


Standardized work

Creating standardized work for Logistics
and Order Desk teams. Case: Metso
Minerals inc. / DC Europe

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ABSTRACT

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Metso is a global Finnish company operating in various industries, such as mining, aggregates, recycling and process industries. The company employs around 12,000 people in over 50 countries.

The goal of this thesis was to create standardized work for two operational teams: Logistics and Order Desk, at Metso Distribution Centre Europe, Tampere. The managers saw a space for improvement within the teams and believed that standardization of the processes will boost the performance of the teams and help to provide the customers with better service assuring that also workflow within the organization would improve. Metso has been implementing a lean methodology and consistently strives to eliminate wastes within whole value chain of each process.

The conducted research was of qualitative nature and the data collected consist of recorded interviews, transcripts and notes gathered in the company. For the theoretical part, a wide range of sources was utilized, including books about lean management and lean manufacturing, professional articles etc. Firstly, a story of lean manufacturing, its roots and development is elaborated, what makes a solid background for further reflections on lean management and kaizen.

To collect necessary data, several interviews in the office had to be arranged. The managers shared their expectations and ideas for tasks to be included in the standard works. On that basis, focus group interviews with Logistics and Order Desk team members were organized to gather feedback about the solutions proposed by the managers as well as to let the team members share their own suggestions and recommendations that would be taken into account while creating the standard works.

As a result of analyzing collected data, the standard works were created for both teams. The activities to be followed up consisted of daily, weekly and monthly tasks. After familiarizing with the standard works, the managers will make a future decision on implementing suggested variants into teams' daily operations.

Key words: lean, standardized work, processes, management, logistics, customer service

CONTENTS

1	INTRODUCTION	5
1.1	Thesis purpose	5
1.2	Thesis background	6
1.3	Thesis goals.....	8
1.4	Research methods	8
2	THEORETICAL FRAMEWORK FOR CONTINUOUS IMPROVEMENT ...	10
2.1	First Foundations	10
2.2	Ford Production System.....	10
2.3	Toyota Production System.....	11
2.4	Kaizen	13
2.5	Lean thinking	14
2.6	Lean implementation	16
2.7	Standardized work utilization	16
2.8	Implementing lean at Metso R&D.....	18
2.9	Standard work utilization in DC Europe Operative Purchasing Team....	19
3	STANDARD WORKS – METSO CASE	21
3.1	Introduction to the study case	21
3.2	Interview with the Management	24
3.3	Interview with the Logistics team.....	26
3.4	Interview with the Order Desk team.....	28
3.5	Analyzing collected data.....	28
3.6	Creating the standard works	29
3.7	Limitations of the standard works	35
4	CONCLUSIONS AND RECOMMENDATIONS FOR THE FUTURE.....	36
	REFERENCES.....	39
	APPENDICES	41

GLOSSARY

CoO	Certificate of Origin
DC	Distribution Centre
EA	Every Angle
ETA	Estimated Time of Arrival
HU	Handling Unit
ISA	Internet Sales
JIT	Just In Time
KPI	Key Performance Indicator
OD	Order Desk
R&D	Research & Development
TPS	Toyota Production System
VFX3	SAP Transaction, Release Billing Documents For Accounting

1 INTRODUCTION

1.1 Thesis purpose

The topic of this work has been suggested by a Logistics Manager at Metso Minerals, as a result of my own initiative to write my thesis in cooperation with the company, and has been acknowledged also by the Order Desk Manager. Both managers saw a need for their teams' efforts to be more standardized in order to provide Metso's customers with better service and improve the workflow within the teams.

Metso serves a wide range of customers and all of them demand high quality products and expect that the company will be able to hold its word regarding the agreed leading times of the shipments. Every day, the team members of both logistics and order desk teams need to deal with differentiated assignments, such as sorting out any cases of lost or delayed shipments, short supplies, emergency transportations etc. However, there are also many activities that occur within the teams daily, and at the moment there are many processes that could be standardized. The management prefers to allow team members to organize their work independently in believe that due to their gained experience they will remember about all the routine tasks that demand fulfillment.

The upper management withholds the office's KPIs annually, and the Metso Managers at DC Europe have recognized the chance of increasing the outbound reliability by implementing the lean-based standard works that could provide the Logistics and Order Desk managers with fundamental information whether the key routine tasks are being done by the workers on time, so that the customers' orders are being shipped consistently without delays as well as the administrative work is performed punctually, assuring that the workflow in other departments, such as accounting is going smoothly uncluttered.

The company strongly focuses on implementing the 'lean' methodology, and its experience with such techniques (e.g. in the operative purchasing team) has reportedly proven to be a step towards increased productivity and better transparency, significantly decreasing the wastes and providing more value to the customers.

1.2 Thesis background

Metso is a well-known Finnish industrial enterprise that provides a world-leading equipment and services for mining, aggregates, recycling and process industries. Nowadays, Metso employs around 12,000 workers in over 50 countries.

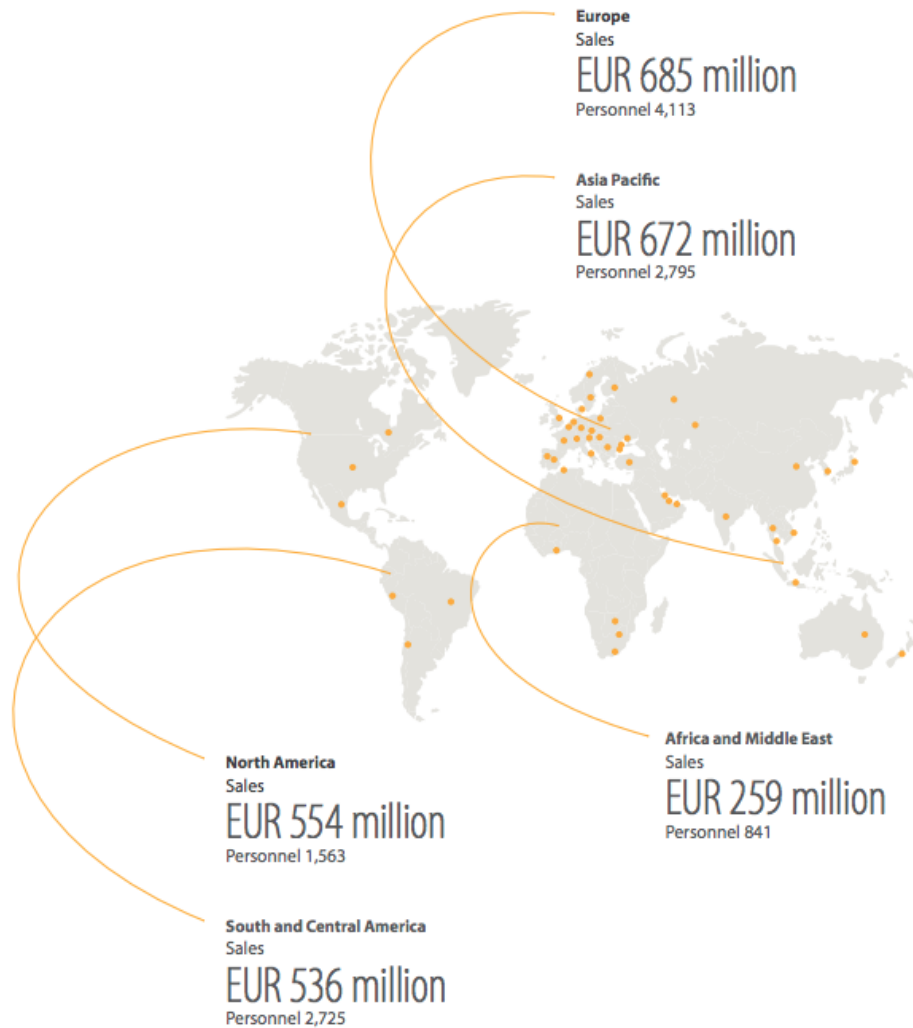


Figure 1. Metso's presence. Annual report 2017

Each year, Metso employs a certain number of summer workers to work in various departments in its' facilities in Tampere. During summer 2017, I was given an opportunity to work in Metso Distribution Centre Europe logistics team. A few months spent in the company resulted in a good comprehension of the logistics coordinator's duties.

