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M.Sc. in Applied Economics & Finance Department of Finance Copenhagen Business School Master Thesis

VALUATION OF NKT HOLDING A/S





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EXECUTIVE SUMMARY

The main purpose of the thesis has been to determine the fair value of NKT Holding's share on a stand-alone-basis as of Sep 1, 2010. The research conducted is based solely on publicly available information as well as discussions with industry specialists.

The thesis employs a SOTP approach in which NKT Holding's four core divisions are valued separately: NKT Cables, Nilfisk-Advance, Photonics Group, and NKT Flexibles. To maintain a consistent flow, the thesis considers the strategic, financial, forecast and valuation aspects separately.

In the strategic analysis the divisions are studied on a macro, industry and company level. The significance of these levels depends on the division in question, as each division is pursuing specific strategies. Within the energy and industrial cable industry, NKT Cables is aiming to change its product mix by focusing more on high-margin and growth segments. In the professional cleaning industry, Nilfisk-Advance is focusing on restructuring its operations to cut costs while improving product benefits. Within the fiber laser industry, Photonics Group is working on increasing its market penetration by entering into industry partnerships with its customers. NKT Flexibles on the other hand is focusing on developing a technological edge in the market for deepwater flexible pipes.

The financial analysis is based on historic ROIC calculations, where each division is compared to its peers to determine both absolute and relative performance. A decomposition of ROIC suggests whether performance has been driven by EBIT margin and/or turnover of invested capital. Further, COGS, G&A, S&M, and R&D are estimated in order to provide a better understanding of the mix between variable and fixed costs. NKT Cables has been suffering from a low capital efficiency, which can be attributed to less than full production at its new factories in Germany and China. In contrast Nilfisk-Advance's primary concern has been a declining EBIT margin due to below-average demand from professional contract cleaners; however Nilfisk-Advance should be able to improve margins as demand resumes thanks to high operating leverage. The problem is even more pronounced at Photonics Group, which has not yet been able to deliver a positive EBIT margin due to a lack of penetration in the market. Despite being a small player compared to its competitors, NKT Flexibles has on the other hand been very profitable thanks to high operating efficiency at its plant in Kalundborg.

The valuation is performed using both a DCF model and Multiples. Based on the DCF approach, the fair value of NKT Holding is equal to DKK 381 per share. The Multiples approach yields a fair value equal to DKK 359 per share. As both methods are considered equally suitable, the overall estimate of the fair of NKT Holding as of Sep 1, 2010, is equal to **DKK 370** per share. The observable share price on the same date is equal to **DKK 222**. This in turn indicates a strong **BUY** recommendation.

In order to verify the findings, a sensitivity analysis of the critical valuations inputs in the DCF model is performed. The analysis suggests that the DCF estimate is sensitive to changes in WACC, but immune to changes in the terminal growth rate. The latter can be attributed to the offsetting effect of corporate overhead on terminal value. Similarly the outliers from the Multiples approach is used to provide a target range for the estimate. The estimated ranges are both supportive of the buy recommendation.

GLOSSARY OF TERMS

Barrel = 159 liters

1 foot = 30.48 cm

1 micron = 1/1,000 mm

B2B – Business to Business

B2C – Business to Consumer

BOE/D – Barrels of Oil Equivalent per day

CAGR – Compound Annual Growth Rate

CAPEX – Capital Expenditure

CBOE – Chicago Board Of Exchange

COGS – Cost Of Goods Sold

CT – Compliant Towers

DCF - Discounted Cash Flow

DTS – Distributed Temperature Systems

EBIT – Earnings Before Interest and Taxes

EBITDA – Earnings Before Interest, Taxes, Depreciation, and Amortization

EIA – Energy Information Administration

EMI – Electro Magnetic Interference

EPC – Engineering Procurement Construction

EPIC – Engineering Procurement Installation Commissioning

EV - Enterprise Value

EWEA – European Wind Association

FCFF – Free Cash Flow to the Firm

FP - Fixed Platforms

FPSO – Floating Production, Storage and Offloading

FX – Foreign Exchange

G&A – General & Administrative

GAAP – Generally Accepted Accounting Principles

GWEC – Global Wind Energy Council

HV&SM – High Voltage & Submarine

IAS – International Accounting Standards

IEM - Internal Electricity Market

IFRS – International Financial Reporting Standards

IPR – Intellectual Property Rights

ISO – International Organization for Standardization

JV – Joint Venture

LHS - Left Hand Side

LV - Low Voltage

M&A - Mergers & Acquisitions

MV - Medium Voltage

NIBD – Net Interest Bearing Debt

NPV - Net Present Value

NWC - Net Working Capital

OPGW – Optical Ground Wire

OPPC – Optical Phase Conductor

PESTEL – Political, Economical, Social, Technological, Environmental, Legal

PP&E – Property, Plant & Equipment

PV – Present Value

R&D – Research & Development

RHS - Right Hand Side

ROIC – Return On Invested Capital

RW - Railway

S&M - Selling & Marketing

S&P – Standard & Poor

SBU - Strategic Business Unit

SOTP - Sum Of The Parts

SP - Spar Platforms

SStar - SeaStar

SUFR – Subsea, Umbilicals, Flow liners, and Risers

SWOT – Strengths, Weaknesses, Opportunities, Threats

TLP – Tension Leg Platforms

VIX – Volatility Index

WACC – Weighted Average Cost of Capital

YOY - Year On Year

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1. INTRODUCTION

1.1. RATIONALE FOR CHOICE OF TOPIC

In the wake of the deepest economic downturn since the Great Depression in the 1930s, the world economy today is in a state of recovery. World growth is expected to be 4.25% in 2010 and 2011, with advanced economies lagging behind emerging and developing economies. However, the path to recovery is still uncertain with many governments struggling to agree on how to both contain public debt and support growth and employment¹.

The high degree of uncertainty is evidenced by the high level of volatility in the financial markets measured by the VIX level, and the mixed signals from leading economic indicators. Among those most exposed to changes in the economy one finds the capital goods sector. This follows from the fact that they operate in B2B market, where companies respond quickly to changes in customer demand by deferring their investments. Hence the capital goods sector is very dependent on the degree of visibility in end-customer demand.

The Danish company NKT Holding A/S (hereafter NKT Holding) consist of four divisions all operating in the capital goods sector. Compared to the S&P500 it is obvious that NKT Holding was hit hard by the economic downturn, and despite being a capital goods stock the share price of NKT Holding has been even more volatile than the comparable capital goods index. This thesis intends to shed light on what drives these changes in value and if the current share price of NKT Holding reflects its fair value. This will be accomplished by performing a SOTP valuation of NKT Holding based on a strategic and financial analysis of its four divisions.





Source: FactSet, Own creation

¹ IMF (2010)

1.2. PROBLEM IDENTIFICATION

The main purpose of this thesis is to determine the fair of value of NKT Holding, which will be based on fundamental analysis that will incorporate both strategic and financial aspects. In turn the main research question is:

What is the fair value of NKT Holding's share on a stand-alone-basis as of Sep 1, 2010?

In order to answer the above research question, the following sub-question will also be addressed for each of the four divisions:

Figure 2: Sub-research questions to be addressed

Strategic analysis	Financial analysis	Forecast and valuation
 What are the macroeconomic conditions affecting the industry? What is the competitive situation within the industry? How is the SBU positioned? 	 What has driven growth in sales? How profitable has the SBU been measured by ROIC? Has ROIC been driven primarily by margins or capital turns? 	 What are the pros and cons of the different valuation methods? Which WACC is appropriate for the different SBUs? What is the peer group?

Source: Own creation

1.3. DELIMITATIONS

As NKT Holding's fair value will be determined as of Sep 1, 2010, any events subsequent to this date will not be considered. Hence, interim report Q2 2010 represents the latest financial report considered.

The thesis will refrain from discussing applied models and theories unless it is deemed relevant, as it is expected that interested parties will be familiar with these.

Only annual reports from 2005-2009 are considered due to strategic and financial considerations. Please see section 4.1.2 for a discussion hereof. Furthermore the thesis will be based solely on the consolidated financial statements for the group due to the complex business structure of NKT Holding.

The valuation will be based on a stand-alone assessment of NKT Holding, which is the value of NKT Holding absent any deal. In turn the strategic value of potential add-on acquisitions or divestments will not be considered, i.e. only organic growth will be forecasted. In the same manner, the strategic value of NKT Holding to a potential buyer will also not be considered. The rationale underlying this decision is the fact that it is not possible to determine the value effects from such M&A activity with a reasonable degree of accuracy². Therefore it is assumed that all deals will be zero NPV transactions, hence they can be ignored in the forecast.

² Weston et al (2004)

1.4. THESIS OUTLINE AND CHOICE OF MODELS

NKT Holding is a conglomerate comprised of four SBUs: NKT Cables, Nilfisk-Advance, Photonics Group, and NKT Flexibles. Each of these SBUs operate in different markets and are completely autonomous with own management, thus NKT Holding does not derive any synergies from its four main divisions³. It is therefore necessary to employ a SOTP approach. To maintain a coherent flow, the thesis will consider the descriptive, analytical and conclusive aspects separately.

Figure 3: Thesis outline



Source: Own creation

1.4.1. COMPANY PRESENTATION

Prior to commencing on the strategic and financial analysis, the thesis will provide a brief company presentation. The purpose is to provide the reader with a general understanding of NKT Holding and its SBUs, thereby laying the foundation for the subsequent analysis.

1.4.2. STRATEGIC ANALYSIS

The main purpose of the strategic analysis is to identify the key business drivers. To accomplish this, the strategic analysis will be divided into three levels: Macroeconomic, industry and company level. Both the macroeconomic and the industry level analysis consider factors external to NKT Holding, whereas the company level analysis is internal to NKT Holding.

The macroeconomic level will be studied using the PESTEL model, as this model provides an overview of the threats and opportunities that affect the industry. The industry level analysis will be carried out using Porter's five forces, as this model provides a thorough understanding of the current and potential degree of competition in the industry. Finally, the company level analysis will focus on each division's strategic ambitions and capabilities within its different segments. The main findings of the strategic analysis will be summarized for each company using a SWOT analysis, which covers both external and internal aspects⁴.

1.4.3. FINANCIAL ANALYSIS

The financial analysis will be based on annual reports from NKT Holding covering 2005-2009. The main purpose of the financial analysis is to assess the future profitability and growth potential of the SBUs; hence sales, margins and invested capital will be studied.

³ NKT Holding, Annual report (2009)

⁴ Dees et al (2008)

1.4.4. FORECAST

The forecast represents the critical bridge between the strategic and financial analysis performed and the actual valuation. More specifically it represents the quantification of both the qualitative and quantitative results obtained from the analysis.

1.4.5. VALUATION

The valuation will employ both absolute and relative valuation models using a SOTP approach. The absolute valuation will be carried out using a DCF model, whereas the relative valuation will be based on peer group multiples.

1.4.6. SENSITIVITY ANALYSIS

In order to verify the results obtained in the valuation, a sensitivity analysis will be performed. This is turn will determine the degree of confidence that can be attached to the result.

1.5. DATA COLLECTION AND SOURCES

The thesis will only employ publicly available information that have been retrieved from a range of sources covering equity reports, industry reports, articles and company material. Furthermore the thesis uses a wide range of academic literature to guide the theoretical choices made in the thesis. Management will naturally be inclined to focus on the positive aspects; however guidance might be conservative due to negative stock market reactions from not meeting expectations. Financial figures in the annual report are assumed to be truthful, as they have been audited without any remarks.

Equity analysts might be biased due to their incentive to promote trade in shares; however whether they are overly bullish or bearish is unsure. In the same manner journalists might also be biased with the intent to sell papers depending on the story being told. In turn a wide range of sources are used, and each is evaluated critically.

2. PRESENTATION OF NKT HOLDING

2.1. HISTORY AND RECENT DEVELOPMENT

NKT Holding was founded in 1891 in Copenhagen, Denmark, by Hans Peter Prior under the name Nordisk Elektrisk Ledningstraad og Kabel-Fabrik. Eight years later in 1898 the company was listed on the Copenhagen Stock Exchange under the name Nordiske Kabel- og Traadfabrikker A/S. Today NKT Holding is a global conglomerate employing approximately 8,600 with 7,060 being employed outside Denmark, and with direct or indirect ownership of more than 100 subsidiaries⁵.

Figure 4: Key milestones in the development of NKT Holding



Source: Company information, Own creation

The transformation of NKT Holding from a focused local player into a complex global diversified company has been a continuous process based on both organic growth and strategic M&A. Initially NKT Holding expanded its cable business to include new areas such as HV&SM cables. However, in 1980 NKT Holding began production of optical fibers and cables (later Photonics Group), thus starting an era of diversification. The new strategy gained traction in 1989 with NKT Holding's entrance into the professional cleaning equipment market thanks to its acquisition of Fisker & Nielsen A/S (later Nilfisk-Advance).



Figure 5: Historical organic and acquisitative growth of NKT Holding

Source: Company information, Own creation

⁵ NKT Holding homepage: accessed on (Jul 2, 2010)

In 1991 NKT Holding introduced high-pressure pipes for the offshore oil and gas industry and subsequently entered into a JV with Stolt Comex Seaway S.A. (later Acergy) in 1999 thereby establishing NKT Flexibles I/S. In the period from 2000-2010, NKT Holding has not added any new business areas to its portfolio of companies, but has instead focused on restructuring its current businesses. The sale of its 63.5% stake in GIGA A/S to Intel Corporation in 2000, which yielded an extraordinary income of DKKm 4,919, represents one of these restructuring decisions⁶.

2.2. OWNERSHIP

NKT Holding has 23,737,979 shares outstanding each with a nominal value of DKK 20, which corresponds to a nominal share capital of DKKm 475⁷. Only one share class exists and no shares have special rights. In addition no limits on ownership or voting right are included in NKT Holding's Articles of Association. Despite having around 38,400 shareholders, ATP is the only investor with more than a 5% shareholding. The remaining shareholders are comprised of institutional investors (above DKKm 1) and other registered shareholders (below DKKm 1). In turn ownership at NKT Holding is fairly dispersed with most of the shares judged to being free float, thus no illiquidity discount need to be considered⁸.

Figure 6: Ownership structure of NKT Holding (Dec 31, 2009)



Source: Company information, Own creation

2.3. ORGANIZATIONAL STRUCTURE

NKT Holding is the financial owner and parent company of the group's four SBUs and their subsidiaries. Since the SBUs are completely autonomous, the principal task of NKT Holding's management is to manage the group's resources and business development.

The organizational structure of NKT Holding has remained rather stable during the past decade as opposed to the 1990s. More specifically the last noteworthy organizational change occurred in 2004 with NKT Holding's sale of its property in Brøndby, Priorparken. All SBUs are wholly-owned with the exception of NKT Flexibles, which represents a JV between the majority shareholder NKT Holding (51%), and the minority shareholder Acergy (49%).

⁶ NKT Holding, Annual report (2000)

⁷ NKT Holding, Interim report (Q2 2010)

⁸ Damodaran (2010)

Figure 7: Organizational structure of NKT Holding



Source: Company information, Own creation

2.4. STRATEGIC POSITION AND STRATEGY GOING FORWARD

Since its approval Aug 23, 2007, NKT Holding has replaced its previous strategy Upgrade to the next level (2004-2008) with a new strategic framework titled Building Power (2008-2012). The key change in strategy is the fact that management is not actively trying to sell its share in NKT Flexibles⁹.

Whether or not the rationale underlying NKT Holding's transformation into a conglomerate is risk reduction or to utilize superior group management capabilities is not given. According to Modigliani and Miller, the former is not value enhancing since investors can diversify on their own¹⁰. One could argue that the latter might be value enhancing, since the SBUs all operate in an international B2B market within the capital goods sector, hence group management could potentially exploit its industry experience across its SBUs. However, one could also argue that group management merely reflects an expense in which case one should add a conglomerate discount¹¹. To maintain transparency, this thesis will assume that any gains or losses stemming from a conglomerate structure will be captured in the forecasted cash flows. In this case the forecast in theory should capture any value-effects.

⁹ NKT Holding, Annual report (2009) ¹⁰ Brealey et al (2008)

¹¹ Damodaran (2006)

3. STRATEGIC ANALYSIS

3.1. CORPORATE MATTERS

Some strategic matters are determined either by policy or directly managed on a Group level. These include taxes, currency, interest rates and incentive programs.

3.1.1. TAXES

NKT Holding and its subsidiaries are subject to the tax rates applicable in the country of operation with the parent company and its Danish subsidiaries being jointly taxed. Changes in the tax rates will in turn affect profitability¹².

3.1.2. CURRENCY

Owing to its global presence, NKT Holding is exposed to fluctuations in currency rates. This exposure is hedged by the individual companies in cooperation with the Group's finance department. It is Group policy to hedge significant exposure related to receivables and payables as well as sales and purchases. Translation risk relating to net investment in subsidiaries is not hedged. At year-end 2009, NKT Holding's equity would have been reduced by DKKm 251 if exchange rates for USD, CZK, CNY and PLN had been 10% lower than they actually were¹³.

3.1.3. INTEREST RATES

It is generally Group policy not to hedge exposure to changes in interest rates, thus NIBD at NKT Holding is subject to floating interest rates. Based on the capital structure year-end 2009, it is estimated that a 1% rise in market interest rates would result in a loss of DKKm 22¹⁴.

3.1.4. INCENTIVE PROGRAMS

Management at NKT Holding and its subsidiaries are well incentivized using share options. It is the board of directors who decides the basis for the calculation and allotment of share options. Besides management, executive employees and key personnel are also incentivized using share options (Appendix 1).

3.2. NKT CABLES

3.2.1. COMPANY PRESENTATION

NKT Cables develops, manufacturers, and markets power cables and cable systems servicing a range of purposes, and has positioned itself as one of the leading suppliers of power cables in Europe. The primary geographical markets served by NKT Cables include Central, Northern, and Eastern Europe as well as China. By year-end 2009, NKT Cables employed 3,127 and contributed to 49% of sales at NKT Holding¹⁵.

 ¹² NKT Holding, Annual report (2009)
 ¹³ NKT Holding, Annual report (2009)
 ¹⁴ NKT Holding, Annual report (2009)

¹⁵ NKT Holding, Annual report (2009) - calculation based on full-consolidation of NKT Flexibles

3.2.1.1. Products

In broad strokes, the products offered by NKT Cables are either energy cables used to transfer electricity from energy production sites to homes and businesses or it is cables used for industrial purposes. A third category is telecom cables used for data transmission; however since it only represents a small fraction of NKT Cables operations it will not be considered. Within energy cables, the market can further be grouped in LV, MV, and HV cables depending on the position in the energy flow. Industry cables on the other hand are all mostly LV cables but instead differ according to their industrial application, therefore they are grouped in AUTO, RW and Other, with other being a small-scale collection of specialized cables used for various purposes.



