Most of the forklift pallet units delivered by the carriage service were positioned next to the four Flow containers located on a central spot of the festival site. The forklift pallets were covered with tarpaulin to be protected from rain. The four Flow containers and the supply units on the forklift pallets next to them formed a temporary maintenance and a storage area on a central spot of the festival site, as mentioned earlier in this chapter. Only a small amount of supplies owned by the festival were temporarily stored in the Diesel Garage, which had functioned as the main temporary storage facility in 2010. The whole process of the arrival, delivery, transportation and disposition of all the supplies owned by Flow at the festival site took approximately four days.

As mentioned before, most of the challenges related to the construction activities conducted with voluntary work stemmed from problems with the suppliers. The

other logistical aspects concerning volunteer construction activities that were brought up in the interviews have been for the most part already covered in this chapter, i.e. the location of the maintenance areas; providing a sufficient amount of tools, equipment and construction materials for the construction activities; and attaining a coherent arrangement of supplies to intensify the construction activities. The production team also made an effort to keep track of any shortages in the supplies and to inform the runners so that they could restock the supplies. The biggest individual reform in the volunteer construction activities was to provide tool belts for the volunteer construction teams. The festival invested in ten tool belts that were equipped with the main tools and equipment needed in the construction work, such as knives and cable ties. The tool belts were numbered and in the beginning of each working day a tool belt was provided for each voluntary worker team of approximately five members. The storage facility for tools, equipment and tool belts was located in the same building as the festival site's production office. A new voluntary work activity revolved around clearing up the temporary maintenance area on the central spot of the festival site after the Flow containers and the empty forklift pallets were relocated to the primary maintenance area.

6.4. ACCELERATING THE DISMANTLING AND SHUTDOWN PROCESS

The dismantling period of Flow somewhat polarized the interviewees' opinions about the efficiency of the dismantling activities, but nevertheless the general conclusion was that it had a lot of room for development. As in most of the other areas of the logistics of supplies, it was believed that the dismantling period could be improved by rationalizing scheduling and making the plans of the logistics more effective. Some of the subcontractors started their dismantling operations already on Sunday night (14 August) after the audience had left the site and the gates were closed. On Monday (15 August) the dismantling process of the festival site was in full swing. The production team faced the expected fatigue, especially in regard to the supervision of work. However when conducting the construction and dismantling schedules at the planning stage, more emphasis was laid on the dismantling activities than in

2010. For example, the new person in charge for the volunteer construction work that required some level of special expertise in the supervision of the work was also closely involved with the dismantling process.

In the beginning of the dismantling period, the four Flow containers that had functioned as temporary storage facilities during the construction and that had been removed to the primary maintenance area for the festival weekend were relocated back on central spots of the festival site closer to the dismantling activities. In the process of packing and storing the supplies, mainly construction materials, in the Flow containers, a reverse thinking method was used where applicable. For instance, the floor construction elements were packed so that the elements needed first in the construction work of the floor were packed last into the containers. During the process of packing the sea containers, also a detailed list of the supplies going into the containers was conducted. A rough list of the supplies that were loaded on fork-lift pallets was also conducted already on the festival site before transporting them back to the festival site. The process of transporting the supplies back to the warehouse was conducted in the same way as in the beginning of the construction period, only this time using two runners and two smaller trucks to transport the free-standing supplies. The carriage service was also needed for making one extra round trip between the festival site and the warehouse, due to the fact that once again there had been an increase in the amount of supplies used for the production of Flow 2011. This forced the festival to rent more heated storage space for the new supplies, though this was not available until the beginning of October 2011. Therefore, the new supplies had to be temporarily stored in a cold storage facility before being taken to the actual warehouse. In the end of September 2011 the new supplies were transferred to the heated warehouse from the temporary storage facility, the warehouse was partly re-organized for the next festival and the inventory catalogue was updated.

7. CONCLUSIONS

7.1. OUTCOMES AND RECOMMENDATIONS FOR FUTURE PRODUCTIONS

This chapter sheds light on the outcomes of the actions that were put into effect to improve the logistics of supplies for Flow 2011 and suggests logistical considerations that should be taken into account in future productions of the festival. The findings are based on the researcher's own observations and the discussions in Flow's production feedback meeting that was held on 25 August 2011.

The fact that a coherent arrangement of supplies has a strong impact on most areas of the logistics of supplies was partly on the record already before the initiation of this thesis project, but it was verified in the interviews with the production team members of Flow 2010. This led to upgrading the inventory catalogue and the whole storage system for the festival's supplies, and it became evident that taking these actions was essential in achieving smoother logistics of supplies between the festival site and the warehouse. The goal of providing sufficient information for the runners responsible for the physical transportation activities of the supplies through the inventory catalogue was successfully met. This untied the production team members from being involved with the physical transportation process and enabled them to concentrate on their main responsibility areas on the festival site. When manufacturing new supplies for Flow, the logistical aspects should be deliberated more carefully in the design of the supplies. This viewpoint came up in the interviews too, though it was not heeded in the design of the new bar elements manufactured for the festival, which caused some problems when transporting them back to the warehouse during the dismantling period. Despite the attractive appearance of supplies such as decorations, the logistical attributions should come first when designing supplies that are meant to be transported, stored and used more than once. In regard to the transportation, in the production of upcoming festivals the

possibility of outsourcing even a larger part of the transportation process to a carriage service company should be debated, especially if an affordable and high-quality service can be found. Given the current scale of Flow's operations, it goes without saying that utilizing bigger carriage vehicles is definitely a necessity to attain smoother logistics of supplies between the festival site and the warehouse. In order to minimize the renting of additional storage space for new supplies in the future, the production of Flow should look into some of the packing and storage methods used in industrial warehousing. Utilizing the height in the storage facilities for instance is a method that could be applied more efficiently for storing the supplies of Flow.