Customer industry	Aggregates	Mining	Process industries	Recycling
Equipment	Aggregates capital equipment	Mining capital equipment	Valves, valve controls and related services	Metal and waste recycling equipment and spares
Spares and service solutions	Aggregates spares and services solutions	Mining spares, refurb and service solutions		
Wears	Minerals consumables			

Figure 2. Metso's offer. Annual report 2017

Work at Metso has been a great chance to utilize the academic knowledge in the real business, dealing with demanding customers and to supplied me with a practical skillset which would allow to quickly adapt to the position, where every day is slightly different than other. During my work I had to swiftly learn the fundamental activities of the logistics team, such as monitoring the outbound deliveries, invoicing, different export processes, various types of freight, as well as using company's IT systems e.g. SAP. Moreover, the work demands a solid communication and team-working skills, since the daily works involves contact not only with the customers, but also with other team members, workers from different teams (e.g. order desk), shipping companies' representatives, warehouse workers etc.

Upon the abovementioned facts, I have found Metso an excellent place where I could write my thesis on a relevant and practical topic. The company has an experience in commissioning thesis projects and willingly allow trainees to complete them simultaneously contributing to the company's development is a certain field. 'A living organism' of a business creates an exquisite environment to carry out a research and learn a big deal, meanwhile providing the company with a fresh view on the current issues and potential ways to solve them.

1.3 Thesis goals

As the need for the standard works has been already recognized by the management, the objective of this thesis is designing a lean-based standard works for two operational teams within Metso DC Europe: logistics and the order desk. The main idea behind the standard works is a standardization of the routine tasks that both of the teams perform and the managers wish to be able to control whether everyone is fulfilling their duties regularly. An important aspect is that the standard works should be enough broad so they cover all the necessary tasks, however enough short so that it does not become too time-consuming for the team members to fill it in and be more of a helpful tool than an annoying addition to their work. The standard works should be graphically displayable on a paper and designed in such a manner that each team member can quickly fill it. That allows the manager and any other team member to get quickly informed if their colleague has not been able to get some of the routine tasks done. This information can be especially important to the team in the situation when one team member is e.g. on a sick leave, and another one needs to be their back-up for a day. Such better informed team can perform the work more efficiently, remembering about all the important tasks and being alerted about any duties left behind by the colleague that needs to be backed-up during the workday.

1.4 Research methods

The conducted research is of qualitative nature. A method used for collecting the qualitative data was focus group interviews. This method facilitates to receive a wide spectrum of answers along with justifications and allowing the researcher to ask additional questions from the participants. An inexpensiveness and flexibility of this approach helps to recognize the most important aspects of work of both operational teams within the DC Europe, and include these tasks in the standard works. Interviewees are gathered to discuss about the issue suggested by the researcher and participants influence each other. Led by the moderator, they express their thought and feelings within a relevant topic, helping to gain information needed to achieve goals and aims of the research.

The initial interview has been agreed to be conducted with the Logistics Manager, Order Desk Manager and Acting Logistics Manager, since they are responsible for functioning of their teams as well as making sure that the company's KPIs for the year will be fulfilled.

Following that interview, the separate interviews with order desk and logistic team members were organized in order to learn what ideas do team members have and how do they find the ideas suggested by the managers. After the interviews, all the qualitative data can be used for an analysis, concluding and ultimately creating the standard works that could be then implemented into a daily, weekly and monthly routine of the teams.

2 THEORETICAL FRAMEWORK FOR CONTINUOUS IMPROVEMENT

2.1 First Foundations

The methods of lean manufacturing and Just in Time originated from interchangeable parts concept by Eli Whitney. Whitney became famous as the inventor of cotton gin, however much bigger impact had his development of interchangeable parts that he kicked off around 1799, when he signed a contract with the U.S. Army to manufacture 10,000 muskets at unbelievably low price of 13.40 dollars each. For the next century, manufacturers focused on streamlining technologies, developing engineering drawing system, as well as machines, tools and large-scale processes. At that time, few people wondered what happens between the processes, how these processes consolidate into working systems nor how the workers perform their tasks. In late 1980s, Frederick W. Taylor begun to study how individual workers did they tasks as well as the methods used for performing particular work. His findings resulted in developing Time study and standardized work, that he called Scientific Management. On the other hand, while implementing science to management Taylor totally ignored behavioral sciences. Frank Gilbreth came up with Motion Study as well as Process Charting, that put an emphasis on all work fundamentals, also non-value-added elements. Lillian Gilbreth added psychological approach by considering what motivated workers and how fluctuations in motivation affected an end result of the process. These findings have a base for lean manufacturing and JIT, as well as mapped out first rules of “eliminating waste”. (Strategosinc, n.d.)

2.2 Ford Production System

Henry Ford is genuinely considered as a predecessor of lean production model, or as he called it ‘flow production’. The general public associated it frankly with a moving assembly line, however in reality it was much more complex. Utilizing specialized machines and go /no-go gauges, Ford developed a process that allowed consistent passing finished components within few minutes to the line-side. That was a big breakthrough, and a big improvement comparing to the American assembling system that involved using general-purpose machines producing parts that would eventually be assembled into a finished product after a big deal of subassembly and tinkering. (Lean.org, n.d.) A chassis

was pulled on a thick line along the assembly line and stopped to perform subsequent production steps. In order to be as least dependent from the costly workers as possible, Ford was using standard parts, that were easily assembled by unqualified workers. Location of workers and equipment was precisely planned to allow assembly line to work as effective as possible. In each department a production process was divided onto separate sub-processes. The last step was creating a final assembling line. On its' start there was a bare chassis and at the end a fully assembled car was driving off the assembly line using its' own engine. A synchronization of line sides assured that needed parts would be supplied at the appropriate time. (Sobkowiak, 2015.)

2.3 Toyota Production System

In Toyota, Taiichi Ohno and Shigeo Shingo had compiled a holistic organizational approach called Toyota Production System or Just in Time, in which they've put an emphasis on minimizing stock levels. In a nutshell, TPS allowed manufacturing high quality products at possibly lowest cost, that were possible to achieve due to eliminating processes related to storing unnecessary products and components, as well as supplying materials punctually when needed. The basis of the system is standardized work, that organized laborers' activities to ensure an effective and safe manufacturing products of highest quality. (Strategosinc, n.d.)

A second fundament of Toyota Production System was Kaizen philosophy, that engaged workers in a process of continuous improvement of manufacturing. In opposition to Ford's system, TPS paid a lot of attention to employees. During American occupation of Japan, general Douglas MacArthur was actively promoting trade unions, what had an additional impact on a fact that Ford's methods could not be utilized uncritically. Toyota swiftly realized that employees have significantly bigger effect on work efficiency than just through muscle power. That gave a birth to Quality Circle movement. Achievements of Ishikawa, Deming and Juran contributed to the advancement of quality movement, that culminated in team development and cellular manufacturing. Another accomplishment of Toyota was approach towards product variety. Ford production system was designed to manufacture one particular product, however, it was not possible to produce multiple or new products. Shingo and Ohno worked on the setup and changeover problems. Reducing time of these activities allowed small batches and an almost continuous flow,

like in Ford's concept, however with additional flexibility, that Henry Ford believed he did not need. (Strategosinc, n.d.)