Figure 8: Energy flow from generation to end consumer

Source: Deutsche Bank, Own creation

3.2.1.1.1. High voltage and submarine cables (HV&SM)

The first step in the transfer of electricity is from its source of generation to substations located near popularized areas – this is referred to as energy transmission. Since this in most cases requires transporting electricity over long distances, HV cables (110 kV – 500 kV) or SM cables (30 kV – 500 kV) are used in order to minimize energy loss. The primary inputs are aluminum and copper with the main difference being that copper has a higher conductivity but also a higher price (3x more expensive). HV overhead cables are primarily composed of aluminum, as the lower price and strong corrosion resistance is ideal for longer distances. On the other hand, HV underground and SM cables are primarily composed of copper, due to the need for manageability¹⁶. In this segment, customers focus on reliability and track record as well as the additional services provided by suppliers, which in turn requires higher value added products. The reason is that failures in HV&SM cables can have significant economic consequences due to their use in strategic power connections¹⁷. On top of the fact that HV&SM cables are characterized by a high degree of complexity, the actual installation of SM

¹⁶ Deutsche Bank (2010)

¹⁷ Frost & Sullivan (2009a)

cables is also a highly complex and risky procedure. Adding to this, the number of ships currently capable of installing and maintaining SM cables is limited, which could potentially lead to costly delays in repair of failures¹⁸.

3.2.1.1.2. Medium voltage cables (MV)

MV cables (10 kV – 30 kV) are used in the subsequent distribution of energy from the larger primary substations to the smaller secondary sub-stations placed in close proximity to homes and businesses. In addition some MV cables skip the secondary sub-station connection and are instead connected directly to larger business such as steel plants. The majority of the MV cables are made from copper with limited insulation. This segment is characterized by a commoditized product with low value added, since the cable is easy to produce and manipulate and due to the fact that cable suppliers in general only need to provide a cable and not the installation service.

3.2.1.1.3. Low voltage cables (LV)

The final transfer of energy from the secondary sub-stations to homes and smaller business are carried out using LV cables (1 kV). The stretch is usually referred to as the last mile, and the stage is characterized by a high degree of installation needs. Since manageability is a key parameter in this phase, LV cables are primarily composed of copper. The products in this segment are mostly of lower value added. However, the European Commission's new building products directive has led to the development of products with higher safety requirements, which are used in places such as tunnels, hospitals and airports where fire safety is critical. This niche in turn allow for higher margins. In general NKT Cables targets the premium segment within LV Cables (Appendix 31).

3.2.1.1.4. Railway catenary wires (RW)

RW wires are a system of overhead wires used to supply electricity to a train. NKT Cables produces wires for every speed requirements ranging from pure copper wires that allows for speeds up to 160 km/h to wires made of copper and magnesium alloy, which can be used for speeds up to 400 km/h. Since the wires are used in infrastructure projects, product reliability is crucial in this segment¹⁹.

3.2.1.1.5. Automotive cables (AUTO)

NKT Cables has just recently entered the market for AUTO cables, which it produces in the Czech Republic in connection with its production of LV cables. The AUTO industry is the largest industrial market, but also one of the most commoditized characterized by a low degree of complexity²⁰.

3.2.1.1.6. Other

The products included in this group are specialized cables with particular functionalities. Among the most prominent are extra hardwearing cables, cables with wider temperature

¹⁸ Global marine services (2010)

¹⁹ NKT Cables, "We deliver traction power to the railway"

²⁰ Deutsche Bank (2010)

range and cables that meet special EMI requirements. In addition this segment comprises OPGW and OPPC products, which are used for data transmission through the power distribution grid. Hence, they belong to the product group telecom cables. This market is driven by demand from utilities and is mostly project oriented. Besides cables, this segment also comprises VALCAP monitoring systems, which are used to minimize power loss by monitoring temperature and performance. As the cables in this segment are tailored to fit specific needs, the cables will have higher value added²¹.

3.2.1.2. Customers

With only minor caveats, the customers of NKT Cables can be grouped along the above stated product segmentation. This situation is depicted in figure 9, which shows the connection between products categories and customer groups.



Figure 9: Industry structure at NKT Cables

Note: A small part of other is comprised of telecom cables, which is a third product category in addition to energy and industry cables

Source: Own creation

Within energy cables, HV&SM and MV cables are sold to leading European power companies, incl. EON, EDF, RWE, Scottish Power, Dong Energy and Vattenfall. LV products are instead sold via large European wholesalers, incl. Rexel, Sonepar and Solar, but also to a large number of national customers. It is estimated that 70% of the LV cable market in EU goes through specialized distributors such as Faber and Batt cables²². Note that some MV cables are sold through wholesalers as well, and that in some cases LV cables are sold directly to electrical installers.

Within industry cables, RW wires are sold to railway operators and contractors such as Siemens, Adtranz and Balfour Beatty as well as the Chinese Ministry of Railways, which have become an important customer at NKT cables. In the same manner, NKT cables other cables are also sold directly to industrial buyers, as most products in this segment are produced upon

²¹ NKT Cables, "VALCAP"

²² Deutsche Bank (2010)

request. Sales of AUTO cables on the other hand take place through subcontractors to major well known car manufacturers in Europe²³.

3.2.1.3. Production

NKT Cables has 13 combined sales and manufacturing facilities as well as a number of pure sales offices. The sales offices and manufacturing facilities are all located near the primary geographical markets in Europe and China respectively. The facilities in Norway, Poland and the Czech Republic all produce LV cables. In contrast, the production facilities in Denmark, Germany and China do not produce LV cables, but instead produces industrial cables. In addition to producing industrial cables, the factories in Cologne, Germany, and Changzhou, China, also produces MV and HV&SM cables. One exception is the Danish factory in Asnæs, which combines the production of LV cables with the production of MV and HV&SM cables²⁴.





Source: Company information, Own creation

The primary reason why the manufacturing facilities are located close to the geographical markets served is to reduce transportation costs. In particular the production of LV cables is dependent on being located in close proximity to the customers due to its lower value added.

²³ NKT Holding, Annual report (2009)

²⁴ NKT Cables, "Welcome to the world of NKT Cables"

The new factory in Cologne focused on MV and HV&SM cables has three lines with the option to add one more line. The decision to expand is pending, as it costs another DKKm 100²⁵. It can be added that the factory is located by the Rhinen, which enables transportation of cables by water; hence reducing transportation costs.

The new factory in China was acquired for ¼ of the replacement value as the former partner went bankrupt. It uses the same machines as the factory in Cologne, but gross margins are lower at the Chinese factory compared to the factory in Cologne though EBIT margins are the same. The same margin differential between productions in China and Germany apply to the competitor Prysmian, which suggests lower fixed costs in China. By Feb 28, 2010 the factory employs 120 and expects to reach 200 employees by year-end. NKT Cables does not provide guidance, but sales in China are expected to be DKKm 200 in 2010 and DKKm 500 in 2011²⁶.

3.2.2. MACROECONOMIC ANALYSIS

3.2.2.1. Political

Increased awareness and concern in regard to changes in the global climate has led major world economies to focus on increasing its supply of green energy. In EU the goal is to generate 20% of the energy from green sources by 2020, and the UK expects to have 40% by 2020. In China the goal is 15% by 2020. Other major economies such as India and the US have also been increasing its supply of green energy. Evidence of the commitment to these goals is the signing of the North Sea Countries Offshore Grid Initiative in 2009 and the discussion of a grid in the Baltic Sea. However, political and regulatory differences between countries could slow down the process²⁷.





Source: EWEA, Own creation

The increase in the use of renewables will lead to a significant transformation of the current transmission system, as renewable energy supplies compared to power plants will be smaller,

²⁵ Interview with Mads Thamsborg (Appendix 30)

²⁶ Interview with Mads Thamsborg (Appendix 30)

²⁷ EWEA (2009)

more scattered and located further away from the cities. The primary driver of renewables is expected to be offshore wind power, as it compared to onshore wind power is less problematic in terms of location and it allows for a higher energy capacity²⁸. This will require new grid connections, which in turn will drive demand for HV&SM cables and to a lesser extent demand for MV and LV cables.

EWEA estimate that cables constitute 6% of total CAPEX in onshore wind power, whereas in offshore wind power it constitutes 26%. This is primarily due to the high complexity involved in offshore cable laying. Based on the projections and assuming that cables will continue to represent 6% and 26% respectively this will yield a CAGR for cables in 2010-2020 of 8.84%. Despite the impressing growth expected for cables in regard to renewables, total demand for electricity is not expected to grow more than the economy as a whole. To be precise, CAGR for 2010-2020 is expected to 2.61% and CAGR for 2020-2030 is expected to be 2.79%.





Source: EIA, Own creation

Another factor driving growth in HV&SM cables is EU's ambition to improve the security of its energy supply. More specifically this will drive growth in the transmission network in two ways: Upgrade/Substitution and Integration. The need to upgrade and substitute is due to the ageing of the grid. The last time significant investments were made in the transmission network was from 1965-1975, and since HV cables have a life expectancy of 40 years replacement is critically needed. It is expected that the upgrade will be directed towards replacing overhead power cables with underground power cables despite its higher costs, as underground cables are less exposed to the forces of nature and requires less maintenance²⁹.

The main obstacle in gaining complete energy reliability is that electricity with a few exceptions cannot be stored. In addition the energy supply coming from renewables cannot be controlled due its dependence on wind, sun etc. To combat these problems, European IEM is aiming toward complete liberalization and integration of the energy markets, as free trade of energy

²⁸ On average, onshore wind turbines can produce 2 MW (hub-height 80 meters) and offshore wind turbines can produce 8-10 MW (hub-heigh 120 meters). EEA (2009)
²⁹ Front 8 Sullivan (2007)

²⁹ Frost & Sullivan (2007)

across borders will improve reliability. This in turn will require significant investments in crossborder cable connections³⁰.

3.2.2.2. Economic

The political will to make investments within renewables is very much dependent on economic capability, as renewables is still dependent on public support to be competitive. Therefore in the event of a slow economic recovery or a new recession, new investment might be postponed.

NKT cables high focus on LV cables makes them more exposed to the changes in the economic activity, as LV cables are sold mainly to the construction sector, which again is very cyclical. Prior to the collapse of the housing market in the fall of 2007, demand for LV cables was high due to the boom in the construction sector that followed from the rising prices in the housing market from 2002-2007. To keep up with demand, NKT Cables expanded capacity in 2006 by acquiring the LV cable producer Kablo Elektro for DDKm 835 on a debt-free basis, thereby increasing sales by DKKbn 1.3³¹. However, the subsequent fall in demand has resulted in overcapacity within the industry, which in turn has put pressure on prices. Adding to the price pressure is the lack of differentiation opportunities present in the LV cable market. One alleviating factor is NKT Cables presence in eastern EU where the growth in the construction sector has been more stable.





Source: Euroconstruct, Own creation

The construction sector is principally divided into three segments: Residential, non-residential and civil engineering. Investment in the residential and non-residential segments is generally quite dependent on the economy as a whole, whereas investment in the civil engineering segment should be neutral or counter cyclical due to its dependence on public spending. Within these segments, investment is either directed towards renovation or new construction, with the former being less cyclical and the latter more cyclical.

³⁰ EIA (2010)

³¹ Nordea (2007)

The sale of LV cables to the construction sector is mostly dependent on growth in the new construction segment as opposed to the renovation segment. The main reason is that LV cables has a high life expectancy, hence they rarely have to be replaced after being installed. Euroconstruct estimates that the market for new construction will rebound somewhat in 2010, and have modest positive growth in 2011. However, the market is not expected to return to its previous highs within the near future.

On the positive side, the industrialization of emerging economies or regions such as the Middle East and BRIC countries characterized by economic and population growth will require large investments in energy infrastructure. Even though NKT Cables are focusing on consolidating its position within the EU, it should be able to profit somewhat thanks to its foothold within Eastern Europe and China. Still, compared to its competitors, NKT Cables is very exposed to the low growth European market. NKT Cables latest acquisition of a small-scale Australian manufacturer might suggest that they are aiming to reduce this exposure³².



Figure 14: Electricity production by region (CAGR 1998-2008)

3.2.2.3. Social

The population in EU is expected to grow by 0-1% a year until 2035, and hereafter a slight decline is expected³³. The low population growth in turn will lead to a demographical change in EU with more elderly people however the effect on the supply of labor is not expected to be material.

NKT Cables production of LV cables is mostly dependent on blue collar workers due to the lower value added. However, certain specialized LV cables require a higher degree of employee expertise. In contrast the production of HV&SM cables is very dependent on white collar workers due to the high degree of value added. This in turn makes attracting and retaining key employees more important. In general there is a good fit between the demand for and supply of qualified labor within the cable business³⁴.

Source: Deutsche Bank, Own creation

³²₂₂ NKT Cables (Apr 22, 2010)

³³ Eurostat (2008)

³⁴ NKT Holding, Annual report (2009)

3.2.2.4. Technological

Technological development within cables is three-pronged. The first part focuses on lowering costs of production by increasing automation and improving work processes. NKT Cables modernization and centralization of its factories, which allows for economies of scale and reduces costs of having to change production, is evidence of this trend.

The second part considers product development, which covers areas such as material inventions. NKT Cables invention of its 15 km cables, which requires fewer joints, has led to cheaper HV cables as the joints represent most of the costs in cables³⁵.

The third part regard considers the services provided. NKT Cables IT investments to optimize delivery and lower inventory capacity needs for its customers signals this trend. Another aspect is NKT Cables move toward being a full service provider within HV&SM cables by also offering installation and maintenance services.

3.2.2.5. Environmental

Customers are increasingly focusing on eco friendly products, which in turn drive product development. NKT Cables has introduced PVC and halogen free cables to meet such demand³⁶.

3.2.2.6. Legal

The EU is moving towards harmonization of its rules governing cables however cable requirements still differ between countries. Requirements to get product certification in general relate to voltage levels, conductor constructions designs, armoring and sheath. The complexity involved has led cable manufacturers to provide software for the design and calculation of electrical installations, thus facilitating easier usage by electrical installers³⁷.

3.2.3. INDUSTRY ANALYSIS

3.2.3.1. Intensity of competitive rivalry

Prior to the end of the 1990s, competition was characterized by a high degree of country champions with monopoly like power. Subsequently, EU regulation on public offers and more cost awareness among buyers has led to increased competition across markets, which in turn has driven a wave of consolidation within the cable industry. This process has been characterized by leading players acquiring smaller players to gain economies of scale and access into new markets as well as more focused production³⁸.

The global market size for cables is estimated at DKKbn 750 annually, and on a global scale the market is fairly fragmented with the largest competitor having a market share of 8%. NKT Cables only has a global market share of 1%, but within the European market it has 3%. This

³⁵ Interview with Mads Thamsborg (Appendix 30)

³⁶ Nordea (2007) ³⁷ Interview with Morten Elvstrøm (Appendix 31)

³⁸ Frost & Sullivan (2008)

makes NKT Cables one of the leading players, as the European market is even more fragmented than the global market³⁹.





Source: Company information, Own creation

The primary competitors to NKT Cables within HV&SM cables are Nexans, Prysmian, ABB and General Cables. It is custom that firms bid for the same contracts, but besides price other parameters such as quality, technology, service and track-record also play a role

Within MV cables 10-15 regional manufacturers dominate the market. Demand is generally correlated with demand for HV&SM cables, thus the ability to provide full-service solutions is beneficial in customer negotiations.

In addition to the abovementioned companies, NKT Cables also compete with Draka and Tele-Fonika within the LV cables segment. Products are commoditized as they have to follow certain specifications and functions hence firms are mostly price takers. In contrast to the more project based sales of HV&SM and MV cables, sale of LV cables is dependent on day-to-day sales with visibility being low. Previously delivery time was critical, but the current level of overcapacity means that firms mostly compete on price⁴⁰.

The market for AUTO cables has been staggering due to a general level of overcapacity within the car market⁴¹. Furthermore, NKT Cables is a small player compared to the market leader Leoni, but management at NKT Cables has not indicated that it intends to exit this market.

NKT Cables has gained a strong foothold within the Chinese RW market. This is significant as China is expected to show a high level of activity for the next 20 years. Other Asian markets e.g. Shanghai are also driving the growth in this segment. NKT Cables strong niche focus on RW wires for high speed trains has in turn provided them with a competitive edge, as safety and track record is essential in this segment.

3.2.3.2. Threat of entry of new competitors

The cable industry is generally described by a medium degree of barriers to entry. A factor contributing to easy entrance is the low degree of consolidation within the industry. On the other hand, entry into the cables business requires large investments in production facilities

³⁹ NKT Holding, Annual report (2009)

⁴⁰ Interview with Mads Thamsborg (Appendix 30)

⁴¹ Deutsche Bank (2010)

and buying inputs (metals), thus a high degree of capital is needed to enter the industry. However, capital alone should not be able to protect against entry⁴².

Within HV&SM cables barriers to entry are high. This follows from the need to have a high degree of value added and strong track record, as this in addition to getting skilled specialists would require large investments in R&D. In the MV and LV segments the primary obstacle to entry is capital, hence entry should be fairly straightforward for a capital endowed investor. In turn protection against earning abnormal profits should be low. The segment for RW wires enjoys a strong protection against competitors, and since the business is project based with lumpy CAPEX projects, visibility is high.

3.2.3.3. Bargaining power of customers

Sale of HV&SM cables are as described more dependent on other features, yet the use of public offer rounds makes competition more intense⁴³. Since customers are predominantly large utilities, bargaining power of customers is medium however this might change as demand takes off.

Sale of LV cables is dependent on achieving critical mass in order to produce series in sizes that allow for competitive prices. As price is the key parameter for customers, NKT Cables attempts to build customer loyalty through inspired inventions of new cables and joint IT systems for better inventory control and faster delivery. However, since buyers are predominantly large wholesalers, bargaining power of customers is high

3.2.3.4. Bargaining power of suppliers

The primary inputs in cable production are copper and aluminum, which on average constitutes 50% of sales price, but may vary between 20%-75% depending on the metal's degree of processing⁴⁴. Unprocessed metals are treated on organized exchanges like the London Metal Exchange at market prices. Processed metals are also priced by the market due to a high degree of competition in this market. However, suppliers have been demanding shorter payment terms owing to increased volatility in prices, which could pressure the NWC level. Apart from year 2010, a mitigating factor could be that prices are expected to remain stable in the future (Appendix 3).

The third key input in cable production is plastics, which is primarily used for insulation. Suppliers of plastics have been consolidating through the 1990s, and today the EU market for petrochemicals is dominated by the two industrial conglomerates BASF and Bayer. Still, the high degree of consolidation has not led to significant price increases⁴⁵.

The risk of increasing prices from suppliers is mitigated by the pass through to customers. In the HV&SM market prices are contract-based, and in the LV market pricelists are updated

⁴² Pepall et al (2008)

⁴³ Deutsche Bank (2010) ⁴⁴ NKT Holding, Annual report (2009)

⁴⁵ Frost & Sullivan, (2008)

regularly. Any exposure is covered using hedging instruments. However, large fluctuations may impact on earnings through inventory adjustments⁴⁶.

3.2.3.5. Threat of substitute products

Today, no alternative to energy and industrial cables exists. However, within telecom cables certain alternative exists. More specifically fiber cables, wireless technologies and satellites all represent alternative ways of transporting voice and data. Note that telecom cables only represent a small fraction of NKT Cables business.