The temporary storage methods used in Flow 2011 clearly improved from the previous year. Providing two different maintenance areas, forming a temporary maintenance and storage area to a central spot of the festival site during the construction and dismantling periods, and having a separate storage facility for the tools and equipment can be definitely considered as steps in the right direction in improving the on-site logistics of Flow. There is nevertheless a lot of room for further development in this area. The annual increases in the amount of supplies require a bigger area every year for processing, storage and maintenance. Therefore the idea of setting up a separate tent that could be easily accessed with fork-lifts and that would provide shelter for all of the supplies should be seriously considered. By strategically locating the maintenance tent in the vicinity of the festival site and close to the construction activities, the processing and storing of the supplies would become a lot more feasible. Creating a job description for a person responsible for administrating the festival's supplies was proposed already during the planning process of Flow 2011 but had not been put into effect yet. This still remains as an issue for future productions and may provide a functional solution for substantially improving the whole logistics of supplies.

The hold-ups in the volunteer construction activities due to shortages of tools, equipment or other construction materials, which had been one of the biggest challenges in the previous year in this area, were prevented relatively well. Naturally,

the construction period kept the runners busy delivering and restocking the missing supplies. However, a careful estimation of the need for and the pre-ordering of most of the tools and equipment beforehand to the festival site had the effect of enhancing the construction activities conducted with voluntary work. The method of using the tool belts and the functionality of the storage space provided for the tools and equipment worked seamlessly during the first couple of days of the construction period. In spite of the good start, when the atmosphere started to turn more hectic during the construction period, the tools and equipment started being treated more carelessly. At this point tools started disappearing and it was harder to keep track of the supplies because everything was scattered around the festival site. Such issues, once again, could perhaps be prevented by hiring a person to be in charge of administrating all the festival's supplies on the site. As a whole, the efforts to improve the efficiency of the construction activities conducted with volunteer work were satisfactory, though this still requires further refining.

Several improvements took place in the dismantling and shutdown processes of Flow 2011. During the planning stage, the schedule for dismantling the festival site was drawn up more carefully and more attention was paid to it than in 2010, which clarified the dismantling tasks and facilitated the whole dismantling period. A major development step was involving the exterior supervisor of some of the volunteer construction activities in the dismantling process. The exterior supervisor did an excellent job in dismantling, storing, and listing the supplies and construction materials used in the constructions that were under her responsibility. Another large change in the dismantling period of Flow 2011 revolved around storing the supplies in the sea containers. Unlike in the previous year, when supplies were carelessly packed and crammed into the containers, the process complied with a logical storage method which involved keeping track of the supplies that were placed in the containers. With the exception of wrongly storing a few supplies (that were supposed to be stored in the festival's warehouse) in the sea containers, the sea container storage process was completed successfully and should be executed in the same way in future productions. Due to the tight schedule of the dismantling period, it is extremely challenging to compile a reasonable inventory catalogue of all of the

festival's supplies before they are stored in the sea containers or transported back to the warehouse. Nonetheless it is crucial to start inventorying the supplies already on the festival site during the dismantling period. Therefore, based on the experiences during the dismantling period of Flow 2011, it is advised that the inventory concerning the supplies stored in the sea containers would be completed first, for the reason that it is practically impossible to create an inventory catalogue after the supplies are inside the containers. The next step would be making a rough list of the supplies loaded on the fork-lift pallets to ascertain the different manoeuvrable supply units. The process of inventorying the free-standing supplies does not have to take place on the festival site, because it is possible to calculate and include them in the inventory catalogue when they are at the warehouse. In addition to using logical methods during the dismantling period for storing and inventorying the supplies, an additional working day or two is required for organizing the warehouse and finalizing the inventory catalogue. This is inevitable and necessary in Flow's case, where the number of supplies is relatively large and the dismantling period is short.

Although the dismantling and the shutdown process underwent several developments, there still remain areas for improvement. A sound evaluation system concerning not only the area of logistics but the whole production and management of the event will increasingly become a necessity for a growing festival such as Flow. One solution would be to require an evaluation conducted by each festival staff member in their areas of responsibility in a form of a brief written report. Utilizing a project or event management software to conduct the evaluation of the festival could be a considerable method to improve the shut-down process of Flow. The changes in the personnel of the festival's organization and relying on information being passed on automatically from one staff member to another create too many variables in the production. Ergo it has become evident not only from the literature consulted for this thesis, but also through practical experience, that evaluation should be further emphasized in the shutdown of the Flow Festival.