TPS was mainly developed in years 1949-1975. Toyota's approach to automotive manufacturing and quality controls revolutionized whole industry, whilst Toyota's Just-in-time supply chain became an exemplar for manufacturers worldwide, not only in automotive industry. The fact that along with implementation of modern organizational solutions came a boost in productivity as well as quality, triggered a significant interest in TPS among US executives. Uncritical utilization of only chosen elements of the system, such as Kanban or Quality Circle movement wouldn't however give expected results. The reason behind it was that only few people could fully understand Toyota's system and the principles underlying it. In 80s, American manufacturers such as Omark Industries, General Electric and Kawasaki (US unit) achieved incredible effects with implementing new managerial solutions that they named World Class Manufacturing (WCM), Stockless Production or Continuous Flow Manufacturing (CFM), though all these were in greater or lesser extent a copy of Toyota's system. (Sobkowiak, 2015.)

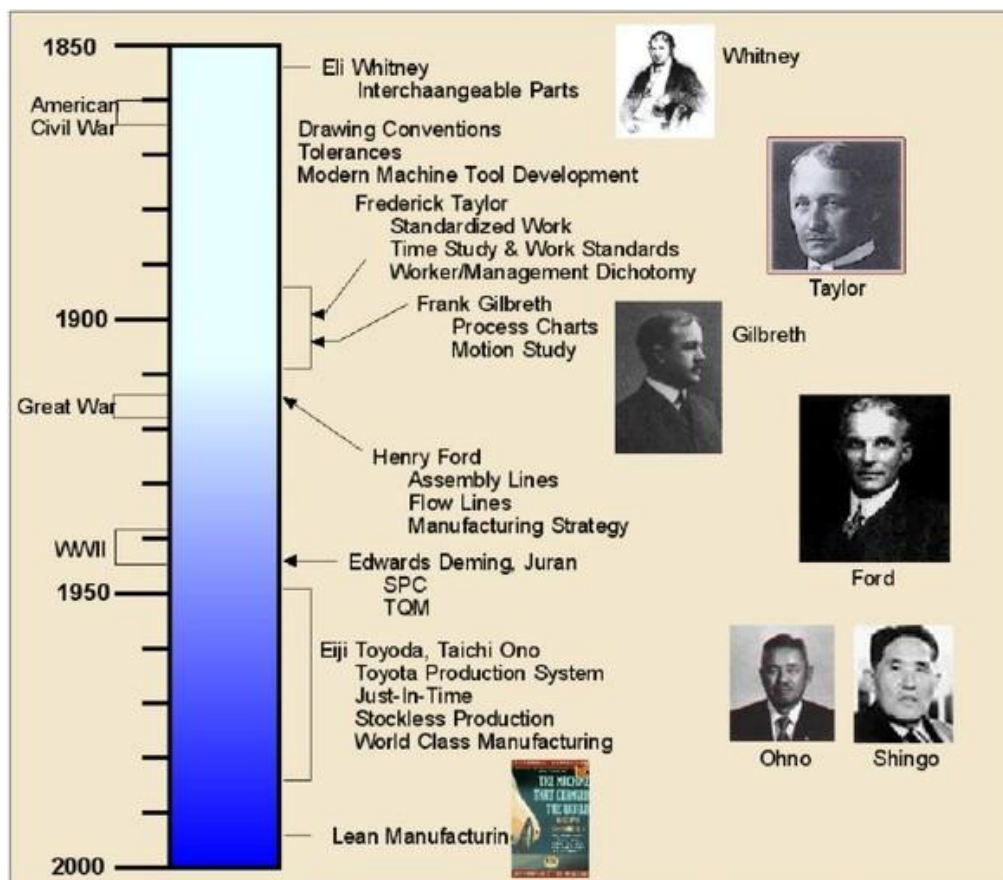


Figure 3. Illustration of mile stones in Lean Manufacturing. Downloaded from www.strategosinc.com

As the general ideas of TPS was reducing costs and increasing work efficiency, Toyota could achieve it by reducing wastes. In his book, *Toyota Production System: Beyond Large-Scale Production*, Taiichi Ohno (1988) pointed out seven types of wastes:

- Overproduction- producing without strictly taking into account a demand (in advance), such as customer's order or a need alarmed by the next manufacturing process. Overproducing is often called 'Just-in-case', whilst Toyota utilized the 'Just-in-time' system, eliminating high storage costs and preventing quality degradation.
- Defects in products and in inappropriately delivered services.
- Waiting- long time unproductivity of workers, machines or materials in the value adding process.
- Transporting- unnecessary movement of materials and finished goods.
- Inappropriate processing- every activity that is not necessary to manufacture goods with parameters and quality required by a customer, as well as using more advanced tools and technology than needed.
- Unnecessary inventory of materials, work-in-process or finished goods, often as a result of overproduction and waiting tends to hide performance problems of a plant.
- Unnecessary motion- excess movement and work done by employees, that is often a result of incorrect organization of work and lack of standardization.

2.4 Kaizen

According to the Japanese words "Kai" (change) and "Zen" (be right), kaizen can be considered as changing for the better to reach the "right state", even though such state isn't strongly defined, especially in western world. Kaizen is more of a philosophy than a methodology and focuses on achieving small changes consistently rather than striving

to make big ones, as long as the small changes lead to an improvement. The mindset of making everything a bit better than the current state can be both applied on an individual level as well as for whole surrounding environment. Organizations put a lot of effort to manufacture high quality goods safely, offer their customers low prices and deliver in the promised time. With this in mind, kaizen shall promote knowledge and ideas gathered from everyone involved in the process. Everyone pursues to make their life better, and people do it by consistent small steps and laborious work each day, that in consequence results in big outcomes. There is a common misconception, defining kaizen only as a “continuous improvement” that can be applied in the work life, limiting it to only boosting the work performance. In fact, the mindset of truly believing in making each day better than yesterday can be used on a daily basis and significantly enhance the quality of life. (McLoughlin & Miura, 2017.)

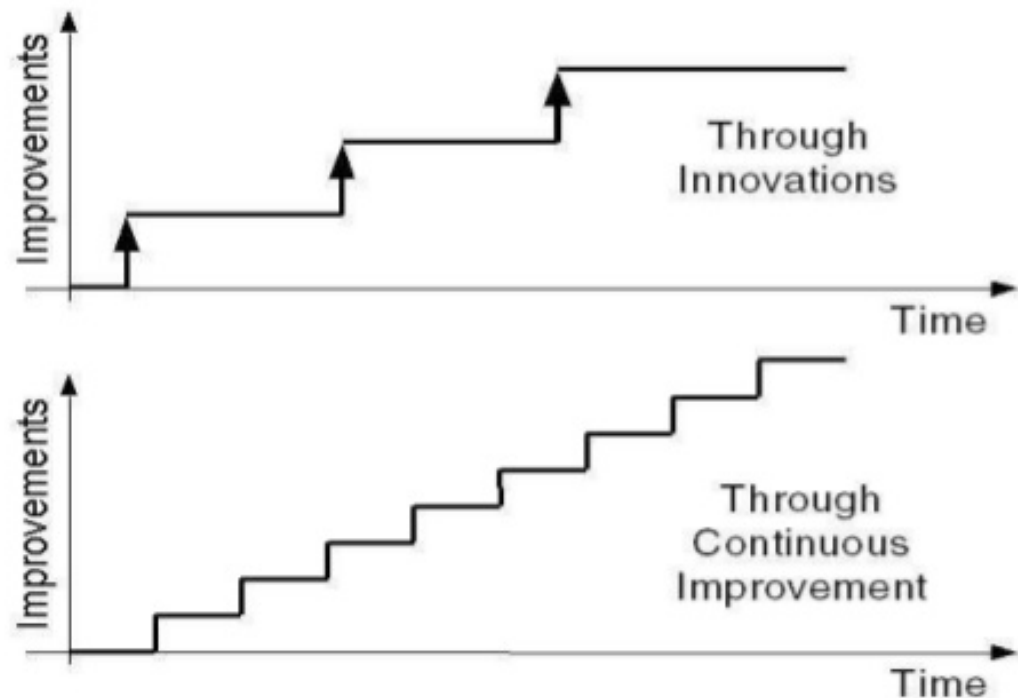


Figure 4. Change through innovation vs change through kaizen

2.5 Lean thinking

Among industrial companies the way each designs and builds products is what largely differentiates competitiveness. An key initial step is fundamental understanding of customer’s needs. Once comprehended, the next crucial aspect of competitiveness becomes production capabilities. In the business, winner is going to be the one who knows

how to consistently provide products and services, that are competitive in terms of quality, price, time and agility. (Nicholas, 2011.)