3.2.4. COMPANY ANALYSIS

3.2.4.1. Strategic ambitions and guidance

NKT Cables ambition is to maintain a broad product portfolio, while in particular focusing its efforts on providing cables for the transmission and distribution of energy. However, it also plans to strengthen its position within the industrial RW segment.

Management expects that NKT Cables will reach minimum growth in sales of 10% in 2010. EBITDA margin is expected to improve to 7.5% due to an improved product mix; however parallel operation of the two HV&SM cable factories in Cologne will increase costs by approx. DKKm 50. Furthermore, investments necessary to complete the factories in Germany and China will amount to DKKm 400⁴⁷.

3.2.4.2. Product portfolio

NKT Cables current product mix suggests that they are well positioned to take advantage of the expected recovery in the cable business. Within energy cables, NKT Cables strong position within the HV&SM cable segment is of particular significance, as this business provides the highest margins and the highest expected growth. Despite problems with production, which has caused time delays, its new factory in Cologne has already come through on a number of large scale projects and scheduling issues have been resolved. This in turn should provide NKT Cables with large scale reference projects – something that is highly valued by customers.

The growth in this segment will also drive the market for MV cables, where growth is expected to be positive thanks to framework agreements with E.ON and EDF⁴⁸. On the downside, NKT Cables has a high degree of exposure to the LV market where margins are pressed and expected growth low. Currently visibility in this segment is nill according to management⁴⁹. However, in order to provide turnkey solutions and facilitate strategic partnership with its customers, it is necessary to maintain a presence within this segment even though exposure can be reduced.

⁴⁶ Nordea (2010)

⁴⁷ NKT Holding, Interim report (Q2 2010)

⁴⁸ Nordea (2010)

⁴⁹ NKT Holding, Broadcast in regard to interim report (Q2 2010)





Source: Deutsche Bank, Own creation

In the industrial cable market, NKT Cables niche position within the market for RW wires for high speed trains in China is expected to provide higher margins and growth as well as a high degree of visibility in the years to come. Again the fact that NKT Cables has been awarded the most complex projects is crucial in terms of establishing a stronghold within this high-tech segment⁵⁰. The segments for AUTO and Other cables are not expected to gain importance despite recent large scale increases in sales. One exception might be if NKT Cables succeed in cross-selling its products, as this would allow them to leverage their strong position within energy cables and RW wires. Recent examples incl. sale of MV cables in regard to its RW activities and HV cables in regard to its AUTO cables.

NKT Cables has not signaled that it intends to enter new markets within industrial cables, even though entry into markets such as crane, mining and offshore oil and gas cables could provide higher margins and growth. Instead it intends to develop its current product mix mostly through organic growth with a focus on the high-margin growth areas, mainly focusing in becoming a significant player within the European market⁵¹.

⁵⁰ NKT Holding, Broadcast in regard to interim report (Q2 2010)

⁵¹ Interview with Mads Thamsborg (Appendix 30)

3.2.5. STRATEGIC SUMMARY

Figure 17: SWOT analysis on NKT Cables

Strengths	Weaknesses
 Modernized and centralized plants Newly completed factories in Germany and China will contribute positively to sales Strong position within submarine and high voltage cables Positioned well in Eastern Europe, where growth is higher Partnership with customers to optimize delivery, storage and product development Move toward being a turnkey provider Invention of cable with fewer joints has provided a technological edge 	 Low market share compared to its competitors High exposure to the low voltage cable segment Price premium charged in the commoditized low voltage segment might be difficult to justify in the future, as low cost producers are entering the market – might be forced to revise strategy Very concentrated in Europe where growth is below-average Competitive disadvantage within automotive cables – obtaining a foothold will be difficult Start-up difficulties at its new plant in Cologne and duplicate costs - needs to be resolved
Opportunities	Threats
 Growth in renewables Connection between countries Upgrade and substitution of existing transmission grid Renovation of existing transmission grid Emerging economies need to build infrastructure - in particular a need for high speed railways in Asia Higher safety and environmental regulations Potential cross-selling opportunities associated with new inventions Entry into related markets for cables such as umbillicals could yield synergies 	 Weak growth in the low voltage cable segment and intensive price competition Slow economic recovery or new recession might lead governments to postpone investments in renewaables Increased competition within the submarine and high voltage cables segment due to high margins and growth might put downward pressure on prices Product failure might ruin otherwise great track record

Source: Own creation

3.3. NILFISK-ADVANCE

3.3.1. COMPANY PRESENTATION

Nilfisk-Advance is a global manufacturer of cleaning equipment primarily servicing the professional market but also the market for household appliances. Headquartered in Brøndby, Denmark, Nilfisk-Advance has production in Asia, Europe, and North America and sales offices in 43 countries as well as distributors in more than 70 countries. By year-end 2009, Nilfisk-Advance employed 4,779 and contributed to 40% of sales at NKT Holding⁵².

3.3.1.1. Products and markets

The products offered by Nilfisk-Advance can be grouped into floor care equipment, vacuum cleaners, and high pressure cleaners. Within each product category, products are either targeted the household or the professional market, as these markets differ significantly in terms of customer needs and requirements. Products for the household market need to be easy to handle, whereas the market for professional products needs to be efficient and reliable.

In addition to organic growth, Nilfisk-Advance has been growing through acquisitions, which have provided a better product and geographic coverage. To benefit from customer loyalty,

⁵² NKT Holding, Annual report (2009) - calculation based on full-consolidation of NKT Flexibles

acquired firms have either kept their name or been renamed using a combination of the old name and the Nilfisk-Advance name. Common to all the brands is their focus on high quality products primarily targeted at the professional segment. In particular the North American market is characterized by the presence of many different brands, as Nilfisk-Advance has 10 brands in North America compared to only 5 brands in Europe and Asia, respectively.



Gerni	Nilfisk	ONIIfisk	HydraMaster	Nilfisk ALTO Wy Cangreen	O Advance	Clarke	Nilfisk			KENT
Oceania	N. America, S. America, Africa, Europe, Oceania, Asia	N. America, S. America, Africa, Europe, Oceania, Asia	N. America	N. America, S. America, Africa, Europe, Oceania, Asia	N. America	N. America	N. America, Europe, Asia	N. America, Europe, Asia	N. America	N. America

Source: Company information, Own creation

The products offered by Nilfisk-Advance are all targeted at improving the tradeoff between value and costs. More specifically Nilfisk-Advance targets the high value added segment where quality and functionality is crucial. The added benefits include both core attributes such as ease of operation, efficiency, reliability and reduced use of consumables, as well as augmented benefits such as delivery, guarantees and service that can help reduce downtime⁵³. In turn Nilfisk-Advance aims at introducing 30 new products each year, which entails spending 3% of revenue on R&D and increasing prices by 1-2% annually. However, costs also have to be reduced to maintain competitiveness. Nilfisk-Advance therefore targets a gross-margin in the region of 40-42% by relocating and outsourcing production to low cost countries while also reducing overhead costs and reducing product complexity.

Figure 19: Drivers of product value and costs at Nilfisk-Advance



Source: Nordea, Own creation

In sum this twofold strategy implies that Nilfisk-Advance's goal is to increase value and cut costs by 5% every second year. Some of the gains from a lowered cost base are passed on to

⁵³ Lancaster & Massingham (2001)

customers in terms of lower prices to capture market shares. This is due to the fact that the industry is currently undergoing a wave of consolidation in which size is crucial due to presence of economies of scale and scope⁵⁴.

3.3.1.1.1. Floor care equipment

Within the floor care equipment, the products offered incl. sweepers, sanders, washers, dryers, polishers. The equipment covers all types of surfaces and sizes.

3.3.1.1.2. Vacuum cleaners

Vacuum cleaners are offered in difference size ranging from handheld domestic vacuum cleaners to models used in production industry. Around 1 million units of vacuum cleaners distributed on 8 models are sold annually. In terms of industry production levels this is a low figure, which is why Nilfisk-Advance sources all of its components from large suppliers⁵⁵.

3.3.1.1.3. High pressure cleaners

A wide selection of high pressure cleaners is offered with some models targeting low water consumption and recirculation, thus reducing costs and shielding environment.

3.3.1.1.4. Service contracts & spare parts

Customers are increasingly beginning to opt for full-service solutions, which includes aftersales repairs and spare-part sales. Demand is driven by professional cleaning companies, as they need to reduce downtime. Often a technician will be on-site within 24 hours⁵⁶.

3.3.1.2. Customers

Customers can be grouped into household and professional markets, with the latter being the principal market. The professional market can subsequently be grouped into either commercial customers or industrial customers.



Figure 20: Industry structure at Nilfisk-Advance

Source: Own creation

 ⁵⁴ NKT Holding, Annual report (2009)
 ⁵⁵ Effektivitet (May 1, 2009)

⁵⁶ Nordea (2007)

Sales either take place directly through sales subsidiaries or indirectly through distributors. With subsidiaries in 43 countries, Nilfisk-Advance primarily relies on direct sales and it is expected that direct/indirect sales ratio will increase in the future. Distributors are usually fragmented with Nilfisk-Advance using an extensive network of dealers. Most of the customer segments - with the commercial segment paving the way - are beginning to increase order sizes; however order visibility still remains low⁵⁷.

3.3.1.2.1. Household segment

Household products are sold as single units through household appliance dealers, retail shopping chains and building marts. Price is the key competitive parameter⁵⁸.

3.3.1.2.2. Commercial segment

The commercial segment includes contract cleaners and industries that have special cleaning requirements, e.g. low tolerance for dust. Nilfisk-Advance has developed an ULPA filter that can remove viruses by catching particles down to 0.12 microns. Quality is the key competitive parameter⁵⁹.

3.3.1.2.3. Industrial segment

Industrial customers are companies with in-house cleaning personnel. This primarily includes institutions, organizations, authorities, shops and hotels. Both price and quality is key⁶⁰.

3.3.1.3. Production

Production has historically been located in close proximity to the primary markets in Europe and North America. However, in line with its ambition to reduce costs, Nilfisk-Advance have recently expanded production to Asia and moved production from the US to Mexico (estimated annual saving DKKm 90) and from Western Europe to Hungary (estimated annual saving DKKm 45). Today 12 production facilities exist in Western EU (2), Eastern EU (2), North America (5), Mexico (1), and China (2). Nilfisk-Advance does not intend to establish new production sites, but instead plans to increase production at existing facilities. It is estimated that volume can be increased by 15-20% without adding new capacity⁶¹. This figure excludes the new factory in China, which is not expected to reach full production until end of Q1 2011. The delay is mostly due to the fact that Nilfisk-Advance only acquired assets hence an organization needs to be established.

Besides production, Nilfisk-Advance also has distribution centers that are located in Denmark, Germany and the US. This is due to the need for availability of products and spare parts, as this can reduce customer downtime.

To increase geographical coverage and increase market penetration, Nilfisk-Advance has been increasing its number of sales subsidiaries to 43 with the ambition to increase it to 50 by

⁵⁷ Interview with Mads Thamsborg (Appendix 30)

⁵⁸ Nordea (2007)

⁵⁹ Airbestpractices: accessed on (Jul 10, 2010)

⁶⁰ NKT Holding, Annual report (2009)

⁶¹ Interview with Mads Thamsborg (Appendix 30)

2012. In particular the emerging markets such as Central and South America, Eastern Europe and Asia are being targeted⁶².





Note: Percentages represent Nilfisk-Advance's market size measured by sales, where a breakdown of the rest of the world segment is based on estimates

Source: Company information, Own creation

Nilfisk-Advance's own production has been limited to focus on assembly, quality control and logistics. All components in turn are sourced from suppliers and the goal is to increase the share of components coming from low cost countries from 30% today to 50% by 2012. The different production plants in turn source components from the region in which they are located, hence each facility has a high degree of independence. Often a product will consist of 100-150 components, where the components will be installed in sub-assemblies prior to having the finished product. Therefore suppliers deliver components on a continued basis instead of lump-sums. By using subcontractors in almost 100% of the production, Nilfisk-Advance has gained a high-degree of flexibility in terms of adjusting volume⁶³.

In order to cut costs, Nilfisk-Advance has been focusing on standardizing and limiting the number of components used in each product. This would enable multiproduct platforms, minimize the risk of product failures and facilitate inventory control. Other initiative includes setting up specialized R&D facilities near the primary geographical markets; however specialization is only partial as some facilities focus on the same product groups⁶⁴.

⁶² NKT Holding (May 11, 2010)

⁶³ Effektivitet (May 1, 2009)

⁶⁴ Nordea (2010)

3.3.2. MACROECONOMIC ANALYSIS

3.3.2.1. Political

Work environment considerations play a greater role in developed nations today, which increases cleaning requirements. However, regulation is mostly viewed as minimum standards.

3.3.2.2. Economic

Demand is driven by living standards and wage costs, as higher living standards increases demand for cleaning and higher wage costs favors high-tech cleaning equipment, since this reduces man-hours. Nilfisk-Advance estimates that growth in sales will be determined by growth in the overall economy, which in times of economic downturns would yield growth around 0-2% and in times of economic upturns would yield growth around 4-6%.

Furthermore, growth will be affected by geographical presence as mature markets are growing by 0-1% annually and emerging markets by 5-9% annually. Based on Nilfisk-Advance's current split between mature and emerging markets this would yield growth around 2% annually. Despite these estimates of the cleaning equipment industry's exposure to the overall economic activity, the recent recession led to a fall in the market of 15-20%. This sharp decline was caused by professional customers postponing their capital investments to protect company liquidity⁶⁵.

3.3.2.3. Social

Nilfisk-Advance is active in recruiting, developing and retaining key employees, which incl. offering IMD leadership courses to upcoming leaders.

3.3.2.4. Technological

Products are mostly low-tech even though some of the products for the professional segment approach the mid-tech level. Nilfisk-Advance continually invests in R&D to increase the value of the products, while at the same time engineering and designing products to reduce costs. Still R&D is mostly targeted at improving existing technology and not on inventing radically different products.

3.3.2.5. Environmental

Customers increasingly demand products that are eco friendly and reduce the use of consumables such as chemicals, water and electricity. This has prompted product innovations that limit the amount of pollutants and debris in waste water thereby allowing for safer sanitary sewer disposal.

3.3.2.6. Legal

Nothing significant.

⁶⁵ NKT Holding, Annual report (2009)

3.3.3. INDUSTRY ANALYSIS

3.3.3.1. Intensity of competitive rivalry

The markets for household and professional cleaning equipment differ significantly in terms of industry dynamics and degree of competition. Despite these differences, Nilfisk-Advance still targets the upper segments within both areas.

The products in the household market have lower value added and most of it is mass produced in Eastern Europe and South East Asia, which is possible due to the low transportation cost of household cleaning equipment ⁶⁶. Furthermore, the market is characterized by a high degree of fragmentation with some firms being very diversified, e.g. some firms produces all types of domestic appliances ranging from vacuum cleaners to hand mixers. The industry dynamics also differ as the household market is B2C, as opposed to the professional market, which is B2B⁶⁷. Overall the intensity of competitive rivalry in the household segment is therefore high. The household market is a marginal market to Nilfisk-Advance, who has signaled that it does not intend to expand its presence in this market even though it is still a recognized brand.







The market for professional cleaning is estimated to be worth DKKbn 45 annually⁶⁸. The products have higher value added than the household products, however products are still only low to mid-tech. Quality is crucial in this industry and Nilfisk-Advance focuses on providing products that are superior to its competitors. The professional market is more consolidated than the household market even though the five largest companies (incl. Nilfisk-Advance) only have a combined market share of approximately 40%⁶⁹. The remaining market is shared by 100 local suppliers with limited product offerings. Besides Nilfisk-Advance only Kärcher supplies the household market. It is expected that the current trend of industry consolidation is going to continue due to the pressure to cut costs. Currently Kärcher and Hako, which are both struggling, plus IP Cleaning is for sale⁷⁰.

3.3.3.2. Threat of entry of new competitors

The primary barriers to entry within both the household and professional segment are the need to gain critical size and access to distribution networks. Critical size is pivotal as fixed

⁶⁶ Electrolux, Annual report (2009)

⁶⁷ Effektivitet (May 1, 2009)

⁶⁸ NKT Holding, Annual report (2009)

⁶⁹ Nordea (2010)

⁷⁰ Interview with Mads Thamsborg (Appendix 30)

costs such as production equipment and R&D need to spread across more units. This in particular applies to the cleaning equipment industry as customers demand a wide product offering, which from an industrial viewpoint imply that the total number of units sold for each product category is limited. Access to distribution networks is also important with global firms having an advantage compared to local firms. Despite these barriers, new firms should still be able to enter the market without significant problems due to both products being low to midtech and the industry being fragmented.

3.3.3.3. Bargaining power of customers

Customers are mostly smaller and local companies with a low degree of bargaining power. However, the commercial customer segment has been increasing its share of sales compared to the other segments, which together with the increased professionalization of contract cleaners could increase customer bargaining power. In particular the establishment of a central purchasing entity could favor customers.

3.3.3.4. Bargaining power of suppliers

Nilfisk-Advance relies on many suppliers of components with most of them being regional manufacturers located near the various production facilities. Since Nilfisk-Advance sources all of its components, this has made them very dependent on its suppliers, however, as suppliers are mostly small local firms its bargaining power is low. One exception would be engine manufacturers where suppliers are fewer and bigger⁷¹. In the past, Nilfisk-Advance has been able to pass on price increases in raw materials to customers, which is a policy they expect to continue in order to protect gross margins⁷².

3.3.3.5. Threat of substitute products

The only alternative to cleaning equipment is manual labor using simple tools such as broom and bucket, which could replace the work of machines in almost all situations. The primary driver of the feasibility of this solution is labor costs, which in developed countries favors the use of machines. In turn it is expected that cleaning equipment will continue to replace simple tools in line with economic prosperity and increased product efficiency.

3.3.4. COMPANY ANALYSIS

3.3.4.1. Strategic ambitions and guidance

Nilfisk-Advance plans to maintain a level of product development and expand operations to new geographical markets. This will be achieved both by organic and acquisitative growth. However, the primary focus of management is to continue to increase the proportion of components sourced from low cost countries. Management expects that sales will grow organically by 5% in 2010, and that EBITDA margin will be approx. 10.7%. The cost of ongoing structural initiatives mostly relating to its new factory in China is expected to amount to DKKm 75 in 2010 and DKKm 10 in 2011⁷³.

⁷¹ Effektivitet (May 1, 2009) ⁷² NKT Holding, Annual report (2009)

⁷³ NKT Holding, Interim report (Q2 2010)

3.3.4.2. Product portfolio

Nilfisk-Advance covers the entire range of products offered within the professional cleaning industry, whereas the household cleaning industry remains a non-core niche market. Its product offering is strong within all segments, however within the floor care segment, its outdoor products offering is limited compared to niche manufacturers such as Bucher and Schmidt⁷⁴.





Source: Own creation

As a market leader, Nilfisk-Advance should be able to benefit from the increased professionalization of the commercial segment. This is due to the fact that the segment orders large quantities, prefers standardized solutions and values a strong market presence – the latter being something Nilfisk-Advance is keen to improve as evidenced by its expansion plans. Furthermore, the industry is moving toward full-service contracts becoming the industry norm, which favors Nilfisk-Advance thanks to their extensive service organization⁷⁵.