7.2. SUMMARY OF THE DEVELOPMENT PROCESS

The aim of this research was to improve the logistical operations revolving around the supplies owned by the Flow Festival that are under the direct control of the production team. After creating a theoretical basis for the research, the next step was to form a consistent picture of the logistical problems by interviewing the production team of Flow 2010. The primary data from the interviews transformed the challenges that emerged in the process of describing the research problem into multiple smaller issues. These issues formed different problem areas and were discussed in a production meeting before starting the process of solving and improving them. Several of the problem areas related to the logistics of supplies had been recognized in the production of Flow before launching this project thesis, though they had not been properly investigated and solutions to overcome the problems had not been developed. Therefore a majority of the observations in this project thesis were beneficial for planning the production and logistics of Flow 2011. In the process of developing the logistics of supplies of Flow, several ideas emerged to attain more efficient and smoother logistics of supplies. Many of the suggestions were put into action in the production of Flow 2010, and these solved or facilitated the problems. Some of the aspects and observations brought up in the interviews or made by the researcher remain as considerations to be taken into account in future productions of Flow. Although the logistics of supplies is a relatively small area in the overall production of Flow, this project thesis functions as a documented evaluation of the logistics of supplies in Flow 2011 and may be utilized in planning the logistics for the upcoming festival. On the whole, it can be stated that the logistics of supplies in the production of Flow 2011 took a big step forward compared to previous years, though there is still room for further improvements.

7.3. LIMITATIONS

While conducting this project thesis on the logistics of supplies – which is just one area of event logistics – it became apparent that event logistics is an integrated part of the whole event management process and has an impact on several different areas of the event operations. At times while conducting this project thesis, it was difficult to separate the logistical aspects revolving around the movement of supplies from the overall logistics system of the festival. Therefore some of the discussions and observations in this research touch on areas of event operations that are not directly considered as logistics of supplies.

The project nature of the research brought its own challenges. While the researcher was working at Flow in summer 2011, the work with the thesis came to a standstill for a few months. Following this, it took a surprisingly lot of effort to resume and get oriented with the thesis project. The scale of the primary data – approximately six hours of interview material – ruled out transcribing the data and hence the sound recordings of the interviews had to be attached as mp3 files on a CD-ROM to this project thesis.

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APPENDICES

NOTE:
Appendices A-D are provided as sound recordings (MP3 files) on a CD-ROM attached to this research. If the CD-ROM is not available, the sound recording may be enquired from the researcher at niko.wilkinson@gmail.com.

APPENDIX A: Interview with Piia Lääveri (CD-ROM)

APPENDIX B: Interview with Antti Moilanen (CD-ROM)

APPENDIX C: Interview with Tomi Mutanen and Tony Moisio (CD-ROM)

APPENDIX D: Interview with Lauri Talja (CD-ROM)

APPENDIX E: Inquiry for Jaakko Suni

1. ”JOHDANTO”

1.1. Työnkuva ja työtehtävät vuoden 2010 Flow:ssa?

Suni;
”Työharjoittelija (3 kk, kesä-elokuu).

Tehtävät: mukana festivaalin tapahtumapaikan infrastruktuurin tuotannossa, tapahtumapaikan rakennusryhmien ohjausta, erilaisten hankintojen koordinointia ja listausta”

1.2. Ennen siirtymistä yksityiskohtaisempiin kysymyksiin - yleistä merkillepantavaa tavaran logistiikasta viime vuoden Flowssa? Millainen merkitys tavaran logistiikalla ylipäänsä on Flown tyyppisessä tapahtumassa?

Suni;
”- suuri; iso festari, paljon kamaa, tiukat aikataulut yms.”

2. ”TAVARAN VARASTOINTI”

Flown tavarat olivat varastoitu yhteen Vallilan varastoon viime vuonna. Viime marraskuussa tavarat siirrettiin uuteen varastoon joka sijaitsee Rajamäellä, noin 50 km päässä Suvilahdesta. Tilana uusi varasto on kuitenkin selkeästi parempi kuin Vallila. Viime vuonna tavaroille (pääasiassa rakennusmateriaaleille) oli käytössä 4 kpl merikontteja, ja purkuvaiheessa festivaali hankki yhden kontin lisää..

2.1. Mitkä olivat päällimmäiset haasteet/ongelmat (ja mahdolliset hyödyt/edut) tavaran varastoinnissa Vallilan varastoon?

Edut:

Suni;
”- sijainti roudausvaiheessa ja etenkin yksittäisten kamojen hakemisessa satunnaisesti. Sijainnista etua myös tietty festarien aikana jos tarvetta hakea jotain tai viedä jotain sinne.”

Haitat:

Suni;
”- roudaaminen aika hankalaa; pieni hissi ja muutenkin ahtaat tilat”

2.2 Mitä asioita pitäisi ottaa huomioon tavaran varastoimisessa uudessa varastossa Rajamäellä? Kuinka tavarat pitäisi järjestää varastoon ja kontteihin?