As described earlier, lean thinking has its roots also in Japanese automotive enterprises, primarily at Toyota. The fear of US companies that their Japanese counterparts have gained a significant competitive advantage has forced them to implement similar practices, therefore quickly becoming emulated by the western world (Rich et al, 2006).

Womack and Jones (2003) identified the five principles of lean thinking:

- Understand value, as what the customer is really willing to buy and what satisfies him. This rule magnifies the importance of giving customers the products that they value and will pay for. It also focuses on eliminating 'waste', what is essentially considered as all the activities that cause the company's processes to stop or delay a conversion of materials and information into customers' payments.
- Identify the value stream as well as all the activities that contribute to the customer's order turning into a fulfilled order and activities connected to creating new products for customers. Once the company has fully understood how it manufactures the goods and delivers services, it can focus on improving the processes including the work with wider value stream such as suppliers and customers, in order to eliminate all the wastes and satisfy customers better.
- Make products flow to customers without delays or interruptions. Stocking materials for a long time decreases the profitability and inflates the costs and freezes the capital in goods that are not being sold for a profit.
- Pull production at the rate of consumption is applied when it is not possible to fully meet customers' demand for materials, due to the number of customers, short lead times, the specific needs of used technology and batch sizes or other constraint.
- Seek perfection in all the processes and activities of the company with a highlight on problem-solving approach of the teams of operations, managers and inter-

company teams to force every detail that can be improved into its final and most efficient stage, assuring no waste and maximum value for the customers.

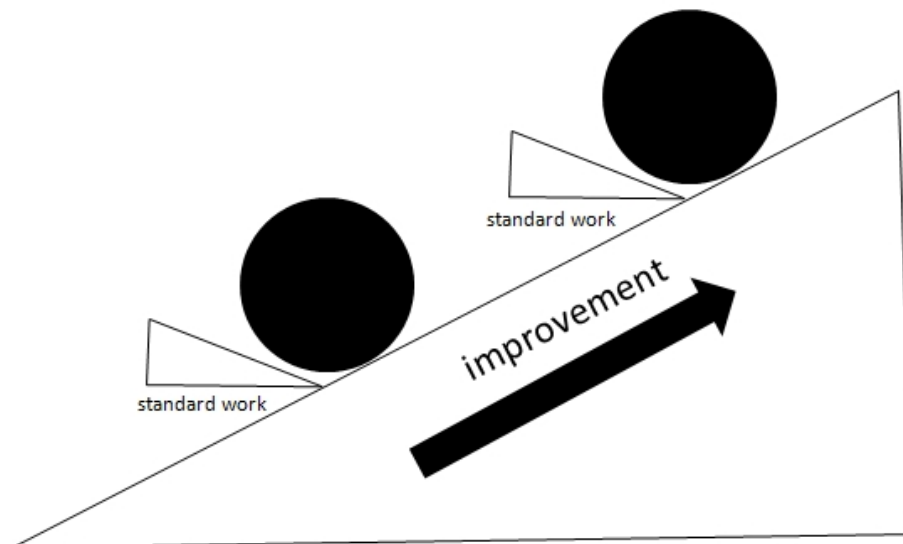
2.6 Lean implementation

The companies that strive to successfully implement lean need to focus on consistency of objectives in order to continually improve quality, cost and delivery of product to the customer. Rich (et al, 2006) underlines that these issues unite two aspects of effective change management: the management team (designers of new processes) and the operations-level teams (improvers of new processes).

Nowadays, the way organizations make use of information has a tremendous impact on their performance. Niklas Modig (2014) gave an example of Toyota car dealer shop in Japan, as a role model for lean implementation and an effective use of information. To explain how does the workflow within the dealer shop looked like, he filmed a video displaying the office, where surprisingly there was no computers. Instead, all the walls were covered with lean whiteboards, such as work schedules, delivery visualization boards, flow of invoices, sales targets. In Toyota, the information was divided on active information and passive information. The passive information arise when we put the data to e.g. computers, what forces us to spend extra time later in order to access this information. By using the abovementioned tools visualized on the walls, Toyota created an operating system where all the information can be accessed immediately, allowing employees to deal with active information.

2.7 Standardized work utilization

Standardized work is one of the lean tools for continuous improvement. Establishing a standard within the process makes it a baseline and allows space for further improvement, which is an never-ending process (lean.org, n.d.).



Without a standard, there can be no Kaizen (improvement):

1. Standards are the basis for comparison (before/after)
2. With no standard, can't objectively tell what has changed or what has improved

www.shmula.com

Figure 5. Illustration describing an impact of standard works on improvement process.

Downloaded from www.shmula.com

A proper, value-creating standard work should be developed involving the people who actually do the particular job. Details like instructions, methods, times, in-process stock are often important to create an organic process, instead of a strict piece of paper describing what shall be followed. While managers talk about standardization, they should also include improvement, so the workers understand them as two faces of the same coin. (Jakubik & Kagan, 2015.)

Jakubik and Kagan (2015) pointed out few crucial activities for creating a successful standard work:

- Focusing on the tasks that are very common or so rare that are easy to be forgotten or performed wrong by the workers if they don't have a clear reference.
- Standardization in a manner that the process is easy to create, understand, update and can be changed depending on the future shifts.

- Planning the developments and updating the standards so that the personnel understands that the standardization is inevitable.
- Engaging as many people within the organization to contribute to the standardization as possible. A process of standardization put on shoulders of few people may seem burdensome, but it becomes manageable when many people are involved.
- Auditing the performance of the workers in following the standard work, so the people feel manager's care in stability, repeatability and quality of the process.
- Remembering not to blame the employees for not following the standard works or making mistakes, if a clear and understandable instructions were not provided, using employee-engaging process or not providing sufficient training. Generally speaking, it is none of employee's fault, instead the manager is the one who failed to optimally organize team's work and properly articulate the expectations.

2.8 Implementing lean at Metso R&D

Metso has been using lean methodology in their factories for a meaningful amount of time and decided to try to utilize gained knowledge and implement it to R&D. Metso applied lean management methods in the design process of the Neles NDX® intelligent valve controller, and achieved a big success, which was finishing a ready for market product one and a half year earlier than projected. Discipline and open mind towards co-operative working are necessary to successfully apply lean approach to an R&D project. Getting to know about the customer's needs should be a primary step in the product development process, since the ultimate goal is to create a valuable product that a customer requires, simultaneously decreasing the waiting time, instead of just releasing any product to the market as fast as possible. (Suurpää, 2016.)

Developing NDX® intelligent valve controller was a first project for R&D when a lean approach was utilized. The data gathered from interviews and feedback provided Metso a clear picture of the expected final product. The new approach has brought a big deal of changes to the work of the R&D team, helping everyone to better understand the goals of

the project. A 3-week sprint cycles helped to maintain momentum across the board and showcase the progress made in the regular project team meetings. Also, using new project management tools provided regular updates on the project status. A shift in a product development process proved to be a demanding challenge, though. A change in people's attitude was essential since they are used to delivering an ideally done work, and are usually rather unwilling to reveal it while still in-progress, so that everyone can see it. However, meetings and discussions during 3-week sprint cycles gave a chance for corrections without slowing down the development process. Most of the workers found it more motivating to set a limited number of achievable goals over a shorter time, instead of trying to accomplish all types of tasks at the same time. (Metso, 2016.) According to Kalle Suurpää (2016) "Positive change can only be achieved by first knowing what needs to be changed. It's pointless to force a change in the way of working to suit a particular new tool. It should be the exact opposite way around. Only when you know what you need to achieve can you identify or develop the tools to bring about that desired change."