Besides its current extensive product offering, Nilfisk-Advance is also at the forefront when it comes to product innovation. In particular the Ecoflex innovation offers considerable savings in terms of time and resources⁷⁶. Based on its geographical reach and attractive product offering combined with its spare capacity and high operating leverage, Nilfisk-Advance is in turn well positioned to capture market shares in the years to come.

⁷⁴ Nordea (2007)

⁷⁵ Nordea (2010)

⁷⁶ NKT Holding, Interim report (Q2 2010)

3.3.5. STRATEGIC SUMMARY

Figure 24: SWOT analysis on Nilfisk-Advance

Strengths	Weaknesses
 Broad product portfolio High product quality High degree of product innovation Global presence in terms of sales subsidiaries Efficient distribution centers Flexibility from outsourcing Centralized production and multiproduct platforms Unutilized capacity at existing plants Technological edge thanks to its new Ecoflex product launch At the forefront when it comes to offering full-service contracts, i.e. strong in providing augmented benefits 	 Exposure to household market – unclear strategy Restructuring costs might be prolonged due to the high degree of restructuring that has taken place Too many products offered could be impede move toward multiproduct plants The high number of components used combined with its ambitious product innovations will require additional resources for procurement, assembly, and distribution Outsourcing of production means complete dependence on suppliers
Opportunities	Threats

Source: Own creation

3.4. PHOTONICS GROUP

3.4.1. COMPANY PRESENTATION

Photonics Group encompasses three companies: NKT Photonics, LIOS Technology and Vytran. Common to these companies is that they base their business activities on optical fiber technology. The primary geographical markets include Europe, US and Asia. By year-end 2009, Photonics Group employed 163 and contributed to 1% of sales at NKT Holding⁷⁷.

3.4.1.1. Products, customers, production and markets

The products offered by Photonics Group range from basic components to system solutions and include new types of fibers, new fiber lasers, fiber-based measuring equipment and production equipment related to optical fiber handling. The Photonics Group companies work together on R&D and also have both public and private strategic partnerships with leading universities and research labs. The products can be grouped into five segments: Ultra-precise lasers, White light sources, Photonic crystal fibers and components, Distributed temperature measuring systems, and Fiber handling equipment. The markets are somewhat intertwined

⁷⁷ NKT Holding, Annual report (2009) - calculation based on full-consolidation of NKT Flexibles
with customers coming from a wide range of industries; thus products, customers, production and markets will be dealt with together for each product area⁷⁸.





Source: Own creation

3.4.1.1.1. Ultra-precise lasers

This area is targeted by NKT Photonics, whose activities including production are located in Birkerød, Denmark. Ultra-precise lasers are fiber lasers with very narrow line width in the light frequency and low noise level. The laser is primarily used in industrial applications for security, wind measurements, and oil exploration and exploitation. Customers include established offshore oil exploration companies, newcomers within wind measurement and safety systems, and firms from the western defense and security industries.

3.4.1.1.2. White light sources

This area is targeted by NKT Photonics. White light sources are fiber lasers with a broad spectrum of light. The laser primarily finds application in microscopes, cell sorting systems, and optical measuring systems for quality control. Sales generally take place through close partnerships with customers that primarily operate in industries such as biotech, measurement equipment, semiconductor and food inspection, and surface topography.

3.4.1.1.3. Photonic crystal fibers and components

This area is targeted by NKT Photonics. Photonic crystal fibers are used in a wide range of applications ranging white light sources, high-power fiber lasers (active fiber with amplifier properties), gyroscopes (hollow-core fibers) and other sensor applications. In addition to the photonic crystal fibers this segment also includes laser systems that are capable of utilizing the fibers properties. This segment addresses a broad customer group including manufacturers of white light sources, lasers and sensors as well as R&D units; however the primary customers are industrial firms where in particular the defense industry is a key focus area.

⁷⁸ NKT Holding, Annual report (2009)

3.4.1.1.4. Distributed temperature measuring systems

This area is targeted by LIOS Technology that runs operations in Cologne, Germany. DTS are used for fire detection systems in tunnels and buildings as well as monitoring temperature conditions along HV cables to determine optimal load. Customers include both major oil companies and cable manufacturers, e.g. Siemens.

3.4.1.1.5. Fiber handling equipment

This area is targeted by Vytran, whose operations are based in New Jersey, US. Vytran focuses on two key areas: Optical fiber processing and glass processing. Equipment for optical fiber processing concerns fiber cutting and removal and replacement of fiber coating. Equipment for glass processing is used to combine and shape optical fibers and fiber components. The customer group is vast and includes industry and optical communication labs, fiber laser manufacturers, aerospace, defense and life science companies. Note that customers include fiber laser manufacturers, hence NKT Photonics is a customer. NKT Photonics has recently automated production by using FAS splicing equipment from Vytran with the aim of reducing costs and improving quality.

3.4.2. MACROECONOMIC ANALYSIS

3.4.2.1. Political

The increased political focus on having a reliable energy supply has supported the growth of optical fibers, as it can be used to monitor temperatures and thereby prevent cable failures. Another area where reliability is crucial is tunnels. Subsequent to three major tunnel accidents that took place in 1999 and 2001, national authorities and the European Commission has set forth a set of minimum of requirements, which in turn has driven demand for optical fibers used for monitoring⁷⁹. Furthermore, it is expected that the recent oil spills in the US and China will increase demand for optical fibers used for monitoring offshore oil and gas explorations.

3.4.2.2. Economic

When measured by annual investment, fiber lasers only represent 4% of the total laser market despite it outperforms traditional lasers. The lack of penetration is rooted in customer perception, as customers have to be convinced of the superiority of fiber laser, as replacing or investing in new lasers is costly both in terms of acquisition costs and the costs of having to familiarize themselves with the new technology⁸⁰.

Depending on the area of application, the fiber laser market has been very successful in penetrating areas such as materials processing (around 10%) and medical therapy (6%). Compared to the overall laser market which fell by 25% in 2009, the market for fiber lasers only fell by 5%. This fall was higher than expected though, and it is estimated that the industry will behave more cyclical in the future. The areas expected to drive growth will be communications & optical storage, medical therapy and military & basic research. The market

⁷⁹ UNECE (2010)

⁸⁰ IPG Photonics (2010)

for materials processing is expected to recover more slowly as customers in this segment is struggling, e.g. automobile⁸¹.



Figure 26: Breakdown of laser market by product (LHS) and by application (RHS)

Source: IPG Photonics (LHS) & Optoiq (RHS), Own creation

The total growth in the laser market is expected to be around 10% from 2010-14. Depending on the rate of acceptance, it is expected that fiber laser will continue to capture market share, hence growth in fiber laser should outpace 10%⁸².



Figure 27: Estimated annual investment in laser market

Source: Strategies Unlimited, Own creation

Based on rough estimates given by Photonics Group, the market in which it operates could potentially reach a market size of DKKbn 5.5 annually within a couple of years. However, this is a best case estimate that would require a high degree of penetration within existing and new markets by fiber lasers⁸³.







⁸¹ Optoiq (2010)

⁸² Strategies Unlimited (2010)

⁸³ NKT Holding, Annual report (2009)

3.4.2.3. Social

Photonics Group cooperates with leading universities such as Aarhus University and Technical University of Denmark. This in turn provides a great foundation for recruiting personnel with deep technical understanding. However, management at Photonics Group is also aware that they must attract personnel with a commercial background in order to bridge R&D with commercial application⁸⁴.

3.4.2.4. Technological

Fiber lasers are currently replacing the existing market for traditional lasers due to its higher performance and lower total ownership costs. The two primary traditional lasers are the CO₂ Laser and Nd: YAG Laser, which both are losing ground to fiber laser. Even though fiber lasers only represent a fraction of the market when measured by annual investment, it is the leading laser when measured by installed laser power.



Figure 29: Trend in laser market

Source: EALA, Own creation

The immense popularity of the fiber laser has been sparked by its superior properties with respect to power, beam quality, wavelength, maintenance, footprint and costs. These improved properties in turn have been achieved by using a different set of technologies in regard to light source, amplification medium, reflectors and light output. The light source in the fiber laser is based on single diodes which yields improved electrical efficiency, longer life, and develops less heat compared to the traditional laser.



Figure 30: Comparison of lasers

Source: Optoiq & IPG Photonics, Own creation

⁸⁴ Nordea (2007)

Further, the amplification medium has a smaller footprint without degradation of the light source. By using gratings embedded in the fiber, the reflector is more solid, rugged and mobile. Finally, the light output has a better beam quality due to less divergence and has a flexible output positioning. The fiber laser in turn outperforms the traditional laser with respect to all properties⁸⁵. In particular the superiority of fiber lasers in regard to costs is noteworthy. A breakdown of the total ownership costs reveals that fiber lasers are both competitive in terms of acquisition costs (depreciation and interest costs in fig. 31) and that they provide significantly higher operational savings (all costs excl. depreciation and interest in fig. 31). This in turn makes fiber lasers very attractive compared to the traditional lasers. Note that the cost figures are based on eight years of operation, i.e. they should be representative of total ownership costs⁸⁶. However, due to the fast pace of technological development of fiber lasers it is estimated that fiber lasers will be even less costly today, and it is expected that this trend will continue.





Source: Optoiq, Own creation

In addition to replacing the traditional laser market, fiber lasers are also finding application in new markets where there is need for higher power, portability, efficiency and size, e.g. cutting of high strength steel alloys and high-speed welding for automobiles. Technological development of fiber lasers in turn could drive significant increases in total market size. However, manufacturers are increasingly focusing linking R&D with commercial applicability, as the industry in general has been experiencing misguided R&D that has resulted in losses⁸⁷.

3.4.2.5. Environmental

Fiber laser represents an eco friendly alternative to the traditional laser, as it reduces waste in terms of materials and consumes less energy, while also optimizing energy production, e.g. dynamic positioning of windmills to take advantage of wind flows⁸⁸.

3.4.2.6. Legal

In addition to industry standards such as ISO, the primary concern within the fiber laser industry is the protection of IPR. Most companies are currently involved in various legal proceedings concerning patent protection, and it is critical that companies can continue to protect themselves against product infringement.

⁸⁵ Optoiq (2010)

⁸⁶ Optoiq (2010)

⁸⁷ Nordea (2007)

⁸⁸ NKT Holding, Annual report (2009)

3.4.3. INDUSTRY ANALYSIS

3.4.3.1. Intensity of competitive rivalry

The market for lasers is estimated at DKKbn 30 with fiber lasers currently comprising 4% of the market and traditional lasers 96%. Hence the market size for fiber lasers is around DKKbn 1.3 annually⁸⁹. It is estimated that 87% of all sales can be attributed to companies headquartered in the US, Germany and Japan. The high degree of geographical concentration suggests knowledge spill-over effects or other positive amenities of locating in near proximity, which is often the case in high-tech industries⁹⁰.

Figure 32: Geographical distribution of sales in the laser industry



Source: Strategies unlimited, Own creation

As previously stated, the market for lasers is currently dominated by traditional lasers with fiber laser on the fast track to capture market shares. The market for traditional lasers can be further segmented into the market for industrial lasers and the market for high-tech lasers. Within the industrial laser segment the primary manufacturers are Trumpf and Rofin Sinar, which together hold around 70% of the market. Within the high-tech laser segment Newport and Coherent represent 70% of the market. Hence the traditional laser market is fairly concentrated⁹¹.

The fiber laser market is dominated by IPG Photonics. Other players include JDS Uniphase, Keopsys and SPI Lasers with the latter now being owned by Trumpf. The degree of competitive rivalry is medium as firms compete on technology and less on price; however high R&D costs is hard on smaller players. As fiber lasers gain commercial acceptance and growth continues to be high, competitive pressure is expected to decrease⁹².

3.4.3.2. Threat of entry of new competitors

The market for fiber lasers is characterized by high entry barriers, as new firms would have to invest significantly in both production facilities and R&D to develop products that are able to compete with existing players. Furthermore market access requires a proven track record, as most sales takes place in close cooperation with customers, which is why small players such as Photonics Group is struggling to gain market access. In turn it is most likely that firms will enter the industry by acquisition. In particular established manufacturers of traditional lasers can be expected to enter the market, as fiber lasers are capturing market shares. Trumpf's acquisition of SPI Laser in October 2008 represents such a move.

⁸⁹ Strategies Unlimited (2010)

⁹⁰ Dess et al (2008)

⁹¹ Nordea (2007)

⁹² Nordea (2010)

3.4.3.3. Bargaining power of customers

Products are produced in close cooperation with customers and often the products are incorporated in customer products. Since products in most cases are tailor-made, this in turn reduces the bargaining power of customers. On the other hand, small manufacturers like Photonics Group are very dependent on single customers, e.g. NKT Photonics partnership with the microscope manufacturer Leica Microsystems within white light sources. This partnership has provided NKT Photonics with a critical distribution platform; however customer bargaining power has also increased⁹³.

3.4.3.4. Bargaining power of suppliers

Inputs are mostly unprocessed with many available suppliers, hence fiber laser manufacturers can easily change supplier. This in turn reduces bargaining power of suppliers significantly⁹⁴.

3.4.3.5. Threat of substitute products

Traditional lasers, electronic measurements, and sensors represent the alternatives available; however it is expected that fiber lasers eventually will dominate these substitutes. In turn the threat of substitute products is currently not a problem for fiber lasers⁹⁵.

3.4.4. COMPANY ANALYSIS

3.4.4.1. Strategic ambitions and guidance

Photonics Group plans to continue developing its product niches with a strong focus on establishing strategic partnerships with customers. Sales are expected to grow organically by 20% in 2010; however EBITDA is expected to be negative around DKKm 10-20⁹⁶.

3.4.4.2. Product portfolio

The different segments in which Photonics Group operate are all part of the fiber laser industry. Due to the fact that (1) Photonics Group does not provide segmental information beyond potential market sizes, and (2) that the segments are very intertwined, the segments will be considered together. In addition to the fiber laser market, the laser market is composed of the markets for industrial and high-tech lasers, respectively. Industrial lasers currently dominate the market with a market share of around 74%. High-tech lasers represent around 22% and fiber lasers only 4%⁹⁷. However, fiber lasers are expected to benefit from high-growth in the years to come, whereas high-tech and industrial lasers will have low to modest growth rates.

Since fiber lasers are still a fairly new technology that just recently in year 2000 gained commercial application, firms are still struggling to reach profitability. However, there is a big gap between firms within the fiber laser segment with respect to margins, as some firms boast medium margins while others only reach low margins. The big spread can be attributed to the many different applications that exist, as this creates niches with some being more profitable

⁹³ NKT Holding, Annual report (2009)

⁹⁴ IPG Photonics (2010)

⁹⁵ Optoiq (2010)

⁹⁶ NKT Holding, Interim report (Q2 2010)

⁹⁷ Strategies Unlimited (2010)

than others. Furthermore, the need to gain market access has also forced some firms to accept lower margins. Photonics Group has seen an increase in the number of customers with whom it has established strategic partnerships, and it has a number of new product launches planned for Q3 2010 targeting the production equipment segment. Furthermore, Photonics Group has recently received a favorable ruling in a patent suit against a UK firm, which underlines the ability to protect product innovations – something that is crucial in order to profit from R&D efforts⁹⁸.





Source: Own creation

It is expected that in time fiber lasers will replace traditional lasers, which in turn should improve margins. However, whether Photonics Group will be able to improve its market access and gain a strong foothold within its niches is difficult to estimate, as it will depend on the future success of its products.

⁹⁸ NKT Holding, Annual report (2009)

3.4.5. STRATEGIC SUMMARY

Figure 34: SWOT analysis on Photonics Group

Strengths	Weaknesses				
 Very focused on market niches Strong technological platform New strategic partnerships formed with both private and public parties Several years of industry experience 	 Lack of market access Limited commercial success Limited size 				
Opportunities	Threats				
 > High growth opportunities within the existing laser market > Continued takeover by fiber lasers > Strategic alliances could provide market access > New applications for fiber lasers could allow access to new markets > High entry barriers could provide strong niche market positions 	 As a small competitor, Photonics Group could be challenged by larger competitors Entry of large traditional players could increase competition Slow market penetration of fiber laser Fewer markets than expected for application of fiber laser Lack of enforcement of IPR 				

Source: Own creation

3.5. NKT FLEXIBLES

3.5.1. COMPANY PRESENTATION

NKT Flexibles develops, manufacturers, and markets flexible pipes, monitoring systems and additional equipment servicing primarily the offshore oil and gas industry, but also the offshore water and chemical industry. NKT Flexibles has positioned itself as the worlds #3 within the industry, and services a global market from its production facility located in Kalundborg, Denmark. By year-end 2009, NKT Flexibles employed 490 and contributed to 10% of sales at NKT Holding⁹⁹.

3.5.1.1. Products

The industry in which NKT Flexibles operates is termed SURF. Within the SURF industry, NKT Flexibles only provides risers and flow liners and not umbilicals nor sub-sea production units. The crucial difference is that umbilicals are a collection of cables, whereas risers and flow liners are pipes; hence the purpose and the technology are very different. Offshore wellheads are typically connected to production platforms using risers and flow liners, which can be further divided into whether the pipes are rigid, flexible or a combination. NKT Flexibles only supplies flexible pipes.

⁹⁹ NKT Holding, Annual report (2009) - calculation based on full-consolidation of NKT Flexibles

Rigid pipes are made of carbon steel and cover more than 80% of all installed pipelines. The advantages are its reliability and its ability to cope with high temperatures and more viscous crudes. The disadvantages are that it is costly and more difficult to install and maintain¹⁰⁰.

Flexible pipes are made of a composite pipe structure of steel and polymers and cover more than 15% of all installed pipes. The advantages are that it is easier to install, more versatile and re-deployable. The disadvantage is less reliability however technological advances have significantly improved fatigue limits and resistance to corrosion.

Hybrid pipes are a combination of rigid and flexible pipe, but represent only around 5% of all installed pipelines. When using hybrids it is often the case that a rigid solution will be used in the bottom section and a flexible solution will be used in the top section¹⁰¹.

Besides producing flexible pipes, NKT Flexibles also provides monitoring systems and additional equipment used in connection with risers and flow liners. In that regard, NKT Flexibles is a total solution provider within its niche¹⁰².

3.5.1.1.1. Flexible pipes

Flexible pipes can be either risers or flow liners and are used to recover liquids such as oil, gas, water and chemicals in waters as deep as 2,000 m. Flow liners are used to transfer the liquid between subsea stations and wellheads on the sea-bed, and risers are used to transfer the liquid from the seabed to the platform on top. The pipes offered range from 50-483 mm in internal diameter, and are able to maintain flexibility at pressures up to 600 bar, while also being able to withstand working temperatures up to $+130^{\circ}$ C103.

3.5.1.1.2. Monitoring systems

NKT Flexibles also provides monitoring systems based on the use of optical fibers. The primary purpose is to monitor temperature and pressure in order to optimize load and prevent blow-outs.

3.5.1.1.3. Additional equipment

In order to become a solutions provider, NKT Flexibles have been adding a range of additional equipment to its portfolio of products. These include accessories and steel structures, which must be designed correctly to obtain the desired system configuration.