Suni;
”- varastointi käyttö- ja sijoitusjärjestyksessä, mutta jos/kun ei aina välttämättä onnistu niin hyvä jos samojen alueiden/kokonaisuuksien kamat edes jotenkin järjestyksessä keskenään. Plus, ohjeistus/kyltit kamoista ja niiden sijainnista varastossa ja alueella jotta helpommin löydettävissä myös niille jotka saattavat hakea jotain tuntematta paikkoja.”

2.3. Pitäisikö Flow:n tehdä tehokkaampi vuosittainen inventaario tavaroista?

Suni;
”- ei ole kokemusta kuin viime vuoden Flow:sta. Festareiden aikaan aina hajoaa/häviää kamaa ja joku haisee liikaa kuselle joten ei inventaariosta ei todellakaan ainakaan haittaa.”

2.4. Kuinka paljon kannattaa satsata resursseja selkeän varastosysteemin ja inventaarion luomiseen (kalusto, työvoima, aika yms.)?

Suni;
”- En tiedä uudesta varastosta sen enempää, joten vaikea sanoa tarkempaa. Ainakin saman verran kuin viime vuonna, mutta mielellään enemmän. Tosin, uuden varaston kanssa saattaa koko touhu olla nopeampaa kaukaisemmasta sijainnista huolimatta, jos roudaus helpompaa, kaikki kamat samassa paikassa jne. ”

3. ”RAKENNUSAJAN LOGISTIIKKA”

Viime vuonna festivaalialueen rakentaminen alkoi 4.8.2010, viikkoa ennen avajaiskonserttia. Tavaran logistiikkaa ajatellen, rakennusaika alkoi niin, että tavaraa kuljetettiin Vallilan varastolta festivaalialueelle, jossa se varastoitiin väliaikaisesti Diesel- talliin. Myös 4 kpl merikontteja saapui alueelle, jotka sijoitettiin aluksi päälavan tienoille.

3.1. TAVARAN SAAPUMINEN ALUEELLE JA VÄLIAIKAINEN VARASTOINTI

3.1.1. Ilmenikö tavaran kuljettamisessa alueelle ongelmia/ onko tavaran saapumisessa alueelle yleisesti parantamisen varaa?

Suni;
”- Ongelmia oli juurikin aiemmin mainitut roudaukselliset ongelmat ja Vallilan huonot puolet siinä. Uusi varasto varmasti osittain hankittu myös samasta syystä ja vaikuttaa asiaan.”

3.1.2. Oliko väliaikaisvarastona käytetty Diesel- talli paras vaihtoehto, vai pitäisikö alueella olla erillinen väliaikaisvarasto?

Suni;
”- Diesel-talli toimi kohtalaisesti aikataulutuksen takia, mutta jos kamaa tulee jatkossa enemmän (alue laajenee yms) niin ainakin silloin.”

3.2. VAPAAEHTOISTYÖNTEOLLA TOTEUTTETTAVAT RAKENNUSPROJEKTIT

Suurimpia vapaaehtoistyönteolla toteutettavia rakennukseen liittyviä projekteja viime vuoden Flow:ssa olivat;
- lattiaprojekti (ruokamaailma), 6.8.-8.8./ 9.8.
- aitaprojektit (matalat, korkeat, aitapressut, banderollit) korkeat:6.8.-8.8./ 9.8. matalat: 11.-13.8.
- matotus ke 11.8-13.8.
- vessa-alueiden rakentaminen 10.8-12.8.
- yleisökyltitys 11.8.

3.2.1. Kuinka kukin projekti sujui?

Suni;
”- yleisökyltitys toimi kohtalaisesti muutaman erittäin hyvän vapaaehtoisen takia, mutta jatkossa parannettavaa (esim kylttien määrä, sijainti jne).”

3.2.2. Ilmenikö projekteissa jotain ongelmia, mitä?

Suni;
”- kyltityksessä hieman materiaaliongelmia (mm. saatu vääriä materiaaleja tavarantoimittajalta, kylttejä puuttui edellisvuodesta jne.), joka aiheutti sen touhun aikataulutuksen uudelleen sovittamista.”

3.2.3. Oliko rakennusmateriaaleissa, tavaroissa, työkaluissa yms. puutteita?

Suni;
”Sama kuin edellä paitsi että työkalujen kanssa tuntui kaikilla olevan ongelmia paitsi niillä jotka toi oman vasaran ja piti sitä vyöllä kokoajan. Työkalujen varastointiin, lainaukseen/palautukseen ja etenkin määrään/tarpeeseen voisi kehittää toimivamman systeemin.”

3.2.4. Oliko vapaaehtois- rakennustöiden kuljetuskalusto alueella riittävä, trukit, pumppukärryt yms.?

Suni;
”- Niitä ilmeisesti joka vuosi otetaan enemmän, joten ehkä joku vuosi niitä lopulta on riittävästi. Rakennuksen/purun lyhyen aikataulun takia olivat paikoin usein kateissa/jossain käytössä.”