2.9 Standard work utilization in DC Europe Operative Purchasing Team

To better understand a role of a standard work and its advantages, a short interview with an Operative Purchasing Team Manager was arranged. The manager recognized standard work as a great tool for improving and maintaining quality. An updated standard work within a moment provides the manager with a brief information on the situation of the crucial processes' status within the team. By taking a glance, the manager can appraise if there is a risk of some major delay or an issue destabilizing a work of the team.



Figure 6. Daily, weekly and monthly standard work of Operative Purchasing Team at Metso DC Europe

Standard work utilized by the operative purchasing team is presented on a whiteboard in the meeting area of the office. Visualizations have a simple, plain design, therefore, are very intuitive and easy to fill in. Each paper includes names of the team members along with a task to be followed up pinned above it. Standard work includes daily, weekly and monthly activities. The current look of the standard work is a result of a several-months development process, during which changes occurred to the frequency of follow ups of particular tasks (e.g. moving a task from a weekly list to a monthly list). The team members fill the standard work using magnets (green or red), what proved to be very ‘user-friendly’, because the board can be filled as well as cleaned up very fast. Positive opinions on the impact of the standard work in the operative purchasing team triggered a desire to create a similar solution for the logistics and order desk teams and inspired to utilize a congenial visualization method.

3 STANDARD WORKS – METSO CASE

3.1 Introduction to the study case

The idea of creating the standard works for logistics and order desk teams at DC Europe originated from the continuous improvement philosophy implemented at Metso. In a very competitive market that Metso is, it is important to seek for perfection in all possible aspects of the functioning of the company in order to provide the customers with valuable products in a decent lead time. The process of delivering goods to the customer is very complex and demands effort of many employees from various Metso teams.

The parts support team has a great technical knowledge about the products offered by the company and assists the customer with choosing suitable spare parts for e.g. mining machinery. The operative purchasing team is responsible for ordering the needed materials from Metso's suppliers in adequate lead times to assure that the goods will be available to be shipped to customers on time as well as to maintain a needed stock level.

Order desk team's role is to assist the customer with placed orders. This team is greatly involved in contacting not only customers but also Metso buyers, in case there is no parts available in the warehouse and they need to be purchased from the suppliers, as well as with the logistics coordinators to monitor the transportation of the materials to the customer's premises. Order desk checks in SAP that all information about the order, such as: sold-to-party, ship-to-party, contact details, incoterms, forwarding agent etc. is

correct. Order desk handles returns by creating RMA (Return Material Authorization) document and contacting logistics team, to book an adequate forwarder to pick up the goods from the customer's location and transporting it back to the warehouse. When the material is back to the warehouse, order desk representative creates a credit note for the customer to reimburse the costs of the goods. Usually the OD team members are the first ones to be informed by the customer if the shipment of the goods has been delayed or has gone missing. In critical situation, for instance, when the customer's machinery is down, the customer may require shipping the goods as a breakdown, that has to be handled by the team with high speed, to assure that the goods can be dispatched same day. Except routine order handling, the team members also need to follow-up on tasks like EA (Every Angle) report, as well as expediting orders, invoicing direct deliveries, releasing ICSOs (Intercompany sales orders) and ICPOs (Intercompany purchase orders) so that the warehouse can start preparing the goods for shipment.

The logistics team is responsible for 'making the goods flow' from the warehouse to the customers. Each logistics coordinator has his own list of the customers he/she is responsible for. Therefore, the team members are in daily contact with the customers, who often ask the logistics team about status of their shipment, freight price quotations, best means of transportation, ETAs etc. Logistics coordinators are responsible for assuring that the export of goods takes place in compliance with the export and import country's regulations, eliminating the risks of delays that can come from incompatibility of the documentation provided. The range of the documents involved in the process is wide and includes standard documents to begin with invoices, pro forma invoices, packings lists that are used generally by the shipping agents to end with documents such as EX-A, that is used when the goods are to be exported outside the European Union. Different types of documents include e.g. TIR, DGD, MSDS or CoO.

Each day, the logistics team monitors the deliveries that are to be dispatched during the day, making sure that the PGIs (Post Goods Issue) are created successfully, so that the shipments are booked automatically through SAP during the day. Sometimes, a booking that has been created, has some errors in it and cannot be sent successfully to the forwarder. The reasons for errors include incorrect forwarders, weight and dimensions limitations, insufficient address, incorrect customer account information. In these situations, the errors need to be fixed manually by the logistics coordinators. In case, non-EU shipments do not get booked automatically, they need to be booked manually,

providing the forwarder (and sometimes warehouse) with invoices (only Metso invoice or Metso invoice and customer's pro forma invoice, if the goods are shipped to the customer of the Metso's customer). The main warehouse is in Born, Netherlands, however, there are also smaller ones in Tampere and Trelleborg. Logistics' daily work often involves contact with Born warehouse, since most of the goods are dispatched from there. Also, logistics coordinators are in daily contact with the forwarding agents, who inform about statuses of the shipments, provide and require documentation, inform about unexpected situations etc. Metso uses a wide range of transportation means that include e.g. airfreight, ocean freight, taxi, road or couriers that come with different procedures, restrictions and limitations. For example, a delivery containing hazardous goods cannot be shipped via courier, since couriers do not agree to transport consignments including any hazardous goods (which can be e.g. glues or oils). Such a delivery requires a separate booking (air, ocean or road), as well as providing the forwarder with DGD (Dangerous Goods Declaration) and MSDS (Material Safety Data Sheet).

Logistics team members are also in charge of invoicing and fixing invoicing errors in SAP as well as accepting invoices from the forwarders in invoice processing software. Logistics is often customers' last instance to contact, after contacting order desk and/or parts support, to have their orders shipped. The duties of order desk team and logistics team are often interconnected. For instance, when the customer has received oversupplied goods the order desk representative creates an RMA and asks a logistics coordinator to create a shipment back to the warehouse. Moreover, when the customer creates a breakdown order and requires a taxi shipment the order desk representative contacts a logistics coordinator who asks for an offer from the emergency transport company and monitors the status of the shipment, in before pre-alerting the warehouse about the upcoming urgent goods' collection. Logistics coordinators are required to follow-up on the ship lanes daily, meaning checking from SAP if all the goods that were supposed to be collected on the previous day were in fact collected, and if not then to sort the issue out with the warehouse or forwarder. This check-up helps to assure that the goods leave the warehouse consequently, reaching customers within promised lead times, and decreasing a risk of major holdups and obstructions in dispatching.

Most of the employees leave the office between 3:00 PM to 5:00 PM, however everyday there is one person from both logistics and order desk who does an 'on-duty' service until 7:00 PM. In the afternoon, the 'on-duty' people take responsibility of all customers'

enquires, after the main customer contact person has already left the office. From the logistics' side, the main tasks during 'on-duty' shifts are checking the road transportation outbound list and changing the transportation modes from road to couriers in SAP for the deliveries that are enough light to be shipped via courier, as well as informing the road transportation companies if there are any hazardous goods included in deliveries. Other tasks consist of invoicing non-EU courier shipments and providing the forwarders and warehouse with invoices, fixing all errors appearing during the booking creation, forwarding any relevant documents, such as EX-A or DGD, booking an emergency transportation for the breakdown orders. Usually the 'on-duty' person attached in emails the designated customer contact, so once he or she is back to the office next day it is clear for him or her that an 'on-duty' person was handling their customer's case at the evening.