3.5.1.2. Customers

Customers are global offshore oil and gas companies, which base their investment decisions on their expectations to the long-term oil price. Consequently the activity level in the offshore market is dependent on obtaining a viable future oil price.

As the world's oil and gas reserves have been depleting in the last decade, oil companies have been forced to invest in new technology such as water and/or gas injection to maintain

¹⁰⁰ BofA Merrill Lynch (2010)

¹⁰¹ BofA Merrill Lynch (2010)

¹⁰² NKT Holding, Annual report (2009)

¹⁰³ NKT Flexibles. Advantages of flexible pipes

pressure in the wells. In addition new exploration programs have been conducted in order to find new reserves. This in turn increases the breakeven price of oil companies¹⁰⁴.





Source: Company information, Deutsche Bank and BofA Merrill Lynch, Own creation

Previously, extraction of oil was made from cost effective reserves, which primarily included onshore or shallow offshore locations. In step with depletion of reserves, oil companies have been forced to look for new reserves, which in turn have driven offshore oil exploration in deeper waters using floating production installations. In general fixed platforms are economically feasible in shallow waters (0-500 m); hence in deepwaters (500m and above) a platform will be floating or moored¹⁰⁵. This is beneficial to NKT Flexibles as floating or moored platforms often will require risers made of flexible pipes. This is due to the fact that flexible pipes can withstand both horizontal and vertical movement¹⁰⁶. In contrast flow liners made of flexible pipes are optimal in uneven seabed conditions, which in general should be uncorrelated with water depth. Despite this around 60% of worldwide CAPEX on flexible pipes is in regard to explorations below 1000 m¹⁰⁷.

NKT Flexibles business is dependent on tenders from customers in regard to specific projects. Projects can be either negotiated directly with the oil company in which case the contract is termed EPC. Depending on the circumstances the supplier will be asked to deliver the flexible pipes and/or design the system. The primary customer is Petrobras, a national oil company in Brazil, which accounts for approximately 50% of global annual consumption. Other key markets are the North Sea, West Africa, India, Far East, and Australia. In these markets the primary customers are Statoil, Saudi Aramco, ONGC, ExxonMobil, Shell, BP, Total, Nexen and Maersk¹⁰⁸.

¹⁰⁴ Nordea (2007)

¹⁰⁵ A moored structure is a floating platform line-fixed to the ground - allows for some degree of movement

¹⁰⁶ Rigzone (2010)

¹⁰⁷ Deutsche Bank (2010)

¹⁰⁸ NKT Holding, Annual report (2009)

On the other hand, projects can also be negotiated indirectly via an offshore contractor in which case the contract is termed EPIC. In this case the oil company will contact a big offshore installation contractor such as Acergy, who will be responsible for presenting a complete solution incl. installation. The installation contractor will subsequently contact suppliers of flexible pipes. In addition to Acergy, these specialists include BW/APL, SBM and Bluewater Energy Services¹⁰⁹.

Figure 36: Industry structure at NKT Flexibles



Source: Own creation

Oil companies will favor one or the other depending on the balance between supply and demand of flexible pipes, but it will always be a combination of the two according to the CEO at NKT Flexibles, Michael C. Hjorth¹¹⁰. However, during the last decade the demand pattern has been shifting toward direct sales quite significantly¹¹¹. This shift in sales could be attributed to NKT Flexibles investments in its sales force¹¹².

Figure 37: Direct / Indirect sales split at NKT Flexibles

100% 50% 0%	29% 71%	20% 80%
1997-2001	2002-2006	2007-2010
	Direct Indirect	

Source: Nordea, Own creation

3.5.1.3. Production

NKT Flexibles operates from one production site, which is located in Kalundborg, Denmark. The facility is located at the docks, which offer sufficient draught for the large vessels used in

¹⁰⁹ Contractors Unlimited (2010)

¹¹⁰ Direct sales will be favored when there is a shortage of subsea equipment, Euroasiaindustry (2009)

¹¹¹ Nordea (2010)

¹¹² NKT Holding, Annual report (2009)

offshore installation of flexible pipes. In 2009 the decision was made to expand production capacity by 40%, and full production began in the first half of 2010¹¹³.



Figure 38: Geographical presence and growth in the flexible pipe market

Note: Percentages represent market leader Technip's estimated market size for flexible pipes measured by volume supplied

Source: Company information and Technip, Own creation

The competitors Technip and Wellstream have also been increasing production capacity lately. Today Technip have production facilities in France, Brazil, and Malaysia; however the facility in Malaysia is not expected to begin operation before end-year 2010¹¹⁴. Wellstream have production facilities in the UK and Brazil.

Often flexible pipes are prefabricated and will be transported on large reels from the production facility to the installation site or mobilization base near the installation site. This in turn means lower transportation costs compared to rigid pipes, and it allows for centralizing production while maintaining geographical reach¹¹⁵.

3.5.2. MACROECONOMIC ANALYSIS

3.5.2.1. Political

NKT Flexibles is very dependent on the development in the oil and gas industry, as it generates 95% of its revenue from sales to oil and gas companies. It therefore follows that

¹¹³ NKT Flexibles. A true global partner ¹¹⁴ Technip, Annual report (2009)

¹¹⁵ Bai (2005)

any political decisions affecting the oil and gas industry will also impact suppliers i.e. the flexible pipe manufacturers¹¹⁶.

One of the major dangers facing this industry is the shift away from fossil fuels toward renewables. Today green energy sources cannot compete with fossil fuels on market terms, but governmental regulation by way of subsidies and tariffs could make new investment in oil and gas exploration unprofitable.

Despite these potential dangers, most governments today accept that investments in the oil and gas industry need to be maintained for many years to come. An example of this is the recent US reversal of a ban on oil and gas drilling in most coastal areas¹¹⁷.

3.5.2.2. Economic

Demand from oil and gas companies is very dependent on the oil price. It is estimated that the breakeven oil price for oil and gas companies is between DKK/bbl 200-300¹¹⁸. However, to match its cost of capital the oil price must lie in the region of DKK/bbl 360-480¹¹⁹. In order to induce oil and gas companies to invest in new exploration programs, the long-term oil price must be in the upper region to allow for some safety of margin ¹²⁰. Consequently, manufacturers of flexible pipes are dependent on the long-term oil price being above this threshold. By comparing NKT Flexibles historical and expected order intakes with the oil price this connection becomes evident even though a small time-lag between increases in the oil price and order intakes exists. EIA estimates that both oil and gas prices will increase approx. 4% annually from 2012-2024. On the other hand, breakeven and profitability levels might also increase as offshore deepwater oil exploration is more expensive, however costs should not increase by more than 4% annually. Hence the market for flexible pipes is expected to remain attractive.



Figure 39: Development in oil price and order intakes at NKT Flexibles

- ¹¹⁸ Breakeven is defined as ROIC = 0, i.e. EBIT = 0
- ¹¹⁹ Profitability is defined as ROIC = WACC

Source: EIA & Nordea, Own creation

¹¹⁶ NKT Holding, Annual report (2009)

¹¹⁷ Reuters (2010)

¹²⁰ NKT Holding, Annual report (2009)

The level of offshore exploration licenses reflects the level of investments to be made by oil and gas companies. It is clear that the total level has been increasing as a response to the increase in the oil price. However, due to the depletion of existing oil reserves new exploration licenses are targeting deepwater reserves. In particular year 2008, which followed the dramatic oil price increase, was characterized by an unprecedented level of exploration licenses for deepwater areas¹²¹.





Source: Deutsche Bank, Own creation

By looking at the CAPEX level for SURF industry, the trend becomes even more visible. In 2004 deepwater investments represented 21% of the SURF CAPEX. In 2011 it is expected that this figure will reach 43%. This will favor the use of floating platforms, which in turn should favor flexible pipes over rigid pipes¹²².

Figure 41: SURF	CAPEX split	(shallow vs.	deepwater)
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100% 21%	25%	31%	31%	31%	35%	37%	43%
50% ⁻ 79%	75%	69%	69%	69%	65%	63%	57%
2004A	2005A	2006A ■ Shallow	2007A water De	2008A eep water	2009A	2010E	2011E

Source: Deutsche Bank, Own creation

A breakdown of the SURF CAPEX further reveals a stable distribution of costs associated with the different segments. Risers and flow liners represent approx. 75% of the SURF CAPEX, whereas subsea construction is around 15% and umbilicals 10%. Estimates of future SURF CAPEX for all segments suggest that the distribution will be maintained with growth above 20% for 2010-11 and 0% for 2012-13¹²³.

NKT Flexibles own estimate of the future production capacity within the oil and gas industry also suggest growth on average around 1.5% per year during the next decade. However, the CAPEX level could grow at a higher rate, since adding new capacity is getting increasingly expensive.

¹²¹ Deutsche Bank (2010)

¹²² Deutsche Bank (2010)

¹²³ Quest offshore resources (2008)

Figure 42: SURF CAPEX segmental split



Source: Quest offshore resources, Own creation

Furthermore, the CAPEX level may be higher or lower depending on the speed at which reserves are depleted, as oil and gas companies will need to invest in order to maintain capacity. This is calculated using the RPR, which calculates the remaining years of a resource¹²⁴. The current world RPR is 46 years for oil and 63 years for gas¹²⁵. Hence, a decrease in the RPR would increase growth in CAPEX and vice versa. However, RPRs for oil and gas respectively have been rather stable during the last decade and is not expected to change dramatically in the future.





Source: Company information, Own creation

3.5.2.3. Social

As one of the only offshore oil and gas companies in Copenhagen, NKT Flexibles has been focused on attracting and retaining key employees. This has reflected in a very low personnel turnover¹²⁶. The close proximity of DTU should allow for a continuous supply of qualified labor – ranked 5th in EU¹²⁷.

3.5.2.4. Technological

The industry is characterized by a high degree of R&D with solutions being tailor-made and installations lasting for 20-25 years. The primary driver of investments in technology is the race to develop ultradeepwater flexible pipes. NKT Flexibles has also targeted ultradeepwater

¹²⁴ Reserve-to-production ratio (RPR) = (Amount of known resource) / (Amount used per year)

¹²⁵ BP (2009)

¹²⁶ NKT Holding, Annual report (2009)

¹²⁷ Investindk (2009)

applications by investing DKKm 100 each year in R&D during 2006-2009. Some cases of joint development have been achieved successfully, but most R&D is proprietary¹²⁸.

3.5.2.5. Environmental

Today companies must achieve the necessary certifications to conduct business, thus this is not a competitive parameter but a requirement. However, reliable and eco friendly products are pivotal, as the survival of oil and gas companies depend on their reputation. The Deepwater Horizon Oil Spill in the Gulf of Mexico and China's oil spill in the Yellow Sea both during 2010, which are forecasted to cost DKKbn 60 and DKKbn 1 in clean up costs alone, underlines this fact¹²⁹.

3.5.2.6. Legal

Flexible pipes need to comply with fairly thorough standards and regulations. Even stricter regulations could require new investments in R&D; however current regulation is not expected to undergo significant changes.

3.5.3. INDUSTRY ANALYSIS

3.5.3.1. Intensity of competitive rivalry

The market size for risers and flow liners is estimated at DKKbn 55. Rigid pipes currently constitute 80% of the market, flexible pipes 15% and hybrids 5%. This yields a flexible pipe market size of DKKbn 8.5 annually¹³⁰.

Today only three suppliers of flexible pipes exist, thus making the market highly consolidated. The market leader Technip has a market share around 58%, whereas Wellstream comes in as second with a market share of 31%. NKT Flexibles is the smallest player with a market share of 11%. Furthermore, the cable producer Prysmian has entered into an agreement with Petrobras though it will take some years before Prysmian begins to capture market shares¹³¹.

Figure 44: Market shares year-end 2009 within Flexibles



Source: BofA Merrill Lynch, Own creation

Both Wellstream and NKT Flexibles are pure play flexible pipe manufacturers, whereas Technip covers the entire SURF segment. As a cable producer, Prysmian previously provided subsea production units and umbilicals only, but it now targets both risers and flow liners within flexible pipes. It has not indicated that it intends to enter the rigid pipe market.

¹²⁸ NKT Holding, Annual report (2009)

¹²⁹ Financial times (Jul 12, 2010)

¹³⁰ BofA Merrill Lynch (2010)

¹³¹ Based on sales from annual reports year-end 2009

Figure 45: Breakdown of SURF industry into competitors and products

(Competitors / Products)	Subsea production system	Umbilicals	Risers			Flow liners		
			Rigid	Flexible	Hybrid	Rigid	Flexible	Hybrid
NKT Flexibles				Х			Х	
Wellstream				Х			Х	
Technip	Х	Х	Х	Х	Х	Х	Х	Х
Prysmian	Х	Х		(X)			(X)	

Source: Own creation

As demand for flexible pipes has increased, flexible pipe manufacturers have had difficulties keeping up with supply. From 2005-10 all three manufacturers have increased capacity by more than 50%. Capacity levels correspond directly with market shares¹³². Note that both Technip and Wellstream have production facilities in Brazil, with Technip also having production in Malaysia. Due to the high import tariffs in Brazil, NKT Flexibles would not have been able to compete in the Brazilian market if not Petrobras had offered to cover these tariffs. The value to NKT Flexibles of the framework contract with Petrobras 2009-11 is estimated to be worth DKKbn 1.4 and includes more than 90 km of flexible pipes¹³³.



Figure 46: Production capacity of flexible pipe producers by region

Source: BofA Merrill Lynch, Own creation

3.5.3.2. Threat of entry of new competitors

The high degree of regulation governing flexible pipe manufacturers also acts as a barrier to entry. In particular entrants need to establish production facilities, attract knowledgeable employees, design products, and obtain patent protection. Furthermore, manufacturers also need to certify products by an independent verification body such as Norske Veritas or Bureau Veritas of France. Since track record can affect the decision of the verification body, established companies are at an advantage. Other aspects to be considered are quality and safety standards. Quality standards are based on ISO/API17J, which is stricter than traditional ISO. Safety standards are based on OHSAS18001, which is a work environment certificate¹³⁴. In sum this suggests high barriers to entry in the flexible pipe market, thus BofA Merrill Lynch estimates that the threat from Prysmian to the three main companies will be immaterial on a five year view. Still Prysmian's strong position in the other SURF segments should provide it with an advantage, as it is already doing business with these customers.

¹³² BofA Merrill Lynch (2010)

¹³³ Highbeam business (May 5, 2008)

¹³⁴ Euroasiaindustry (2009)

3.5.3.3. Bargaining power of customers

The main customers are oil and gas companies, as they represent 95% of sales at NKT Flexibles¹³⁵. Most customers are small and do not represent a significant share of sales; however one exception is Petrobras, which represents more than 50% of global annual consumption of flexible pipes. This in turn should provide Petrobras with at high degree of bargaining power¹³⁶. Conversely, the limited number of flexible pipe manufacturers should lower this bargaining power, as Petrobras needs at least three suppliers to maintain competition between manufacturers. Petrobras has pursued this strategy by making agreements with all the three players as well as Prysmian¹³⁷. On the other hand, Petrobras is projecting capacity to grow by 8-13% annually during the next decade, which should diminish the competitive pressure. This should in turn restore sales growth and margins.





Source: Petrobras, Own creation

3.5.3.4. Bargaining power of suppliers

The primary inputs include steel and polymer materials. Stainless steel AISI 316L and Duplex 2101 are the standard choice for carcasses. The inner liner is made of polymer materials such as HDPE, MDPE, XLPE, PA or PVDF. To secure product quality, NKT Flexibles in-house department is dedicated to testing and selecting materials¹³⁸. Among others Outokumpu supply steel materials to Technip, Wellstream, and NKT Flexibles in a fairly competitive market. On the other hand, the market for polymers and plastics is less competitive as previously described. As both inputs are highly standardized and due to a high degree of pass through by manufacturers of flexible pipes, the risk from improved bargaining power of suppliers is not considered significant.

3.5.3.5. Threat of substitute products

Rigid pipes are currently dominating the market for pipes; however flexible pipes are catching up. The primary advantage of flexible pipes is operational handling, low transport and installation costs, ability to be retrieved and reused, and can include additional technologies such as fiber optics. On the other hand flexible pipes are costly in terms of materials, manufacturing (process time), and R&D. Yet the weight of flexible pipes has made them less fit for ultradeepwater explorations below 2,500 m. Flexible pipe manufacturers have been

¹³⁵ Euroasiaindustry (2009)

¹³⁶ NKT Holding, Annual report (2009)

¹³⁷ Interview with Mads Thamsborg (Appendix 30)

¹³⁸ NKT Flexibles. Advantages of flexible pipes

targeting R&D in this area and a new generation of lightweight, noncorrosive flexible pipes have been developed. Despite these shortcomings, flexible pipes are gaining market share compared to rigid pipes. This is primarily attributed to the major improvements of flexible pipes recently, resulting in higher durability and lower costs. This in turn implies that flexible pipes today have the potential for replacing fixed pipes completely. It is therefore expected that flexible pipes will continue to capture market shares from rigid pipes.

3.5.4. COMPANY ANALYSIS

3.5.4.1. Strategic ambitions and guidance

NKT Flexibles is primarily focusing on developing its flexible pipes to target deepwater areas. Management do not provide guidance with respect to sales, but it is estimated that the EBITDA margin will fall to approx. 15% in 2010 due to price pressure and product mix. However as management perceive a margin of 15% as the floor and current visibility of 12-18 months is high, margins are expected to return in 2011.

3.5.4.2. Product portfolio

Besides flexible pipes, NKT Flexibles also provides monitoring systems and additional equipment necessary for a complete installation. The flexible pipes are described in terms of dimensions and type of material, as this correspond to temperature and pressure resistance ability. However, as flexible pipes, monitoring systems and additional equipment are marketed as one product, NKT Flexibles should be considered as a single product firm.

EBITDA margins within the flexible pipe market have previously been in the region of 25-30%; however margins are expected to be 15-20% in 2010 due to reduced order intakes following the economic downturn. EBITDA margins for umbilicals and rigid pipes are approx. 20% with umbilicals being high-tech products and rigid pipes being only mid-tech products. In the same manner as flexible pipes, rigid pipes benefit from the current undercapacity in the pipe industry. The segment for subsea production systems on the other hand is characterized by a high degree of competition with EBITDA margins around 15%.

Today, NKT Flexibles and Technip are leading the market for deep sea flexible pipes with water depth capability to 2,000 m, however Wellstrem has recently entered into a deep sea project with Petrobras¹³⁹. Still, NKT Flexibles should be able to maintain its leading position, as it is already in the process of developing pipes for service at depths to 2,500 m with pilot deliveries expected to take place year-end 2010. Besides water depth ability, product quality is a key competitive parameter. This is beneficial to NKT Flexibles, as it is the only manufacturer without any faulty pipe registered¹⁴⁰.

Prior to the economic downturn, delivery time was also a key parameter in attracting customers. Thanks to its recent capacity expansion, NKT Flexibles should be able to accommodate faster delivery in case this becomes an important customer parameter again. Finally, temperature capacity is also critical, as oil temperature will vary with the location of the

¹³⁹ Interview with Mads Thamsborg (Appendix 30)

¹⁴⁰ Nordea (2007)

exploration. NKT Flexibles currently offers pipes durable to working temperatures up to +130°C. This in turn makes NKT Flexibles the preferred supplier for this temperature.