3.2.5. Ilmenikö rakennusprojektien aikataulutuksessa ongelmia, mitä?

Suni;
”- ongelmat usein seuraa ongelmia ja jotain on aina, muttei lopulta mielestäni mitään suurempaa. Yksi ongelma meinas olla se myrsky kesken rakennusvaiheen, mut nekin jäi onneks aika pieneks ja tuli ainakin testattua F.O.H:n ja muiden rakenteiden pystyssä pysyminen.”

3.2.6. Yleisiä parannusehdotuksia rakennusprojekteihin, etenkin tavaran logistiikan kannalta?

Suni;
”- aikataulutus on todella olennaista, ja jos mahdollista, ehkä hyvä lisätä siihen vielä lisää ”ilmaa” ongelmien/muutosten varalle.”

4. ”PURKU”

Festivaalialueen purkaminen alkoi 16.8. Vuokratavarat kerättiin kasaan ja palautettiin tavarantoimittajille, Flown tavarat pakattiin lavoille ja kerättiin anniskeluteltan alle.

4.1. Miten purkuprosessi meni yleisesti ottaen?

Suni;
”- yleisesti ihan hyvin. Kuten luultavasti aina, jotain hävikkiä oli, muttei mitään suurempaa tai ainakaan ole tiedossa.”

4.2. Ilmenikö purussa jotain haasteita tai ongelmia, mitä?

Suni;
”- pakkausvaiheessa jengi on jo väsynyttä, kaikki haluaa nopeesti pois ja esim. logistiikka voi helposti häiriintyä ja sitä Vallilan yleinen epäjärjestys ei ainakaan parantanut. Mutta tosiaan uusi varasto uusine systeemeineen voi vaikuttaa myös siihen että purkuvaiheessa vieläkin selvemmin tiedossa kuka pakkaa mitä ja minne.”

4.3. Mitä voisi tehdä toisin?

Suni;
”- yleistä selkeyttä, jotta esim vapaaehtoiset ja muutkin työntekijät tietäisivät mitä tehdä, eikä liikaa muutaman ihmisen tiedossa. ”

4.4. Pitäisikö tavaran inventaario tehdä jo alueella vai vasta varastolla?

Suni;
”- alueella voi viedä liikaa aikaa kaiken muun säädön ohella, joten sen takia varastolla. Alueella vain yleinen tsekkaus ettei mitään suurempaa jäänyt vaan huomaamatta ”

4.5. Pitäisikö purun suunnittelua ja ohjeistusta tehostaa?

Suni;
”- joo. turhan paljon oli sitä ettei esim vapaaehtoiset tienneet mitä tehdä ja se pallottelu vie helposti aikaa.”

5. ”YLEISTÄ”

5.1. Onko tarvetta yhdelle (tai useammalle) ylimääräiselle henkilölle tuotantotiimiin, joka vastaisi tavaran logistiikasta, tavaran hallinnoimisesta, ja purkuprojektin suunnittelusta?

Suni;
”- vähän riippuen siitä miten uusi varasto vaikuttaa. Jos ei uusia niin vanhoille ainakin vähän lisää aikaa systeemin kehittämiseen.”

5.2. Tämän keskustelun perusteella ja aikaisempien mielikuvien myötä, mihin osa-alueisiin pitäisi eniten kiinnittää huomiota tavaran logistiikassa tulevissa tapahtumissa?

Suni;
”- aikataulutus ja siihen vähän lisää ”ilmaa”, se ettei vapaaehtoisia tai tavarantoimittajia jouduta liikaa ohjailemaa eri henkilöille vaan selkeämmin yhdellä/useammalla tiedossa, riittävästi vapaaehtoisia (peruutuksia kuitenkin aina) ja niistä logistiikkaan selkeästi oma jenginsä. ”

5.3. Lisättävää/Vapaa sana?

APPENDIX F: Flow Festival 2011 – Site Map

APPENDIX G: Flow Festival 2011 – Construction Schedule ("Screenshots from the original Construction Schedule created with Microsoft Office Excel")

Sheet 1/Page 1. "Construction and dismantling activities"