3.2 Interview with the Management

The interview with the managers was foreseen as the most crucial part of the research, since the managers had a pretty clear vision of what they think is important to include in the standard works. During the 40-minute interview, the Logistics Manager, Order Desk Manager and Acting Logistics Manager were present and the interview was fully recorder in order to analyze the gathered data afterwards. The answers of the managers are a result of a many-years' experience combined with an outlook on the annual KPIs provided by the upper-management.

From the order desk's side, the manager pointed out that in big picture OD team puts an emphasis on monitoring the outbound reliability. The first thing that should be followed is EA reports. That includes checking critical and late orders PO, ICSO, ISA/my.metso.com (of own responsibility areas, in back-up situation also those areas) from EA report and using Pivot table to find out long complete orders as well as valuable orders, which should be prioritized. Another category of daily tasks is order handling. Order desk team members should on a daily basis enter manual POs into SAP, release ICPO, ICSO and ISA orders. The team should follow up on manual breakdown process handling as well as an important activity which is order expediting. Order monitoring is another example of a crucial activity and it involves monitoring the orders by using SAP outbound monitor tool. In case the process of the order handling in the warehouse seems to be stopped, then an order desk representative should contact the warehouse. What's

more, it is a must to make sure that there is no blocks or any other incompleteness on the order, which could stop the process in the warehouse.

From weekly activities, the manager pointed on checking reasons for later orders, which is an outbound reliability KPI follow-up. Within this task the team members should report the reasons of late orders on outbound reliability weekly report ran by order desk manager. Another weekly task is issuing and crediting RMAs. Team members create RMA documents for the customer, so that the goods (e.g. wrong parts supplied) can be sent back to the warehouse. Besides this, a handling note should be created for the warehouse purposes. When the goods are back to the warehouse and an approval from the warehouse was received, a credit note for an RMA should be issued. On top of that, any other credit notes and debit notes should be issues weekly. OD team should also make sure that the spare parts are invoiced every week, according to the information received from the documentation. Also, in case there is a request from the customer, a supplier's declaration document should be arranged.

Monthly activities include a final check that all RMAs have been handled and are ready to be credited (according to a report, ran by order desk manager). Additionally, there should be a final check on direct deliveries that are ready to be invoiced (according to the report). Lastly, there should be a follow-up on any changes with the customer instructions. In case there have been any changed, the customer instructions files should be updated.

The logistics and acting logistics manager brought up an idea of putting ship lanes check-up into the standard work, although this task is already followed on the team whiteboard. This check-up involves monitoring the warehouse ship lanes from the HU Load Location-transaction in SAP to see if all orders from the previous day have been loaded as planned. Ship lanes should be also followed from a daily HU check-list sent by email from the warehouse. In case for some reason the order has not been ship as planned, a logistics coordinator should contact the warehouse and possibly forwarder and/or customer to sort out the situation as fast as possible. The logistics team is supposed to make sure that bookings for all shipments during the day have been created successfully by the latest booking time. Also, the documents needed for shipping should be delivered to the forwarder. The next daily activity is a PGI creation follow-up. The team should be monitoring that PGIs are created on time by using the Outbound Delivery Monitor tool in SAP. In case there is anything preventing a PGI from being created a proper action

should be taken to resolve the issue. Logistics team members need to check and act on the correspondence arriving to the logistics' mailbox on a daily basis. The managers mentioned a brand-new SLA (Service Level Agreement) to be introduced later in 2018. SLA would help to assure customers that they receive the goods in a promised timing. The role of logistics team would be to daily monitor if the lead time of each shipment complies with SLA.

When it comes to the weekly activities, logistics coordinators should monitor the ship lanes also in a weekly variant, and in case of any problems take appropriate action. On a weekly basis, a VFX3 SAP transaction should be followed up to check and correct if there are any invoices that could not be transferred to the accounting department, because of missing data (i.e. missing foreign trade data etc.). Another activity is a regular check of invoices to be posted and approved in the invoice processing software. Furthermore, team members should add customs' declaration and documents to 'Export document packages' in logistics' Sharepoint cloud. The same procedure should apply for the customs' declarations added to import documents database for incoming shipments. Also, as a monthly variant the ship lane check should be followed up. In addition, a monthly routine includes invoicing orders to the correct month, in time before the invoicing period closure. If any order cannot be invoiced, a reason for this should be noted. Finally, the customer instructions should be followed up in terms of possible changes that should be considered. The team should update the customer instructions on a regular basis to make sure all possible changes and updates are well-documented and available for all team members to see.

3.3 Interview with the Logistics team

The idea behind the interview with the logistics team was to compare the answers gained from the Logistics Manager and Acting Logistics Manager with the thoughts of the logistics team members. The managers wanted to know if the team agrees with the solutions proposed, both regarding the tasks described by the managers as well as the periodicity of the follow-ups for the particular tasks (i.e. daily, weekly, monthly). Despite the fact that the managers have the final saying on the look of the standard work, an opinion of the team is very appreciated since the logistics coordinators by using their work experience can depict the most effective process, that will streamline the functioning

of whole team. After familiarizing with the opinions within the team, the managers would draw the final conclusions.

The interview with the logistics team was split on two groups. Both interviews took place on the same day, lasted 30-40 minutes and were fully recorded to utilize the collected data for further analyzing. Each interview included an explanation of basic purpose for creating the standard works. The interviewees were informed the tasks that the managers pointed out to be worth including in the standard works, and the team members were encouraged to give their comments on those.

The interviewees were mostly agreeing with the tasks proposed by the managers, whilst with some details they had divergent views. For example, team members suggested that a daily follow-up on a PGI creation is only a fraction of a whole process of shipping the goods and logistics coordinators often will notice an issue with PGI creation in SAP during daily shipment creation routine. On the other hand, the team judged positively an idea of following up the daily booking creation process including ocean freight, air freight, road transport and customer collections. The team also agreed that the weekly checklist should consist of invoicing, fixing invoicing errors in VFX3 transaction in SAP as well as posting and accepting invoices in the invoice processing software. The team acknowledged the importance of following the ship lanes. The team members expressed their opinions on the idea of including customer instructions updating monthly in the standard work as in their opinions the instructions demand updating much rarer than every month, e.g. once a year.

During the interviews, the interviewees were coming out with own ideas for the tasks that could be included in the standard works. One of the ideas was a daily check of the logistics' team mailbox. The customers tend to send enquires to a common mailbox from which each team member is supposed to recognize the correspondence from his/her customer and take an appropriate action. Uploading customs' declarations to the Sharepoint cloud was proposed to be followed up on a weekly basis. The team has genuinely agreed that no additional standard work should be implemented for an 'on-duty shift', since the person who is on that shift often needs to face an infoglut and has a very busy evening, therefore, adding a responsibility of following the standard work for 'on-duty' could potentially make the shift even more hectic and produce more waste than value for the customers.

3.4 Interview with the Order Desk team

The form of interviewing the order desk team members was identical to the way it was conducted with the logistics team. The team was split on two sub-groups, interviewed one after another. Both interviews lasted around 30-40 minutes and were fully recorded as well. As during the interviews with the logistics team, the order desk team members were informed about the ideas proposed by the Order Desk Manager and were asked to express their opinions.

The team members were agreeing with all tasks suggested by the manager. The team has jointly acknowledged the importance of following up the EA report, ICPOs and ICSOs releasing, order monitoring, manual POs, order and breakdown order handling on the daily basis. Team members pointed out that activities such as expediting orders and later orders checking are contained in the order handling task already. Order desk team members agreed such activities as RMAs, credit and debit notes creating should be followed in the standard work as well.