Source: Own creation

3.5.5. STRATEGIC SUMMARY

Figure 49: SWOT analysis on NKT Flexibles

Strengths	Weaknesses				
 State of the art production facility allows for easy access of larger vessels Strong process technology In-house raw material testing Great track record High visibility in earnings thanks to frame agreement with Petrobras Its close cooperation with the partner Acergy allow for both direct and indirect sales 	 Only production in Denmark – increases transportation cost and tariffs NKT Flexibles small size compared to its competitors could be problematic due to the high degree of R&D investments necessary to keep up 				
Opportunities	Threats				
 High growth in energy demand would maintain an upward pressure on the oil and gas price Shift to deepwater exploration and the use of floating platforms favor flexible pipes Under capacity allow for higher pricing and/or the ability to capture market shares High barriers to entry should reduce pricing competition The first to develop flexible pipes for the ultra deep water market could profit thanks to high demand 	 Entrance by new competitors such as Prysmian Fall in the price of oil and gas due to lower energy consumption or substitution by green energy sources Rigid pipes still present an alternative to flexible pipes hence if flexible pipes gets to expensive or underperform they might get replaced by rigid pipes Product failure could be a serious problem as reliability and trust are pivotal in securing new orders Very dependent on a single customer, Petrobras 				

Source: Own creation

4. FINANCIAL ANALYSIS

4.1. CORPORATE MATTERS

4.1.1. THEORETICAL CONSIDERATIONS

Besides comparing NKT Holding's historical sales growth with its peers, the financial analysis will study profitability measured by pre-tax ROIC. Pre-tax ROIC represents the pre-tax return on the capital invested by debt and equity holders¹⁴¹. Taxes will not be treated as they are considered not meaningful on a divisional level¹⁴². Pre-tax ROIC is driven by profitability measured by its EBIT margin and by capital efficiency measured by its turnover of invested capital. These components are then further disaggregated depending on the level of disclosure¹⁴³.

Equation 1: Decomposition of Pre-tax ROIC

 $Pre - tax ROIC = EBIT margin * Turnover of Invested Capital = \frac{EBIT}{Sales} * \frac{Sales}{Invested Capital}$ Note: EBIT = earnings before interest and taxes; Invested capital = NWC + PP&E + Intangibles

Source: Koller et al (2005), Own creation

4.1.2. ACCOUNTING PRINCIPLES & AUDITORS' REPORT

The financials will be based on the consolidated group financials published in NKT Holding's annual reports. Only annual reports in the period 2005-2009 will be considered. Note that the divisions of NKT Holding will be benchmarked with its competitors in order to obtain a better understanding of NKT Holdings relative performance. An in-depth discussion of the competitors will be deferred to the peer group identification section.

The choice of consolidated group financials instead of subsidiary financials is due to both the organizational complexity of NKT Holding and the presence of intercompany transactions. Firstly, the organizational complexity of NKT Holding would require consolidation of different entities in order to get the results of the primary business divisions. This would be problematic as the subsidiaries are incorporated in different countries, thus they are subject to different accounting principles. Secondly, intercompany transactions would have to be eliminated in order to get a true picture of the underlying financials. In short this would not be possible based on publicly available information.

Prior to 2005, NKT Holding prepared its annual reports in accordance with Danish GAAP. However, subsequent to 2005, NKT Holding has prepared its annual reports in accordance with IFRS. Thus the financials prior to 2005 would have to be adjusted in accordance with IFRS to allow for comparability due to differences in accounting principles. In addition a range of organizational changes occurred prior to 2005; hence this would have to be adjusted for as

¹⁴¹ ROIC should be compared directly with WACC to determine whether value is created or destroyed. This will be done in section on forecast

¹⁴² The company tax rate of 25% will subsequently be applied to all divisions

¹⁴³ Petersen & Plenborg (2008)

well. Thus financials from 2005-2009 are considered appropriate. Note that an aggregation of the divisional financials will not equal the group financials, as NKT Flexibles is consolidated on one-line. This follows the principles of IAS 31 in regard to the accounting treatment of joint controlled entities. This in turn implies that the segmental information provided in the notes cannot be used on NKT Flexibles. However, NKT Holding provides financial information under each divisional description. These financials are adjusted for analytical purposes and include: Sales, EBITDA, EBIT, Invested capital and NWC. NIBD and PP&E & Intangibles can be deducted from these figures. This suffices for a SOTP valuation. Note that annual reports from 2005-2009 have been audited by KPMG, who has not raised any concerns. It is therefore assumed that the financials provided are truthfully represented.

4.1.3. ACCOUNTING CORRECTIONS

When analyzing past performance it is crucial that the figures presented can be used to predict future performance. Consequently, financials have to be adjusted for non-recurring items such as acquisitions, divestments and restructuring charges. Note that some restructuring charges could be considered recurring, however the following items are considered material and non-recurring.

Corrections in 2006 and 2007 pertain to income from property sales less minor restructuring charges. In 2008 NKT Cables laid-off 330 employees while Nilfisk-Advance laid-off 300 employees, hence the associated restructuring provisions are corrected for. Furthermore, costs from a write down of production assets at NKT Cables that only affects EBIT are excluded. Finally in 2009 restructuring costs related to Nilfisk-Advance's relocation of production from the US to Mexico and Western EU to Hungary are excluded (Appendix 2).

Note that figures on sales split, sales growth, EBIT margin, EBITDA margin, and turnover of invested capital, NWC and PP&E & Intangibles are given in Appendix 5-11. The exact figures are given in Appendix 4.

4.2. NKT CABLES

4.2.1. SALES GROWTH

Prior to the economic recession growth in sales was substantial with NKT Cables being ahead compared its competitors. However in particular the markets for LV and AUTO cables have been hit by the economic recession, whereas the markets for HV&SM cables and RW wires have benefited from moderate to high growth rates. While NKT Cables is still at the forefront, the gap in sales growth seems to be closing.

Figure 50: Sales split by product at NKT Cable	Figure	re 50: Sa	es split by	product at	NKT Cables
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Sales split in %	2005A	2006A	2007A	2008A	2009A
HV&SM	17%	16%	17%	20%	24%
MV	16%	15%	17%	17%	23%
LV	45%	48%	45%	41%	30%
RW	11%	11%	12%	9%	12%
AUTO	3%	3%	3%	5%	3%
Other	8%	7%	6%	8%	8%

Source: Company information, Own creation

4.2.2. PRE-TAX ROIC

The cable industry in general seems to be benefitting from high pre-tax ROIC, however only Prysmian seems unaffected by the general decline in the market. NKT Cables has lost ground compared to its competitors, but again the levels seem to be converging. NKT Cables' high exposure to the LV cables segment is most likely the cause of the deteriorating position, hence NKT Cables emphasis on high-margin segments could facilitate a turnaround.





Source: FactSet & Company information, Own creation

4.2.3. DECOMPOSITION OF PRE-TAX ROIC

4.2.3.1. EBIT margin

The EBIT margin of NKT Cables has declined from above 6% in 2007 to 3% in 2009. With the exception of Prysmian, competitors have also experienced declining EBIT margins. NKT Cables decline in EBIT margin is again related to its exposure to the LV cables and AUTO cables segments, which might explain why NKT Cables has underperformed slightly compared to its competitors.

4.2.3.1.1. EBITDA margin

Depreciation over sales has increased from 2% to 3% during the same period, whereas depreciation over PP&E & Intangibles has decreased from 12% to 8%. The latter can be attributed to an increase in the CAPEX level resulting from the acquisitions of new production facilities¹⁴⁴.

4.2.3.2. Turnover of invested capital

Turnover of invested capital in the cable industry has been converging toward 3x, which suggests that this is the natural level in the industry. Together with General Cables, NKT Cables turnover of invested capital has decreased from 5x to 3x.

4.2.3.2.1. Turnover of NWC

Turnover of NWC has also been converging with the industry average approximating 5x. During the period from 2006 to 2009, NKT Cables has maintained a position in the higher-end with a turnover of around 6x.

4.2.3.2.2. Turnover of PP&E & Intangibles

In contrast to the other areas, companies differ significantly in terms of turnover of PP&E & Intangibles as it ranges from 4-10x. NKT Cables is positioned in the lower region with turnover of around 4x.

4.2.4. FINANCIAL CONCLUSION

Despite a decline in the EBIT margin, the decrease in NKT Cables' pre-tax ROIC can primarily be attributed to a low capital efficiency. In particular its turnover of PP&E & Intangibles is low compared to its competitors. However, the turnover could be expected to rebound as NKT Cables' new production facilities reach full production.

4.3. NILFISK-ADVANCE

4.3.1. SALES GROWTH

Prior to the decline in sales of 13% in 2009, Nilfisk-Advance has been growing steadily at moderate growth rates. By looking at Nilfisk-Advance's peers it becomes evident that with the exception of Husqvarna, all peers have experienced negative growth rates in the region of 15% in 2009. In general the industry is characterized by stable growth rates, however the economic recession has led professional contract cleaners to postpone investments. It is therefore expected that this segment will contribute significantly to growth in the coming years.

Figure 52: Sales split by customer at Nilfisk-Advance

Sales split in %	2005A	2006A	2007A	2008A	2009A
Commercial	61%	58%	60%	61%	53%
Industrial	30%	34%	31%	30%	36%
Household	9%	8%	9%	9%	11%

Source: Company information, Own creation

¹⁴⁴ An increase in the CAPEX level would lower the ratio

4.3.2. PRE-TAX ROIC

It is evident that companies differ significantly in terms of pre-tax ROIC; however pre-tax ROIC levels seem to be converging at around 10%. Only Toro and Blount International has maintained a superior pre-tax ROIC. Nilfisk-Advance is positioned in the middle with pre-tax ROIC ranging from 10-20%. Again it would be reasonable to assume that pre-tax ROIC will increase in the years to come.





Source: FactSet & Company information, Own creation

4.3.3. DECOMPOSITION OF ROIC

4.3.3.1. EBIT margin

Nilfisk-Advance's EBIT margin has been rather stable from 2006-2009 ranging between 6-9%; however compared to its competitors this is in the lower-end. Still, Nilfisk-Advance has maintained its relative position. The low margin might be correlated with Nilfisk-Advance's policy to pass-on cost savings in order to gain market shares, however this has not materialized into higher sales yet.

4.3.3.1.1. EBITDA margin

The development in the EBITDA margin during 2006-2009 paints the same picture, which suggests a similarity in depreciation policies. The EBITDA margin has been in the region of 9-12% for Nilfisk-Advance, which again is in the lower end. During this period Nilfisk-Advance has maintained a policy of investing 3% of sales in R&D.

4.3.3.2. Turnover of invested capital

Turnover of invested capital ranges from 1-3.5x sales and has been rather stable for all firms. Nilfisk-Advance has also maintained its turnover of invested capital at around 2x, thus positioning it in the middle.

4.3.3.2.1. Turnover of NWC

Most firms have maintained a stable turnover of NWC, which ranges from 4-6x. Thanks to its focus on improving its NWC level, Nilfisk-Advance has been able to reduce debtor days despite the current tightening of credit markets. This has positioned Nilfisk-Advance in the upper region and the ambition is to continue improving turnover of NWC.

4.3.3.2.2. Turnover of PP&E & Intangibles

The industry average of turnover of PP&E & Intangibles is approximately 4x. Nilfisk-Advance's turnover has declined from 4x in 2008 to 3x in 2009. It would be reasonable to assume that Nilfisk-Advance would be able to adjust its level of PP&E & Intangibles in case sales would remain low in the years to come.

4.3.4. FINANCIAL CONCLUSION

The decline in pre-tax ROIC at Nilfisk-Advance can be attributed to a decline in EBIT-margin, whereas the capital efficiency has been stable thanks to increased attention on NWC. In case Nilfisk-Advance will be successful in implementing its current restructuring initiatives this could lead to improved margins.

4.4. PHOTONICS GROUP

4.4.1. SALES GROWTH

Growth at Photonics Group has been fluctuating, as sales increased by 53% in 2008 and decreased by 6% in 2009. Compared to its competitors, Photonics Group has performed well, as all the primary competitors have seen consecutive years of declining growth rates.

4.4.2. PRE-TAX ROIC

The market leader IPG Photonics has outperformed the other competitors; however pre-tax ROIC for 2009 has closed the gap. Photonics Group lags behind significantly compared to its competitors with a negative ROIC of 30-40%.





Source: FactSet & Company information, Own creation

4.4.3. DECOMPOSITION OF ROIC

4.4.3.1. EBIT margin

The EBIT margin for Photonics Group has been stable at a negative 30%. With the exception of IPG Photonics, the industry mean for the EBIT margin has been around 5-10%. This should be a major concern to management, as it underlines the fact that Photonics Group has not been able to penetrate the otherwise attractive market for fiber lasers.

4.4.3.1.1. EBITDA margin

The EBITDA margin suggests that Photonics Group has had slightly higher depreciation levels; however it does not alter the above conclusion.

4.4.3.2. Turnover of invested capital

With the industry level for turnover of invested capital ranging between 1-1.5x, Photonics Group is positioned in the upper end with 1.3x. The industry level has remained stable during the period from 2006-2009.

4.4.3.2.1. Turnover of NWC

Despite a decline in turnover of NWC from 7x in 2008 to 4.2x in 2009, Photonics Group is still positioned in the upper-end compared to its competitors that predominantly operate with turnover of NWC of 1-2x.

4.4.3.2.2. Turnover of PP&E & Intangibles

The industry level has been converging toward a turnover of PP&E & Intangibles of 2x. This positions Photonics Group in the middle.

4.4.4. FINANCIAL CONCLUSION

It is evident that the primary concern regarding Photonics Group is its EBIT margin. The market for fiber laser is still young; however, it is critical that Photonics Group continues to cooperate closely with its customers in order to improve its market access while at the same time commercializing its R&D efforts.

4.5. NKT FLEXIBLES

4.5.1. SALES GROWTH

During 2006-2007 growth rates within the flexible pipe market were substantial ranging between 20-80%. In particular the pure play flexible pipe manufacturers, Wellstream and NKT Flexibles, experienced solid growth rates. However, in 2009, growth rates converged toward 0% growth. The decline in growth is related to the decline in the oil price in 2008, which led to order intakes from oil companies below average. Since then the oil price has rebounded suggesting that order intakes will increase in the years to come.

4.5.2. PRE-TAX ROIC

Profitability in the flexible pipe market has been staggering with pre-tax ROIC levels in the range of 20-100%. Even though 2009 has led to a decline in pre-tax ROIC, the level is still very high suggesting that firms can earn above normal returns even in times of economic recession. This underlines the fact that the market for flexible pipes is very attractive, which could encourage entry by new competitors such as Prysmian. NKT Flexibles is still well positioned despite losing some ground in recent years.







4.5.3. DECOMPOSITION OF ROIC

4.5.3.1. EBIT margin

Despite a small decline in EBIT margin in 2009, the flexible pipe industry has seen increasing EBIT margins from 2005-2008. NKT Flexibles is positioned in the upper-end with an EBIT margin around 20% compared to a level of 12% for its competitors.

4.5.3.1.1. EBITDA margin

Depreciation levels have remained stable and seem to be similar between Wellstream and NKT Flexibles, whereas depreciation at Tecnhip is slightly lower.

4.5.3.2. Turnover of invested capital

Turnover of invested capital has remained stable for all companies with Wellstream and NKT Flexibles having a turnover of approximately 2-3x. Technip differ significantly with at turnover fluctuating around 7-12x, which can be attributed to its other business activities that are more asset light.

4.5.3.2.1. Turnover of NWC

The level for turnover of NWC has been rather volatile suggesting that firms are operating with a NWC around zero. However, since 2007 turnover of NWC has remained more stable with Wellstream and NKT Flexibles around 5-10x and Technip around negative 50x.

4.5.3.2.2. Turnover of PP&E & Intangibles

Again Wellstream and NKT Flexibles are rather similar with a turnover of PP&E & Intangibles of 3x. Technip on the other hand exhibit a turnover of around 7x.

4.5.4. FINANCIAL CONCLUSION

NKT Flexibles has been very profitable and despite being a small player compared to Technip and Wellstream, it has been able to penetrate the market for flexible pipes and achieve a high pre-tax ROIC. In terms of capital efficiency, NKT Flexibles and Wellstream are quite similar; however NKT Flexibles has been able to improve its EBIT margin substantially. Thus NKT Flexibles should be well positioned in the years to come.

5. FORECAST

5.1. CORPORATE MATTERS

5.1.1. FORECAST HORIZON

The forecast horizon is set equal to 2024 for all the divisions, as it is assumed that all will have reached steady state by this date. The degree of uncertainty attached to the estimates increases with the forecast horizon as it stretches 15 years; however, it also increases the value captured in the forecast horizon compared to the terminal value. Due to strategic and financial differences, the divisions are forecasted to grow in different ways with some reaching steady state prior to 2024. However, a common forecast horizon is chosen as this allows for a comparison across divisions without affecting the valuation.

5.1.2. FORECAST DRIVERS

The sales forecast is based on price, volume, structure, and FX, where price is negatively correlated with number of units sold i.e. volume and structure. Price is primarily driven by the degree of competition in the industry and firm strategy. Volume is primarily driven by price and market growth. Structure relates to sales coming from new production facilities, i.e. it is an estimate of new capacity to come into production. Finally FX is allocated to the divisions based on company guidance for 2010 (DKKm 113) and subsequently assumed to be zero.

When forecasting it is crucial to understand how costs behave, i.e. if costs are mostly variable or fixed¹⁴⁵. Therefore this thesis will rely on peer group figures, company guidance and estimates by analysts to determine: COGS, G&A, S&M, and R&D. More specifically it is assumed that COGS, S&M, and R&D are mostly variable, whereas G&A is mostly fixed. Finally, depreciation is tied to net PP&E & Intangibles instead of sales, as this provides better forecasts in case of lumpy CAPEX¹⁴⁶. Since management has not provided guidance on any forthcoming write-downs of goodwill it is assumed to be equal to zero. Balance sheet items include a breakdown of invested capital into NWC and PP&E & Intangibles. Both are tied to sales, which is assumed to be reasonable as long as sales do not exhibit large fluctuations. It is assumed that all divisions will maintain a constant capital structure, i.e. the ratio between NIBD and EV is assumed constant¹⁴⁷. Note that forecasts are based on running prices i.e. including inflation (Appendix 12). Please see appendix 14-17 for exact forecast.

5.2. NKT CABLES

Note that prices at NKT Cables are reset continuously to reflect changes in metal prices, which have been rather volatile in the period 2005-2009. Therefore historical sales figures have been adjusted using fixed metal prices¹⁴⁸. It is assumed that NKT Cables in the future

¹⁴⁵ Palepu et al (2008)

¹⁴⁶ Gross PP&E & Intangibles would be optimal; however as it is assumed that CAPEX levels will be fairly stable the effect should be incremental.

¹⁴⁷ A constant capital structure will be maintained by continuously rebalancing the debt

¹⁴⁸ Copper and Aluminum fixed at 1,550 EUR/tonne and 1,350 EUR/tonne, respectively

will pass on changes in metal prices to customers; hence it can be ignored from a valuation standpoint¹⁴⁹.