RAKENNUS- JA PURKUAIKATAULU

VKO 31		Ti 2.8.	Ke 3.8.	To 4.8.	Pe 5.8.	La 6.8.	Su 7.8.
Kaasupiha							
Sähköpiha							
1. huoltoalue				*Henkilöstöruokailun alustan tasoitus -->			
2. huoltoalue							
Päälava-alue						*Alueen merkkaus	*Lavan rakennus alkaa (8:00) *Lava: Ripustus/mothers (Jykyla)
Ruokamaailma		*Alueen merkkaus		*Rakennus: *Lattia	*Rakennus: *Lattia	*Rakennus: *Lattia(VALMIS)	
Shamppanjabaari						* Telta(VALMIS 16:00)	*Rakennus: *Lattia, Tiskit, Matotus
2-krs-baari							
BLUE TENT-ALUE		*Alueen merkkaus		*Kiinteän aidan purku		*Lava ja Foh *Screenin nosto FOH *Ripustus (Jykyla)	
BLACK TENT		*Alueen merkkaus		*Teltan rakennus	*Telta(VALMIS 24:00)		*Ripustus (Jykyla)
LOUNGE-TELTTA		*Alueen merkkaus	*Rakennus: *Telta	*Rakennus: *Telta(VALMIS)			
NAAMABAARI							
TAKAPIHA							
VIINI & SAPAS				*Irtotavaraa Rajamäeltä (Diesel Tallin) Huom. Laura/Maikki	*Lavat Rajamäeltä (Diesel Tallin)		
VIP							
CIRKO							
VOIMALA							
BACKSTAGE-ALUE	(*Alueen putsaus by CleaNiko 1.8.)						
PORTTIALUEET							
MUUTA		*Kiinteän aidan purku??	*Kyttien lajittelu ja kasaus alkaa	*Rakennus: *Ulkoaidat+pressut ja banderollit *Tarrojen poisto tiskeistä/maalaus	*Rakennus: *Ulkoaidat+pressut ja banderollit	*Rakennus: *Ulkoaidat+pressut ja banderollit *Ulkovalaistus	*Rakennus: *Ulkoaidat+pressut ja banderollit(VALMIS) *Ulkovalaistus

Sheet 1/Page 2. “Construction and dismantling activities”

RAKENNUS- JA PURKUAIKATAULU

VKO 32	Ma 8.8	Ti 9.8	Ke 10.8	To 11.8	Pe 12.8	La 13.8	Su 14.8
Kaasupiha		*Rakennus: *Vessa-alue(VALMIS) *3m aita vessamaailmaan *Ruokakojut (VALMIS 24:00)	*Rakennus: *Ruokakojujen matotus				
Sähköpiha	*Kulkukatos??	*Ruokakojut (VALMIS 24:00) *Minibeach (Rakennus Alkaa)	*Rakennus: *Tomppa: Nurmikko (VALMIS) *Vessa-alue Naiset(VALMIS) *Vessa-alue Miehet(VALMIS) *Ruokakojujen matotus				
1. huoltoalue			*Henkilöstöruokailu-telttа(VALMIS 16:00)	*Henksuruokailun lattia *Henksuruokailun kalustus			
2. huoltoalue							
Päälava-alue	*Lava (VALMIS 21:00)	*Naamabaari (VALMIS 24:00) *Lava: Ripustus (Jykylä)	*Rakennus: *Leffatallin matotus *Seuriksien nosto Foh *Valo/PA (Jykylä)	*3m Aita *Barrikadi *Duradeck elementin rakennus *Video/Aani (Jykylä)			*Barrikadi-muutokset
Ruokamaailma	*Telttа (VALMIS 24:00)			*Valaisimien asennus (Saas Instruments)			
Shamppanjabaari	*Rakennus: *Lattia, Tiskit, Matot	*Rakennus: *Lattia, Tiskit, Matot(VALMIS)		*Valaisimien asennus (Saas Instruments)			
2-krs-baari	*Rajennelma (VALMIS 24:00)		*Rakennus: *Rimat, Tiskit, Matotus	*Rakennus: *Rimat, Tiskit, Matotus(VALMIS)			
BLUE TENT-ALUE	*Telttа: Valo (Jykylä)	*Rakennus: *Vessa-alue(VALMIS) *Ruokakojut (VALMIS 24:00) *Telttа: Ääni/Video	*Rakennus: *Ruokakojujen matotus *Nokia Room: Valo/Ääni (Jykylä)	*Barrikadi			

Sheet 1/Page 3. “Construction and dismantling activities”