3.5 Analyzing collected data

In qualitative research, the data is not reduced to number. Instead, the researcher needs to take into consideration behavior, opinions, values, habits, processes, philosophies etc. The data for this research was collected in form of recorded interviews, transcripts and notes that described ideas of the interviewees. The theoretical knowledge came from sources such as articles, scientific books and videos, whilst for the practical side of the research, which was to design the standard works, the experience and suggestions of both order desk and logistics team members was utilized. The concept of these standard works assumed short and concise check-lists that would be useful for the managers to easily monitor the overall situation of the most crucial processes within the teams as well as be a helpful tool for the team members to bear in mind all necessary tasks that need to be taken care of in time.

All the answers gathered during the interviews were taken into account in terms of utility for the standard works. As agreed with the managers, their opinions regarding the activities included on the standard work were prior to the ideas of the team members,

however, changes proposed by the team members had an impact on the final outcome. The focus group interviews were a source of sufficient data, that facilitated understanding of the core work activities better, and in consequence, creating the processes that streamline the information flow and standardization. The exploratory framework used for analyzing data assumed digging through the collected information and seeking for trends and similarities. The answers from the team members were compared with the ideas of the managers and the best ideas were chosen empirically based on pros and cons analysis, according to the lean principle about maximizing value for the end customer simultaneously reducing waste. Therefore, any excessive and lone activities proposed during the interviews were excluded in the analysis process in favor of the answers that appeared most commonly and were similar to the ideas given by the managers.

3.6 Creating the standard works

The visual part plays its' role in terms of the usefulness of the standard works. The design should be very simple and easy to understand. Since the goal is to add value while minimizing additional work, it should take the team members very short amount of time to fill in the standard works, yet provide the managers with a sufficient update about the situation of the work processes undergoing within the teams.

The standard works displayed in this chapter are draft versions. They only set an example for the managers on a suggested final look of the standard works, and the managers will decide on the implementation date in the future. They are also a subject to possible improvements and modifications. Usually, it takes at least few months to fully understand the functionality of the standard work, see the results and recognize what could be improved. The development process will continue well after the implementation date, since there is often an evolution of the standard work, when the management realizes some solutions work better than others and constantly improve the standardization.

The data analysis gathered from the interviews with the managers and both logistics and order desk teams resulted in five variants of standard works, three for logistics (daily, weekly, monthly) and two for order desk (daily, monthly).

The visual look of each standard work includes a column on the left side where the names of the team members should be listed. The top row includes the tasks that should be followed. The empty cells are the space for green magnets that should be placed on the standard work once the task from the list has been completed by the team member.

Duties <i>Team members</i>	PGI	SLA	Bookings	Logistics Mailbox	All done
Name 1					
Name 2					
Name 3					
Name 4					
Name 5					

Figure 7. Daily standard work for logistics team

Daily variant for logistics includes checking if the PGIs for the goods leaving during the day are created successfully. An SLA check-up was included, even though it is about to be yet introduced in the future. Daily tasks include also creating shipment bookings for all ready deliveries as well as checking the logistics' mailbox. The 'all done' cell was put for the practical reasons. The idea is that if the team member has completed all the tasks, instead of putting a green magnet beneath each task, he or she can simply put a green magnet under 'all done' and it informs about the completion of all tasks displayed on the standard work.

Duties <i>Team members</i>	VFX3	Invoices	Basware	Customs' declarations	All done
Name 1					
Name 2					
Name 3					
Name 4					

Figure 8. Weekly standard work for logistics team

The weekly standard work includes tasks such as invoicing in SAP, fixing invoices that couldn't be processed through VFX3 transaction, posting and accepting invoices in invoice processing software as well as uploading customs' declarations to the Sharepoint cloud. The 'all done' cell is mentioned same as with the daily variant.

Team members Duties	Ship lanes	Customer instructions
Name 1		
Name 2		
Name 3		
Name 4		

Figure 9. Monthly standard work for the logistics team

The monthly variant for logistics includes two tasks. The ship lane check, making sure that all deliveries that were supposed to be shipped have been successfully loaded. The second task is updating the customer instructions so that up-to-date guidelines are available for the team.

Duties <i>Team members</i>	EA report	Order handling	Manual POs	All done
Name 1				
Name 2				
Name 3				
Name 4				
Name 5				
Name 6				

Figure 10. Daily standard work for order desk

The daily variant for order desk includes three tasks. According to it, EA report should be followed on a daily basis. Other tasks are order handling (both normal and breakdown)

and following manual POs. Same as for the logistics, the ‘all done’ cell was put for practical reasons.

Team members Duties	Credit & debit notes	Invoicing direct deliveries
Name 1		
Name 2		
Name 3		
Name 4		
Name 5		
Name 6		

Figure 11. Monthly standard work for order desk team

The last standard work is a monthly variant for order desk. It includes a follow-up on credit and debit notes’ creation as well as invoicing direct deliveries.

3.7 Limitations of the standard works

Despite the fact that the research was carried out earnestly I am aware of its' limitations. Although both teams and managers were interviewed as planned, a tight schedule and a workload could affect the answers. In addition, all data collected from the interviewees consist of personal opinions and ideas based on the work experience. While the workers' expertise can be a value added to the research, the results come in a major degree from objective considerations. The creation of the standard works' drafts was greatly influenced by both managers and team members, however, at the end author used his own logic, critical thinking and intuition to choose the most suitable tasks that should be followed up by the teams.

The focus group interview method also has its' downsides. Even though all team members agreed to take part in the interviewing sessions, the interviewer could not pay equal attention to all participants. As a result, some participants were more active than others, sharing their own ideas whilst other ones would only express opinions about managers' suggestions. This leads to the conclusion that the more active, experienced and inventive team members had bigger impact on end results of the research than those who didn't come up with own solutions and were more passive during the interviews.

It should be taken into account that the author despite of a solid theoretical research has not had experience in implementing lean solutions in a company before. Moreover, a development of standard work in an evolution. During the development process the standard work should be improved constantly before the final perfect version will be reached. The time of this research was limited, therefore, the standard works designed for the purpose of this study case are drafts. A decision on implementation and date of implementation is a subject to a judgment of the managers.

4 CONCLUSIONS AND RECOMMENDATIONS FOR THE FUTURE

Even though the foundations of lean come from the end of 18th century, the philosophy is currently very popular among companies from various industries worldwide. In the beginning, lean was used to improve manufacturing processes in automotive industry. Consecutive findings and developments have been broadening an understanding of issues related to rearrangement of work processes in e.g. factories. That led to drastic performance improvements and gave lean-companies a competitive advantage over their non-lean competitors. Increasing globalization of economies facilitated spreading systems like TPS all over the world. Nowadays, the lean methodology and principles are implemented in countless industries, helping companies to eliminate wastes and provide customers with increased value. Furthermore, a kaizen philosophy has shifted the way managers had seen improvement. Instead of striving to achieve big results at once, it proclaimed focusing on small-step incremental improvement everyday.

A standardized work is a tool used for standardizing and improving quality of processes. It can be a solution for complex processes, where performed activities are repeatable. While creating a standard work it is relevant to involve the workers in the creation process. Experienced personnel is able to provide very deep insight into daily routine work, highlighting all common and variable tasks that should be taken into account.

In this work, several examples of successful utilization of lean practices were presented, and from each of them a different lesson can be learnt. An example of Toyota car dealer shop office underlined a supremacy of active information over passive information in terms of how fast needed information becomes available for employees in a lean office. Therefore, visualizations that are clear and short, yet informative for workers and managers, allow information to flow efficiently throughout the office, reducing the time needed to acquire needed data, improve quality as well as are a helpful tool to remain up-to-date about the status of the undergoing processes.

Analyzing Metso's implementation of lean management at R&D in design process of a new product spotlighted an impact of solid preparation and open-minded attitude on the final outcome. In order to know what management tools can be utilized, it is a necessity to firstly set clear goals and objectives. The project also evidenced that workers found it more motivating to set and achieve many smaller goals than few big ones.