5.2.1. SALES

In the short-term, sales growth is expected to be driven by the NKT Cables new HV&SM cable production facilities in Cologne (DKKm 300) and Changzhou (DKKm 700) and acquisition of Aussa Power in Australia (DKKm 20)¹⁵⁰. In addition sale of MV cables is also forecasted to be high due to the temporary incentive scheme for utilities in Germany (Appendix 13).

In the medium to long-term, sales growth is expected to be driven primarily by the RW and HV&SM segments, while also the MV segment will contribute to some degree. The RW segment will be driven by NKT Cables' close cooperation with the Chinese Ministry of Railways. The segment has a high degree of visibility and growth is expected to remain high thanks to NKT Cables strong niche position. Growth in the HV&SM segment will primarily be driven by renewables, as offshore wind-farms will need to be connected to mainland grids, but renovation and upgrade of existing grids as well as new interconnections between countries will also drive growth in sales. The MV segment will also benefit somewhat from these trends, as the HV cables will require new MV cable installations.

Sales growth in the LV segment is not expected to recover until 2012, where the market for new building and renovation is expected to return to a steady state rate. The AUTO market is expected to increase substantially in 2010, with subsequent growth rates expected to be modest as NKT Cables is expected to remain inferior in this market. Other cables are expected to follow growth in the overall economy.

5.2.2. MARGINS

5.2.2.1. COGS

Based on the fairly stable competitive situation in the industry, the ratio of COGS/sales is also expected to be stable in the short to medium-term for all segments. In addition the recent plant modernizations means that NKT Cables is already very cost effective compared to its peers; thus it is difficult to improve margins beyond current levels. However, total margin will improve slightly thanks to the change in product mix and lower ramp up costs in connection with the factory in Cologne. In the medium to long-term competition is expected to squeeze margins in the high-margin segments. More specifically it is expected that lower demand in the HV&SM cable segment will intensify competition, and it is expected that new firms will enter the RW segment as the technology matures.

5.2.2.2. G&A

It is expected that G&A initially will grow by 4-5% during 2010-2013, and subsequently return to steady state. The higher initial level is attributed to its geographical expansion, which is expected to increase legal and professional fees.

¹⁴⁹ Note that the financial analysis was based on reported sales figures to maintain comparison between firms ¹⁵⁰ Revenue estimated to increase by DKKm 10 during first half 2010, NKT Holding Interim report (Q2 2010)

5.2.2.3. S&M

S&M is expected to remain fairly stable around its current level of 12% of sales. NKT Cables has recently embarked on a project to centralize customer service centers. Still, it is assumed that any positive scale effects would be cancelled out by higher customer requirements and the increased significance of scheduling due to more complex operations.

5.2.2.4. R&D

The current level of R&D/sales of 6% is expected to approach a long-run level of 7%. The increase is based on the assumption that NKT Cables' focus on the high margin areas will require a higher R&D level in order to maintain competitive.

5.2.2.5. Depreciation

Depreciation is assumed to approach a long-run level of 10% of PP&E & Intangibles. This matches the general level for the industry, and also fits with the depreciation level prior to its recent investments in new production facilities.

5.2.3. NWC

Turnover of NWC has been decreasing with most firms congregating around 5-6x. It is forecasted that NKT Cables turnover of NWC will remain stable at 6x sales, which also corresponds with a stable COGS level. Using adjusted sales the ratio of NWC/sales is set equal to 23%.

5.2.4. PP&E & INTANGIBLES

Turnover of PP&E & Intangibles remains more dispersed with the industry average close to 5-6x. NKT Cables is expected to improve its turnover as production reaches full capacity; hence the ratio of PP&E & Intangibles/adjusted sales is forecasted to approach 38%.

5.3. NILFISK-ADVANCE

5.3.1. SALES

Prior to the decline in sales in 2009, Nilfisk-Advance has experienced moderate but stable growth rates. In the short-term, it is expected that sales will be driven by increased volume in the commercial segment, as professional contractors will have to re-invest in new equipment to compensate for delayed investments in 2009. In addition the relocation of production and its new production facility in China should increase production capacity, thus structural growth in sales is expected for 2010-11.

In the medium to long-term, the overall market growth is expected to follow the overall economic activity. Nilfisk-Advance could benefit from growth rates higher than average thanks to its focus on the professional contract cleaning segment; however it still derives most of its sales from mature markets where growth is lower than average. Based on its plan to open new sales office in emerging markets, it is assumed that Nilfisk-Advance will be able to outgrow the market slightly before reaching a steady state growth rate in 2021.

5.3.2. MARGINS

5.3.2.1. COGS

In the short-term, the ratio of COGS/sales is expected to improve thanks to relocation of production and sourcing from low costs countries, as well as high operating leverage e.g. volume production and spare capacity. However, margins could be pressured by higher raw material prices despite pass through. Subsequently it is expected that COGS/sales will increase slightly as competition intensifies and as it gets more difficult to reduce costs. In case Nilfisk-Advance is successful in consolidating its operations and setting up multiproduct plants, this might deter entry by competitors due to the presence of advantages of scale and scope. On the other hand, lack of consolidation combined with a maturing technology could encourage manufacturers of household cleaning equipment to enter the market, thus resulting in price competition.

5.3.2.2. G&A

Nilfisk-Advance has mostly targeted other areas than G&A for cost reductions suggesting efficiency in operations. The G&A level should be independent of sales and is therefore forecasted to grow at a steady state rate.

5.3.2.3. S&M

Nilfisk-Advance has recently launches its 'Voice of the customer' project, and has indicated that it intends to target this area for considerable future investments. In particular the move toward providing full service contracts will require investments in this area in order to reduce customer downtime. Furthermore, the ambition to increase its number of sales subsidiaries also suggests that the level of S&M is likely to increase. In general S&M is expected to follow the level of sales, but based on the strategic initiatives being pursued the level is expected to increase slightly.

5.3.2.4. R&D

Nilfisk-Advance has been quite consistent in terms of its R&D activities by targeting a level equal to 3% of sales. This appears to be a natural level within the professional cleaning industry, thus it is assumed to be maintained in the future.

5.3.2.5. Depreciation

The current depreciation level of 10% of PP&E & Intangibles is in line with peers. However, as CAPEX is forecasted to decrease slightly, depreciation is expected to increase slightly to 11%.

5.3.3. NWC

NWC is expected to remain stable at its current level of 17% of sales despite management attention on improving NWC, as the natural turnover of NWC in the industry is around 5-6x. This matches the stable COGS level.

5.3.4. PP&E & INTANGIBLES

It is forecasted that the turnover of PP&E & Intangibles will return to its level prior to the financial crisis, as the need for new investments is somewhat lower than previously. Hence, it

is forecasted that PP&E & Intangibles will reach a long-term level of 32% of sales. This is in line with the industry turnover level of 3-4x.

5.4. PHOTONICS GROUP

5.4.1. SALES

The fiber laser industry is still a young industry in which only established firms have been able to penetrate the established market for traditional lasers. However, growth rates within the industry have been impressive, and it is assumed that fibers lasers will continue this trend eventually replacing most other alternatives. Whether or not the Photonics Group will be able to gain a foothold within the industry remains to be seen; however, their strategy of entering into strategic partnerships with their customers has proven successful and could pave the way for new deals in the future.

Based on the assumption of increased penetration and company guidance, sales is expected to outpace overall laser market growth of 10% in the short to medium-term. Initial growth is expected to be driven by higher volume thanks to improved penetration, but price increases are also forecasted as current levels are unprofitable. Finally, growth is expected to reach a steady state level of 3% in 2024.

5.4.2. MARGINS

5.4.2.1. COGS

As raw materials are mostly unprocessed, COGS is not expected to increase significantly. Furthermore, in line with higher volume production the ratio of COGS/sales should also improve significantly. More specifically it is assumed that the ratio will peak in 2019 as sales growth decline subsequently, and then approach a long-run level of 50%. This is significantly higher than the other divisions and reflects the high-tech and fragmented nature of the industry in which manufacturers and customers form strategic partnerships; however patent protection will be critical in supporting high margins, as this will allow Photonics Group to target niche positions within various applications thereby supporting higher margins.

5.4.2.2. G&A

The level of G&A has been quite high compared to peers, and reflects Photonics Group's need to increase sales to break even. It is assumed that G&A is mostly fixed, thus it is forecasted to grow at a rate just above the steady state growth rate in the short to medium-term.

5.4.2.3. S&M

The assumption that Photonics Group will be successful in penetrating the market will also require continued investment in S&M to attract and retain customers. It is therefore forecasted that S&M/sales ratio will be fixed in the short-term. However, in the medium to long-term Photonics Group should be able to reduce spending on S&M; hence the long-run level is forecasted at 11%.

5.4.2.4. R&D

Despite the fact that the industry level of R&D/sales is very high, Photonics Group has an even higher R&D intensity. It is assumed that the level will decline slowly during the forecast period while approaching the industry level of approx. 16% in the long-run.

5.4.2.5. Depreciation

As the CAPEX level is forecasted to increase slightly, the depreciation level is assumed to decrease slightly reaching a long-term level of 15%. This is higher compared to the other divisions suggesting an overweight of machinery and equipment compared to buildings¹⁵¹.

5.4.3. NWC

Industry turnover of NWC differ among peers, however Photonics Group's turnover of NWC has been rather stable despite showing a negative trend. This could be attributed to an attempt to attract customers by offering favorable credit terms, however this is not disclosed by management. It is expected that the negative trend will be reversed with Photonics Group reaching a long-run turnover of 5x NWC.

5.4.4. PP&E & INTANGIBLES

The industry level for turnover of PP&E & Intangibles is very concentrated at around 2x. It is expected that the level will approach 40% as sales growth improves. This level is still fairly high; however the high-tech nature of the industry will necessitate ongoing investments in R&D that in turn will support a high level of intangibles.

5.5. NKT FLEXIBLES

5.5.1. SALES

Economic projections suggest that the oil price will remain at a level that will encourage investments in offshore oil exploration, which should favor flexible pipes. High CAPEX projections by Petrobras also suggest that demand levels will remain around 5-10%, whereas projections by Quest Offshore seems to have underestimated the impact of the economic crisis on demand.

Sales growth in 2010 is therefore expected to be impacted by lower prices due to a drop in order intakes; however sales will be supported by structural growth coming from its expansion of its factory in Kalundborg¹⁵². It is expected that demand will return in 2011 as oil and gas companies are reassured that the oil price will remain above the threshold for investments. In particular the increased use of flexible pipes over rigid pipes as well as the introduction of deepsea flexible pipes will drive demand. Thus demand in the short to medium term is expected to be modest to high. Growth subsequent to 2015 is expected to be lower as Prysmian is expected to capture market shares.

¹⁵¹ Estimated useful life of buildings is approx. 30 years, whereas machinery & equipment and office furniture & fixtures is approx. 3-5 years ¹⁵² The 40% capacity increase is not expected to be fully utilized until 2014 due to weak demand conditions

5.5.2. MARGINS

5.5.2.1. COGS

Lower order intake has forced NKT Flexibles to reduce prices, which will pressure margins significantly in 2010. Margins are expected to be partially restored in 2011, and fully restored in 2012. The 2012 level is expected to be maintained until 2015 after which lower demand, intensified competition, full capacity production and a maturing technology is expected to reduce margins.

5.5.2.2. G&A

The level of G&A is expected to grow at a steady state rate, as management has not indicated it intends to staff up in this area.

5.5.2.3. S&M

The increased focus on safety and the need to capture other customers besides Petrobras is estimated to cause the S&M level to increase in the short to medium term. Subsequently it is forecasted to approach a long-run level of 7% of sales.

5.5.2.4. R&D

The race to develop flexible pipes for ultradeepsea application is expected to increase R&D levels in the short to medium-term from a current level of 7% to 10%. In the medium to long-term the R&D level is expected to return to a long-run level of approx. 7%.

5.5.2.5. Depreciation

The recent expansion of the factory in Kalundborg has equipped NKT Flexibles with spare capacity to be utilized in the years to come thereby lowering the CAPEX level. Consequently the depreciation level can be expected to increase slightly, thus it is assumed that it will increase from a current level of 8% to a long-run level of 10%. This also matches the pre-expansion level for depreciation.

5.5.3. NWC

Turnover of NWC is expected to approach 6-7x from a current level of 5x. This is in line with the pure play competitor Wellstream, as well as historic turnover of NWC at NKT Flexibles. The decline in turnover of NWC during 2009 could be attributed to projects being fewer but larger than previously, which in turn could have increased debtor days and inventory levels. The improvement will primarily be driven by resumed sales growth.

5.5.4. PP&E & INTANGIBLES

The current turnover of 2.5x PP&E & Intangibles is expected to improve slightly to around 3x in the long-run. The improvement in turnover of PP&E & Intangibles is therefore based on the assumption that capacity utilization will improve in the years to come thanks to its recent expansion.
6. VALUATION

6.1. CORPORATE MATTERS

6.1.1 THEORETICAL CONSIDERATIONS 6.1.1.1. WACC

In order to perform a DCF SOTP, WACC has to be determined per division. Since the valuation is particularly sensitive to changes in WACC it is important that it is measured accurately. More specifically a too high WACC would underestimate EV and vice versa.

Prior to estimating the cost of debt and equity, it is necessary to determine their weights measured by market values. Note that it is assumed that NKT Holding will maintain its current capital structure, as the company target of NIBD equal to 2.5x EBITDA is fulfilled. However, on a divisional level the capital structure will be set equal to the median for the peer group; hence NIBD in NKT Holding will be adjusted to maintain company target. This will only affect EV per division and not EV for the group. Furthermore, since capital structure is assumed constant, WACC will also be constant (Appendix 18).

Equation 2: WACC

WACC =
$$\frac{D}{D+E} * R_{D} * (1-T_{C}) + \frac{E}{D+E} * R_{E}$$

Note: D = NIBD; E = EV - NIBD; R_D = required return on debt; R_E = required return on equity; T_C = Marginal tax rate

Source: Koller et al (2005), Own creation

Since most of the debt at NKT Holding is floating, the book value of debt is a valid approximation of the market value. Hence debt is equal to the year-end NIBD. The market value of equity on the other hand differ from book value, hence it is set equal to the estimated EV. Note that a circular problem exists, as the value of equity is used to estimate WACC and that WACC is used to estimate the value of equity. This is solved using an iterative process¹⁵³.

6.1.1.1.1. Risk-free rate

In theory the risk-free rate is the rate of return on an investment with zero risk, however in reality nothing is risk-free. The risk-free rate can only be approximated, and this will be accomplished by using the rate of return on a government default-free bond. To maintain a consistent treatment of inflation, the cash flows and the cost of capital must be denominated in the same currency. Therefore the interest rate on the Danish 10 year Treasury bill at the valuation date will be used. This rate is equal to 2.759%¹⁵⁴.

6.1.1.1.2. Market risk premium

The MRP is defined as the difference between the expected return on the market portfolio and the risk-free rate. Today no method for determining the MRP has gained worldwide acceptance; however according to a study performed by McKinsey, market premiums have

¹⁵³ Benninga (2008)

¹⁵⁴ Nationalbanken (2010)

been very stable during the past 50 years. In turn they suggest a range between 4.5-5.5%. Furthermore, the consensus among analysts in 2010 has been to use a MRP equal to 5%¹⁵⁵. Thus the MRP is set equal to 5%.

6.1.1.1.3. Beta estimation

Since none of the divisions are listed on an exchange, industry betas will be used to determine beta for each division. Initially the equity beta for each peer is determined by regressing stock returns on market returns using daily observations over a five-year period¹⁵⁶. The market portfolio is set equal to the MSCI World Index¹⁵⁷. Note that the risk of historical returns is used as a proxy for the future¹⁵⁸.

Equation 3: Equity beta estimation

$$R_{I} = \alpha + \beta_{E} * R_{M} + \epsilon$$

Note: R_l = required return on equity; β_l = systematic equity risk; R_M = required return on market portfolio; α = risk-free rate; ϵ = error

Source: Koller et al (2005), Own creation

Subsequently, the equity beta estimates are unlevered using the values for EV and NIBD on the valuation date to obtain the asset beta. The median asset beta is then calculated. Finally, equity beta is determined by re-levering the median asset beta to the target capital structure of the division using the practitioners approach¹⁵⁹. Note that this assumes that beta debt is equal to zero and that the company maintains a constant capital structure¹⁶⁰ (Appendix 19).

Equation 4: Adjusting beta for leverage

$$\beta_{\rm E} = \beta_{\rm A} * (1 + \frac{\rm D}{\rm E})$$

Note: β_E = systematic equity risk; β_A = systematic asset risk; D = NIBD; E = EV - NIBD

Source: Koller et al (2005), Own creation

6.1.1.1.4. Required return on equity

Using the CAPM and based on the estimates of the risk-free rate, the MRP, and equity beta, the cost of equity can be calculated. The required return on equity reflects the return that could be expected from a similar risk investment¹⁶¹.

Equation 5: Required return on equity

 $E(R_{E}) = R_{F} + \beta_{E} * (E(R_{M}) - R_{F})$

Note: $E(R_E)$ = expected return on equity; R_F = risk-free rate; β_E = systematic equity risk; $E(R_M)$ = expected return on market portfolio

Source: Koller et al (2005), Own creation

¹⁵⁵ Fernandez et al (2010)

¹⁵⁶ Note that returns are calculated using total return data, which adjust for dividends and stock-splits

¹⁵⁷ The marginal investor is assumed to be a global investor, hence a global index is used, Damodaran (2006)

¹⁵⁸ The R² values fluctuate between 10-34% (median above 20%) - i.e. beta estimates are uncertain (Appendix 19) ¹⁵⁹ Fernández (2006)

¹⁶⁰ A constant capital structure entails that the value of the tax shields will fluctuate with the value of the operating assets, hence β_{txa} equal β_A , Koller et al (2005) ¹⁶¹ Brealey et al (2007)

6.1.1.1.5. Required return on debt

Neither Moody's nor S&P provide credit ratings on NKT Holding. However, by calculating the interest coverage ratio it is possible to approximate the risk premium by using the typical default spread. Based on 2009 figures for EBIT and NII, the interest coverage equals 3.48, which equal a default spread of 3.65%. The cost of debt can also be approximated by calculating NII divided by average NIBD, which yields a default spread of 2.26%. Thus the average risk premium equal 2.95%. Both methods do not provide meaningful insights when applied on a divisional level, which could be attributed to the presence of intercompany loans and borrowings (Appendix 20). Consequently, a risk-premium on debt of 2.95% is applied to all divisions. This approach is supported by the fact that the capital structures are reasonably similar. Finally, to determine the after-tax cost of debt the Danish marginal tax rate of 25% is used¹⁶².

6.1.1.2. Terminal value

The key value driver formula will be used to determine terminal value in year 2024, as it is assumed that all divisions by then have reached steady state, i.e. growth, margins, turnover and WACC will be constant. Growth is set equal to the overall economic growth rate, which is assumed to be equal to 3% as this corresponds with IMF's economic outlook. Furthermore, based on the assumption that competition will eventually eliminate abnormal returns, RONIC is set equal WACC. This assumption is grounded in the perception that none of the divisions have competitive advantages (e.g. brands and patents) of such magnitude that it will enable them to maintain infinite abnormal returns (Appendix 27).