RAKENNUS- JA PURKUAIKATAULU

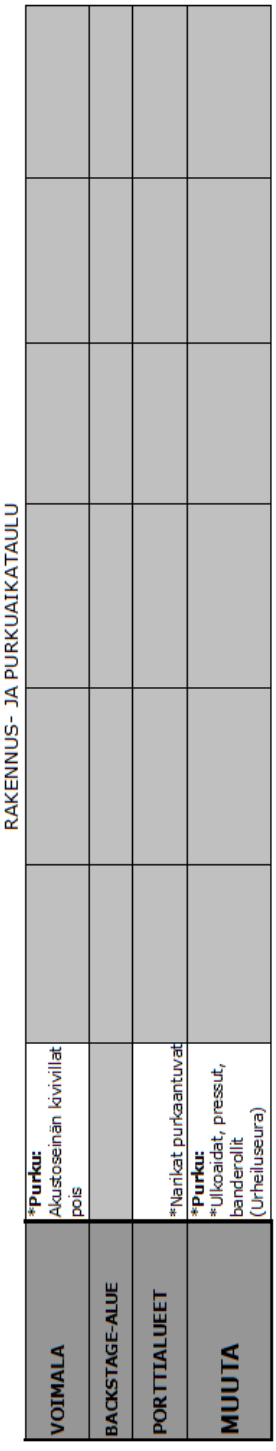
VKO 32	Ma 8.8	Ti 9.8	Ke 10.8	To 11.8	Pe 12.8	La 13.8	Su 14.8
BLACK TENT	*Lava&Foh *Baaridekit(VALMIS 24:00) *JCDecaux Rakennus alkaa teltan viereen	***Rakennus:** *Matotus baaridekit *Valo (Jykylä)	*Ääni (Jykylä)	*Bamikadi			
LOUNGE-TELTTA		***Rakennus:** *Matotus		*O.S.S. Valo (Jykylä)	*O.S.S. Ääni (Jykylä)		
NAAMABAARI		*Teltta (VALMIS 24:00)					
TAKAPIHA	*Baari-teltta (Stop-teltat)			*Lava+Valo(Jykylä)	*Ääni (Jykylä)		
VIINI & SAPAS	*Rimaelementit *Valo+Tila(Jykylä)	*Diesel teltta (VALMIS 24:00) *Rimaseinät ja Viisteseinä *Baari-tiskit ja seinäkangas *Valo+Tila(Jykylä)	*Baari-tiskit ja seinäkangas (VALMIS) *Valaistus ja Sähkötyöt (VALMIS) *Kalustus	*Yrtit/kasvit & somistus *Ulkoasu/etuovi juhlakuntoon (*Akustiikan testaus)			
VIP	*Baari-teltta		***Rakennus:** *Vessa-alue(VALMIS)				
CIRKO			***Rakennus:** *Matotus yläkerta	*Ripustus/Valo/Ääni/Video (Jykylä)			
VOIMALA		***Rakennus:** Vessa-alue(VALMIS) *Ripustus (Jykylä)	*Akustoseinä *Valo/Video (Jykylä)	*Bamikadi *Akustoseinän kivivillat *Ääni (Jykylä)			
BACKSTAGE-ALUEET	*Press/ Lounge & Artistinuokailu						
PORTTIALUEET			*Sisäänkäynti-katos(VALMIS 24:00) *Rannekkeenvaihto-teltat (VALMIS 24:00)	*Narikoiden pystytys			

Sheet 1/Page 4. “Construction and dismantling activities”

RAKENNUS- JA PURKUAIKATAULU

MUUTA	*Pyöräparkin kulkuramppi *Vesityöt alkaa *Kylttien pystytys alkaa *Ulkovalaistus	*Ulkovalaistus	***Rakennus:** *Matalat aidat (+banderollit) *Yksittäiset Bajamajat *Ulkovalaistus	***Rakennus:** *Matalat aidat (+banderollit) *Yksittäiset Bajamajat *Yksittäiset korkeat aidat *Vesityöt valmiit (*Nurmikoiden kastelu 21:00)	***Rakennus:** *Matalat aidat (+banderollit) *Yksittäiset Bajamajat *Yksittäiset korkeat aidat		
VKO 33	**Ma 15.8.**	**Ti 16.8.**	**Ke 17.8.**				
Kaasupiha							
Sähköpiha	***Purku:** *Ruokakojujen matot						
1. huoltoalue		*Henksuruokailun lattian purku					
2. huoltoalue							
PÄÄLAVA- ALUE		*Duradeck elementin purku					
Ruokamaailma	***Purku**: Lattia (Urheiluseura)						
Shamppanjabaari	***Purku:** *Lattia, Matot, Tiskit						
2-krs-baari	***Purku:** *Rimat, Pleksit, Tiskit, Matot						
BLUE TENT- ALUE	*Foh'in purku (alkaa 10:00) *Kiinteän aidan kasaus		(*Kanaverkkoaita-elementit pinoon)	(*Kanaverkkoaidan kasaus by "not us")			
BLACK TENT							
LOUNGE-TELTTA							
NAAMABAARI							
TAKAPIHA							
VIINI & SAPAS							
VIP							
CIRKO							

Sheet 1/Page 5. “Construction and dismantling activities”



Sheet 2/Page 1. “Logistical operations”

LOGISTIIKKA

VKO 31		Ti 2.8.	Ke 3.8.	To 4.8.	Pe 5.8.	La 6.8.	Su 7.8.
Kaasupiha		*Flow-kontit alueelle		*Lam-lavat alueelle *Irtonaiset Rajamäen tuolit pieniin kontteihin			
Sähköpiha			*Banderollit (BrandFactory)--> Diesel Talliin	*Irtotavaraa Rajamäeltä (Diesel Talliin)	*Lavat Rajamäeltä Diesel Talliin (Rekka Rajamäellä 12:00)		
1. huoltoalue		*Uusi Flow-kontti alueelle	*Työkaluässän tilaus (9:00-->Uuteen Flow-konttiin)		*Matot alueelle (Uuteen Flow-konttiin)		
2. huoltoalue							
Päälava		*WC-kontti alueelle			*Suihkukontti alueelle	*Lava alueelle (7 rekkaa)	*Vesi (lavapaino) alueelle (klo 16:00)
Ruokamaailma							
Shamppanjabaari							
2-krs-baari							
BLUE TENT-ALUE		*Aidat alueelle *WC-kontti alueelle		*Kayam-teltta alueelle (klo 8:00)			
BLACK TENT							
LOUNGE-TELTTA			*Telttakatteiden nouto Katajalta	*O.S.S.-kontit alueelle			
NAAMABAARI							
TAKAPIHA							
VIINI & SAPAS							
VIP							
CIRKO							
VOIMALA							
BACKSTAGE-ALUEET		*Artistikontit alueelle	*Artistikontit alueelle *Keittiökontti alueelle				
PORTTIALUEET							