An interview with Operative Purchasing Team Manager gave a hands-on picture how standard work utilization helped to increase quality. Lessons learnt from analysis of Purchasing's standard work had an influence on preparations of questions for interviews with the team members. Also, visualization solutions used by Purchasing team inspired in creating draft standard works for Logistics and Order Desk teams.

The core of the research included interview with the managers followed by interviews with both teams. The managers shared their ideas and expectation regarding the tasks included in each standard work, and thus gave a more concrete shape to the final result. A feedback gathered during interviews with the team members was a great contribution in terms of better understanding the routines and variables in both teams. Moreover, own experience in logistics team was helpful in internalizing all the data collected.

To sum up, all goals of this thesis were successfully achieved. A profound theoretical basis was a solid ingredient, that connected with the interviews' findings facilitated to create a substantial amount of lean solutions for Logistics and Order Desk teams. The standard works described in this document are a result of joint effort of all workers that agreed to contribute to the research by sharing their knowledge and ideas. A cooperation throughout the project duration was excellent and an ease in arranging all required interviews, despite tight schedules, was very advantageous. Great communication and clear goals with realistic deadlines allowed to conduct the research efficiently, gather all needed information and conclude the project with positive results.

Metso as a company is vividly aware of global trends and shifts, therefore, has experience in utilizing lean management tools to eliminate wastes and provide the customers with more value. As a big player in the industry, Metso is expected to continue setting standards and implementing solutions that create a competitive advantage over competitors. Examples presented in this work prove that the company consistently applies lean practices to new teams and activities, what complies with kaizen philosophy.

The Metso DC Europe office in Tampere proved to be a great thesis commissioner and the findings of this work shall be used to improve the quality of service for the customers, as the managers were looking for ways to standardize the processes within Logistics and Order Desk teams. As a suggestion, the office should continue to implement lean principles to daily activities of other teams as well. Also, it is worth remembering to seek

for small improvements that will eventually lead to big results. Naturally, when the standard works for the teams are implemented the development process will not end. Instead, they should be constantly upgraded as there is always some space for improvement.

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APPENDICES

Appendix 1. Interview questions for Metso managers

1. What are the most important KPIs for order desk team?
2. What are the most important KPIs for logistics team?
3. What are the most crucial activities performed by the order desk team?
4. Are these standard works expected to help remain the quality on the envisioned level or develop the service level ascendingly?
5. What are the steps the managers should take when the standard work alarms about an issue in the quality?
6. Does it sometimes happen that for ready orders there is no shipment created on time?
7. Should there be an additional standard work designed for an 'on-duty' shift?
8. What tasks of logistics team should be followed daily?
9. What tasks of logistics team should be followed weekly?
10. What tasks of logistics team should be followed monthly?
11. What tasks of order desk team should be followed daily?
12. What tasks of order desk team should be followed weekly?
13. What tasks of order desk team should be followed monthly?
14. On which whiteboard in the office would the standard works be placed?

Appendix 2. Interview questions for Metso logistics team

1. What do you think of SLA check-up every day?
2. Should PGI creation be checked daily?
3. Do you often come across PGI creation issues?
4. Should there be a daily follow-up on the bookings' creation?
5. Should updating customer instructions be a part of the standard work?
6. Should VFX3, Basware posting, invoicing be followed weekly?
7. What would you add the standard work?
8. What should be followed monthly?
9. What are your thoughts on the visual look of the standard work?

Appendix 3. Interview questions for Metso order desk team

1. Should EA report be followed-up on a daily basis?
2. Should 'order handling' be separated into few sub-tasks?
3. Should credit notes & RMAs be followed weekly or monthly?
4. Should invoicing direct deliveries be followed-up weekly or monthly?
5. What else in your opinion should be included in the standard work?

Appendix 4. Logistics standard work according to the Acting Logistics Manager

DAILY

Ship lanes (on the board already)

- Monitoring the warehouse shiplanes from the HU Load Location -transaction in SAP to see that all orders from the previous day have been loaded as planned
- Following shiplane activity also from the Daily HU check -list received daily from Ceva
- Taking action in case some orders have not shipped as planned
 - o Contacting warehouse / forwarder / customer

Bookings

- Booking all shipments of a specific day by the latest booking time (via MTG)
- Delivering documents for each booking via MTG or by other means to the forwarder

PGI creation follow-up (mentioned in list, not monitored on the board)

- *Monitoring that PGIs are created on time by using the Outbound Delivery Monitor in SAP*
- *Reacting in case anything is preventing the PGI from being created*

Logistics mailbox checking (mentioned in list, not monitored on the board)

- *Monitoring and acting on the mail flow arriving to the group mail box*

SLA (to be introduced later)

WEEKLY

Ship lanes (on the board already)

- Monitoring the warehouse shiplanes from the HU Load Location -transaction in SAP to see that all orders from the previous week have been loaded as planned
- Taking action in case some orders have not shipped as planned
 - o Contacting warehouse / forwarder / customer

VFX3

- Weekly check of SAP transaction VFX3 to check and correct any invoices that are missing data and not transferred to accounting because of that (i.e. missing foreign trade data etc.)

Basware Invoice Posting Matching

- Weekly, regular check of invoices to be posted and approved in Basware

Customs declarations

- Adding customs declarations and documents to 'Export document packages' in Logistics' Sharepoint for shipments that are not booked via MTG

- Adding customs declarations and documents to Import documents database in Logistics' Sharepoint for incoming shipments
- Checking that bookings done via MTG have received export documents from LSP's and that the export documents are attached to their respective bookings

MONTHLY

Ship lanes (on the board already)

- Monitoring the warehouse shiplanes from the HU Load Location -transaction in SAP to see that all orders from the previous month have been loaded as planned
- Taking action in case some orders have not shipped as planned
 - o Contacting warehouse / forwarder / customer

Invoicing

- Invoicing orders to the correct month, in time before the invoicing period closure
- If any order cannot be invoiced, reason for this should be noted

Customer instructions updates follow-up (mentioned in list, not monitored on the board)

- Updating customer instructions on a regular basis to make sure all possible changes and updates are well-documented and available for all team members to see

Appendix 5. Order Desk standard work according to Order Desk Manager

DAILY

EA reports- daily (on the board)

- Checking Critical and late orders PO, ICSO, ISA/my.metso.com (of own responsibility areas and in back up situation also those areas) from the EA report and using Pivot table to find out long complete orders as well as valuable orders, which should be prioritized.
- Info email to operative purchasing of critical/late orders, if no info received from there already
- Updating the correct dates on the SO, according to PO dates, if possible. If the updating is not possible, comments on header texts.
- In case the order will be delayed, info email to the customer

Order handling- daily

- Entering manual PO's into SAP
- Releasing ICPO, ICSO, ISA orders
- Manual BD process handling
- Order expediting

Order monitoring -daily

- Monitoring orders by using SAP outbound monitory tool
- In case the process of the order handling in the warehouse seems to be stopped, contacting CEVA.
- Making sure there is no blocks or other incompleteness on the order, to stop the process in the warehouse

WEEKLY

Checking reasons for late orders (outbound reliability KPI follow-up) – weekly

- Reporting the reasons of late orders on outbound reliability weekly report (run by Order Desk manager)

Issuing RMA and crediting RMA – weekly

- Creating RMA documents to the customer
- Creating handling note for the RMA for CEVA purposes
- Issuing a credit note for RMA after received the approval from CEVA

Other credit notes and debit notes -weekly

Spare parts book invoicing -weekly

- Invoices should be done in weekly basis, according to the information received by documentation

Supplier's declarations

- By customer request

MONTHLY**RMA crediting check that all have been done – monthly**

- Final check for RMAs which are handled and ready to be credited (according to report, run by Order Desk manager)

Invoicing direct deliveries- monthly

- Final check for the direct deliveries which are ready to be invoiced (according to report, run by Order Desk manager)

Customer instructions updates follow-up – monthly

- Updating customer instructions in case of any changes