LOGISTIIKKA

VKO 31		Ti 2.8.	Ke 3.8.	To 4.8.	Pe 5.8.	La 6.8.	Su 7.8.
MUUTA		*Trukit alueelle *Kalkkikärry alueelle (10:00)	*Brand Factory tilaus saapuu uuteen Flow-konttiin *Kauppareissuja (työkalut yms.)	***Saksilava x 2 (12m) alueelle klo 8:00 *Nosturi alueelle klo 13:00 *Kurottaja alueelle klo 8:00 (4.-8.8.) *Kurottaja Margukselle klo 13:00 (myöh. pois alueelta)**	*Koivupöllit Rajamäeltä Askolaan *Uudet koivupöllit Nastolasta	*Kuukulkija alueelle klo 8:00	*Trukki (12m yltävä) alueelle klo 8:00 *Nosturi alueelle klo 14:00
VKO 32	**Ma 8.8**	**Ti 9.8**	**Ke 10.8**	**To 11.8**	**Pe 12.8**	**La 13.8**	**Su 14.8**
Kaasupiha	*Vessat alueelle			*Heineken-varjot alueelle			
Sähköpiha				*Heineken-varjot alueelle			
1. huoltoalue			*Flow-kontiien siirto *WC-vaunu alueelle	*Henksuruokailun lattia			
2. huoltoalue							
Päälava				*Duradeck elementti alueelle (aamu)			
Ruokamaailma				*Valaisimet toimitus&asennus (Saas Instruments)			
Shamppanjabaari				*Valaisimet toimitus&asennus (Saas Instruments)			
2-krs-baari	*Akryylit alueelle						
BLUE TENT-ALUE			*Radio Helsingin Lähetysauto alueelle				
BLACK TENT			*WC-vaunu alueelle	*Kossutiski alueelle			
LOUNGE-TELTTA							
NAAMABAARI							
TAKAPIHA		*Neppishiekat alueelle		*Heineken-varjot alueelle			

LOGISTIIKKA

VKO 32	Ma 8.8	Ti 9.8	Ke 10.8	To 11.8	Pe 12.8	La 13.8	Su 14.8
VIINI & SAPAS				*Diesel tallin rakennus			
VIP							
CIRKO				*Fatboyt alueelle			
VOIMALA							
BACKSTAGE-ALUE			*Kylmäkärry alueelle (12:00)	*Martelan kamat Umeshuun (viimeistään alueelle)			
PORTTIALUEET							
MUUTA	***Sähköinen saksilava alueelle klo 9:00** *Trukki (12m yltävä) alueelta pois (*Kurottaja alueelta pois) *Nurmimatot alueelle (istuinlavat) *HKR keikka (ma tai ti)	*Koivupöllit Askolasta Suvilahteen (aamu) *Ruokamyyjien kylmäkontit (3kpl)alueelle *Viinakuormat alueelle	*Ruokamyyjien kylmäkontit (2kpl) alueelle *Puistonpenkit alueelle *Viinakuormat alueelle	*Martelan kamat Umeshuun (viimeistään alueelle) *Nurmikoiden kastelu 21:00 (Puistolan VPK) *Viinakuormat alueelle	*YLEN TV-uutiset alueelle		
VKO 33	**Ma 15.8.**	**Ti 16.8.**	**Ke 17.8.**				
Kaasupiha	*Flow-kontit (kaikki) siirto *Heineken-varjot alueelta pois						
Sähköpiha	*Heineken-varjot alueelta pois		*Lavat Rajamäelle (Rekka Suvilahdessa 12:00)				
1. huoltoalue		*Henksuruokailun lattia alueelta pois					
2. huoltoalue							
Päälava		*WC-vaunu alueelta pois *Duradeck elementti alueelta pois (iltapäivä)	*WC-kontti alueelta pois *Suihkukontit alueelta pois				
Ruokamaailma							

Sheet 2/Page 4. “Logistical operations”

LOGISTIIKKA

Shamppanjabaari										
VKO 33	Ma 15.8.	Ti 16.8.	Ke 17.8.							
2-krs-baari										
BLUE TENT-ALUE			*WC-kontti alueelta pois (*Kanaverkkoaita-elementi pinoon)							
BLACK TENT	*Kossutiski alueelta pois	*WC-vaunu alueelta pois								
LOUNGE-TELTTA										
NAAMABAARI										
TAKAPIHA	*Heineken-varjot alueelta pois									
VIINI & SAPAS	*Rajamäen varastoon menevät tavarat Diesel Talliin									
VIP										
CIRKO	*Fatboyt alueelta pois									
VOIMALA										
BACKSTAGE-ALUE	*Martelan kamat alueelta pois *Kylmäkärry alueelta pois		*Artistikontit alueelta pois							
PORTTIALUEET										

Sheet 2/Page 5. “Logistical operations”