Equation 6: Value driver formula

$$TV_{t} = \frac{NOPLAT_{t+1} * (1 - \frac{g}{RONIC})}{WACC - g}$$

Note: TV = terminal value; NOPLAT = net operating profit less adjusted taxes; RONIC = return on new invested capital; g = growth rate; WACC = weighted average cost of capital

Source: Koller et al (2005), Own creation

6.1.1.3. Peer group selection

Assuming that firms in the same industry will be subject to the same tax rate and cost of capital, firm multiples should differ only if ROIC and/or growth differs between the firms. This is evident from the modified key value driver formula¹⁶³:

¹⁶² The marginal tax rate is used instead of the effective tax rate, as interest expenses reduces taxes at the margin ¹⁶³ Koller et al (2005)

Equation 7: Adjusted key value driver formula

$$\frac{\text{EV}}{\text{EBIT}} = \frac{(1 - T_{\text{C}})^* (1 - \frac{g}{\text{ROIC}})}{\text{WACC} - g}$$

Note: EV = enterprise value; EBIT = earnings before interest taxes; T_c = marginal tax rate; g = growth rate; ROIC = return on invested capital; WACC = weighted average cost of capital

Source: Koller et al (2005), Own creation

Hence peers should have the same ROIC and growth characteristics as the division being valued. This thesis will employ a framework for selecting peers based on the degree of similarity between products and geographical markets. It is in turn assumed that these peers will be in direct competition as they are addressing the same customers, which in a competitive market should even out ROIC and growth levels. Besides the product and geographical dimension, each peer is also evaluated in terms of its ability to maintain a competitive advantage compared to its competitors (Appendix 28).

6.1.2. CORPORATE OVERHEAD

Corporate overhead is not detailed; however it represents costs associated with certain group functions that are necessary in a conglomerate structure. In turn it is assumed that these functions will be necessary in the future. The corporate overhead for 2009 is therefore capitalized assuming a steady state growth rate of 3% and a group WACC¹⁶⁴ (Appendix 21).

6.1.3. TREASURY SHARES

Based on interim report Q2 2010, NKT Holding holds 78,000 treasury shares. Treasury shares are subtracted from shares outstanding to obtain diluted shares outstanding, which is used to determine price per share. Diluted shares outstanding are in turn set equal to 23,659,979.

6.1.4. OPTIONS

Based on interim report Q2 2010, the number of outstanding share based options equal 514,725. The options differ in terms of expiration, and may over a three-year period only be exercised in March. In case of delayed exercise, the exercise price increases by 8% a year. Dividends are subtracted from the exercise price, thus it may be ignored in the valuation. Based on a VIX level of 21.74%, a share price equal to the estimated share price¹⁶⁵, and a risk-free rate equal to 3.5%, the value of the options can be determined using the BlackScholes option pricing formula. The value is set equal to DKKm 56.3 (Appendix 22).

6.1.5. MINORITY INTEREST

The value of minority interest has to be subtracted from EV in order to arrive at price per share. By Q2 2010, minority interest equaled DKKm 23. The information disclosed in regard to minority interest is limited, thus it is assumed that book value reflects fair value.

¹⁶⁴ Group WACC is approximated by taking the weighted average of divisional WACCs, where the weight is based on own DCF EV estimates

¹⁶⁵ To maintain consistency, the price used in valuing the options is set equal to the estimated share price of DKK 381. The estimation requires an iterative process due to a circular reasoning in the valuation

6.2. NKT CABLES

6.2.1. DCF

Based on the peer group median D/E ratio of 0.65x, NIBD at NKT Cables is set equal to DKKm 1,930. Hence WACC is set equal to 9.1%. Combined with the forecast for FCFF, this equals an EV for NKT Cables of DKKm 4,909 (Appendix 23).

6.2.2. MULTIPLES

6.2.2.1. Peer group selection

The peers chosen include Nexans, Prysmian, Draka and General Cables - all serving both the energy and industrial cable segments with a strong emphasis on the HV&SM segment. Nexans are currently trading at somewhat lower multiples, which could be attributed to the execution risk associated with its current restructuring plan¹⁶⁶. However, as also NKT Cables is in the process of re-focusing its product mix, it is decided to include Nexans.

6.2.2.2. Choice of multiple

Based on analysts' consensus estimates of sales, EBITDA, and EBIT, the median multiples can be determined. By multiplying the median multiples with the forecasted sales, EBITDA, and EBIT for NKT Cables, the implied EV medians are then obtained. Note that multiples should be based on forward looking estimates, as we are valuing future cash flows. In the case of NKT Cables it is obvious that the use of 2009 multiples would underestimate EV compared to multiples for 2010 and 2011. Despite higher uncertainty, the multiple for 2011 will be used as 2010 figures for NKT Cables will be influenced by restructuring. Furthermore, EV/EBIT is chosen in order to reduce restrictions on the comparability of margins¹⁶⁷.

Company	EV		EV/Sales		E	V/EBITD/	4		EV/EBIT	
NKT Cables	DKKm	2009A	2010E	2011E	2009A	2010E	2011E	2009A	2010E	2011E
Nexans	10,924	0.4x	0.3x	0.3x	4.2x	4.5x	3.7x	6.4x	7.5x	5.7x
Prysmian	21,638	0.8x	0.7x	0.7x	6.0x	7.5x	6.5x	7.1x	9.4x	7.8x
Draka	6,151	0.4x	0.4x	0.4x	10.7x	5.6x	5.1x	58.1x	9.8x	8.3x
General Cable	10,510	0.4x	0.4x	0.4x	5.1x	5.7x	4.9x	7.1x	8.1x	6.9x
Median	10,717	0.4x	0.4x	0.4x	5.6x	5.7x	5.0x	7.1x	8.8x	7.3x
Average	12,306	0.5x	0.5x	0.4x	6.5x	5.8x	5.1x	19.7x	8.7x	7.2x
			Sales			EBITDA			EBIT	
NKT Cables		6,383	7,629	8,747	373	586	771	197	384	542
Implied EV Median		2,651	2,982	3,268	2,081	3,323	3,857	1,394	3,365	3,976

Figure 56: Multiples valuation of NKT Cables

Source: FactSet, Own creation

6.2.2.3. Valuation using multiples

The EV range given by the multiples is DKKm 1,394-3,976. Based on forward-looking multiples only, the range is DKKm 2,982-3,976. Using the forecast for 2011 of EV/EBIT, EV for NKT Cables is equal to DKKm 3,976.

¹⁶⁶ Deutsche Bank (2010)

¹⁶⁷ Koller et al (2005)

6.3. NILFISK-ADVANCE

6.3.1. DCF

Based on the peer group median D/E ratio of 0.43x, NIBD at Nilfisk-Advance is set equal to DKKm 1,610. Hence WACC is set equal to 7.5%. Combined with the forecast for FCFF, this equals an EV for Nilfisk-Advance of DKKm 5,354 (Appendix 24).

6.3.2. MULTIPLES

6.3.2.1. Peer group selection

The primary competitor to Nilfisk-Advance is Tennant, as it also targets the professional cleaning segment. The main difference is that Tennant is well positioned in North America, whereas Nilfisk-Advance holds a strong position in Europe. In addition to Tennant, Interpump Group and Briggs & Stratton is chosen, as they both show a strong presence in the market for high pressure cleaners. Whereas Briggs & Stratton show a strong presence in North America, Interpump is mainly present in Europe and Asia. These peers in turn comprise tier 1.

In addition a tier 2 peer group has been identified, which mostly is comprised of firms within related industries such as lawn mowing and snow removal primarily focused on the household segment. These peers trade at lower multiples compared to the tier 1 group, which suggest that ROIC and growth opportunities are superior within the professional cleaning segment. This could be attributed to the increased professionalization of the cleaning industry, which requires higher-value added products.

6.3.2.2. Choice of multiple

The multiple chosen for Nilfisk-Advance is EV/EBIT for 2010E. However, EBIT for 2010 and 2011 is adjusted for non-recurring restructuring costs of DKKm 75 and DKKm 10, respectively.

Company	EV		EV/Sales		E	V/EBITD	4		ev/ebit	
Nilfisk-Advance	DKKm	2009A	2010E	2011E	2009A	2010E	2011E	2009A	2010E	2011E
Tennant	3,923	1.2x	1.1x	1.0x	15.8x	11.5x	9.6x	32.6x	18.3x	13.6x
Interpump	4,607	1.8x	1.6x	1.4x	14.3x	9.4x	7.7x	23.5x	13.0x	9.8x
Briggs & Stratton	6,577	0.6x	0.6x	0.6x	8.2x	7.1x	6.8x	15.6x	11.7x	10.6x
Median	4,607	1.2x	1.1x	1.0x	14.3x	9.4x	7.7x	23.5x	13.0x	10.6x
Average	5,036	1.2x	1.1x	1.0x	12.8x	9.3x	8.0x	23.9x	14.3x	11.4x
			Sales			EBITDA			EBIT	
Nilfisk-Advance		5,138	5,725	6,195	469	669	685	293	475	474
Implied EV Median		6,035	6,111	6,085	6,728	6,274	5,277	6,877	6,180	5,026

Figure 57: Multiples valuation of Nilfisk-Advance

Source: FactSet, Own creation

6.3.2.3. Valuation using multiples

The EV range given by the multiples is DKKm 5,026-6,877. However based on forward-looking multiples only, the range is only DKKm 5,026-6,274. Using the forecast for 2010 of EV/EBIT, EV for Nilfisk-Advance is equal to DKKm 6,180.

6.4. NKT PHOTONICS

6.4.1. DCF

Based on the peer group median D/E ratio of 0.30x, NIBD at Photonics Group is set equal to DKKm 12. Hence WACC is set equal to 9.8%. Combined with the forecast for FCFF, this equals an EV for Photonics Group of DKKm 53 (Appendix 25).

6.4.2. MULTIPLES

6.4.2.1. Peer group selection

The peer group selected is comprised of the industry leader within fiber lasers IPG Photonics, the leaders within high-tech lasers Newport and Coherent, as well as the fiber laser producer Jenoptik. These firms are in particular in direct competition with NKT Photonics. Note that IPG Photonics is enjoying impressive multiples thanks to its established position within the industry.

Trumpf (privately owned) and Rofin Sinar have been excluded, since they both have a strong focus on the industrial laser market. In the same manner, Keopsys (privately owned) and JDS Uniphase are left out, as they are focused on niches not directly related to the Photonics Group.

6.4.2.2. Choice of multiple

The fiber laser market is a young industry in which the products are only just beginning to gain acceptance as a substitute to the traditional industrial and high-tech lasers. Hence small players like Photonics Group have negative EBITDA and EBIT. Assuming that Photonics Group will penetrate the market in the years to come, it would be acceptable to use EV/Sales instead.

Company	EV		EV/Sales		E	V/EBITD/	4		ev/ebit	
Photonics Group	DKKm	2009A	2010E	2011E	2009A	2010E	2011E	2009A	2010E	2011E
IPG Photonics	5,228	5.0x	3.5x	3.0x	36.5x	12.3x	9.7x	92.9x	17.0x	13.1x
New port	2,441	1.2x	0.9x	0.9x	46.2x	6.4x	5.4x	-56.0x	9.6x	7.7x
Coherent	3,921	1.6x	1.1x	1.0x	56.0x	6.4x	5.4x	-49.4x	8.8x	7.1x
Jenoptik	3,117	0.9x	0.8x	0.8x	10.8x	8.2x	6.6x	38.0x	19.0x	12.7x
Median	3,519	1.4x	1.0x	0.9x	41.4x	7.3x	6.0x	-5.7x	13.3x	10.2x
Average	3,677	2.2x	1.6x	1.4x	37.4x	8.3x	6.7x	6.4x	13.6x	10.1x
			Sales			EBITDA			EBIT	
Photonics Group		160	192	225	-31	-25	-18	-46	-41	-36
Implied EV Median		223	197	213	-1,282	-181	-110	262	-547	-367

Figure 58: Multiples valuation of Photonics Group

Source: FactSet, Own creation

6.4.2.3. Valuation using multiples

The EV range given by the EV/Sales multiples is only DKKm 197-223, which gives the estimate some degree of confidence. Using the forecast for 2010 of EV/Sales, EV for Photonics Group is equal to DKKm 197.

6.5. NKT FLEXIBLES

6.5.1. DCF

Using the peer group median D/E ratio of 0.15x, NIBD at NKT Flexibles is set equal to DKKm 200. Hence WACC is set equal to 8.6%. Combined with the forecast for FCFF, this equals an EV for NKT Flexibles of DKKm 1,535 after adjusting for ownership (Appendix 26).

6.5.2. MULTIPLES

6.5.2.1. Peer group selection

Due to the high degree of consolidation within the market for flexible pipes, Technip and Wellstream are the only competitors. Technip is the market leader, but customer's attention on stimulating competition in the market has benefited both Wellstream and NKT Flexibles. Whereas Wellstream and NKT Flexibles are pure play business, Technip covers the entire SURF segment, which might explain its lower multiples. On the other hand, it could be argued that Wellstream is better positioned than NKT Flexibles thanks to its two production sites and greater market size. Thus both firms are included. Note that Prysmian is excluded, as it has only just entered the market and therefore is not expected to play a role in the next five years due to high R&D requirements.

6.5.2.2. Choice of multiple

Both actual and forecasted multiples differ somewhat, with multiples for Wellstream and Technip also being significantly different. Since all firms are expected to recover in the same manner during 2010, the EV/EBIT for 2010 is considered appropriate.

Company	EV		EV/Sales		E	V/EBITD/	4		EV/EBIT	
NKT Flexibles	DKKm	2009A	2010E	2011E	2009A	2010E	2011E	2009A	2010E	2011E
Technip	30,163	0.6x	0.7x	0.6x	5.1x	5.3x	4.8x	6.4x	6.8x	6.3x
Wellstream	4,999	1.4x	1.9x	1.5x	9.5x	13.3x	8.6x	11.3x	17.5x	10.4x
Median	17,581	1.0x	1.3x	1.1x	7.3x	9.3x	6.7x	8.9x	12.1x	8.3x
Average	17,581	1.0x	1.3x	1.1x	7.3x	9.3x	6.7x	8.9x	12.1x	8.3x
			Sales			EBITDA			EBIT	
NKT Flexibles		1,311	1,363	1,502	305	201	222	261	157	171
Implied EV Median		1,359	1,739	1,594	2,234	1,872	1,482	2,310	1,911	1,423

Figure 59: Multiples valuation of NKT Flexibles

Source: FactSet, Own creation

6.5.2.3. Valuation using multiples

The EV range given by the multiples is DKKm 1,359-2,310. Based on forecasted multiples only, the range is DKKm 1,423-1,911. Using the forecast for 2010E of EV/EBIT and NKT Holding's ownership stake of 51%, EV for Photonics Group is equal to DKKm 974.

7. SENSITIVITY ANALYSIS

The accuracy of the estimated share price of the DCF approach depends on the sensitivity of the parameters used in the valuation. It is therefore critical to check the sensitivities of the underlying assumptions in order to determine the degree of uncertainty attached to the result.

Approx. 58% of the EV is captured in the terminal value whereas only 42% is captured in the forecast period. In addition the terminal value estimate is more uncertain as it s cash flows is more distant into the future. Terminal value will therefore be tested in conjunction with WACC, as it affects the PV of all future cash flows.

Terminal value is tested using a range from 1.0-4.5%, as this reflects the expected range considering current inflation levels. WACC is tested using a range of $\pm 3\%$ from base value, as this range incl. the possible values from using all peer group estimates of asset beta plus changing the risk premium to also include estimates from both the book interest rate and the interest coverage method.

The sensitivity of terminal value is very low, which may be attributed to the fact that both EV of the divisions and corporate overhead costs will increase with the growth rate with the combined effect being approx. zero. Note the assumption that RONIC equal WACC implies that growth only affect value in terms of NOPLAT in year 2025, as Noplat₂₀₂₅ = Noplat₂₀₂₄ x (1+g).

However by changing WACC, the value will fluctuate quite significantly. By only using core peers to estimate cost of equity and using a narrower range for the cost of debt, the confidence range can be set equal to $\pm 1\%$ of base value. This in turn yields a confidence range for the share price of NKT Holding of **DKK 307-472**.

				Те	rminal grow	/th			
	DKK	1.0%	1.5%	2.0%	2.5%	3.0%	3.5%	4.0%	4.5%
	-3.0%	772	774	775	775	774	771	764	744
	-2.5%	675	676	677	678	678	677	673	666
	-2.0%	595	596	597	598	598	597	596	592
	-1.5%	527	528	529	530	530	530	529	527
	-1.0%	469	470	471	472	472	472	472	471
ပ္ပ	-0.5%	420	421	421	422	422	423	423	422
¥	Base	379	379	380	381	381	381	381	381
	+0.5%	339	340	340	341	341	342	342	342
	+1.0%	306	306	307	307	308	308	308	308
	+1.5%	276	277	277	278	278	278	279	279
	+2.0%	250	250	251	251	252	252	252	252
	+2.5%	226	227	227	227	228	228	228	228
	+3.0%	205	205	206	206	206	207	207	207

Figure 60: Valuation sensitivity (WACC vs. terminal growth)

Source: Own creation

8. CONCLUSION

The DCF valuation suggest an EV of NKT Holding equal to DKKm 11,638. This is equal to a fair value of **DKK 381** per share. Compared to analyst consensus and the multiples valuation, the DCF valuation is very supportive of NKT Cables.

The multiples valuation indicate an EV of NKT Holding equal to DKKm 11,115, which is equal to a fair value of **DKK 359** per share. This is slightly more bearish in regard to NKT Cables and slightly more bullish in regard to Nilfisk-Advance.

As both methods are considered appropriate, they are given an equal weight. This yields a fair value of NKT Holding on a stand-alone-basis equal to <u>DKK 370</u> per share (Appendix 29). Compared to the actual share price of NKT Holding equal to <u>DKK 222</u> per share on Sep 1, 2010, the value estimated indicates a strong <u>BUY</u> recommendation.

Analyst consensus is based on both DCF and multiples valuation models with the target value ranging between **DKK 225-390** per share and the median equaling DKK 320. The target value range in turn corresponds with the lower range of the sensitivity analysis, however some disagreement among analysts exist.

The difference between the estimated fair value of NKT Holding and the actual share price might be related to the high degree of uncertainty in the financial markets and the fear of a double dip recession. While the valuation is based on the base case forecast by IMF, the actual share price might be trading at a discount due to higher uncertainty.





Note: The DCF range is based on the sensitivity analysis, whereas the Multiples range is based on the forecasted multiples min. and max. values

9. REFERENCES

Books

Bai, Yong, Bai, Qiang (2005).

Subsea pipelines and risers, Elsevier Itd

Lancaster, Geoff, Massingham, Lester (2001). Marketing management, 3rd edition, McGraw-Hill

Dess, Gregory G., Lumpkin, G. T., Eisner, Alan B. (2008). Strategic management: creating competitive advantages, 4th edition, McGraw-Hill

Pepall, Lynne, Richards, Dan, Norman, George (2008). Industrial organization: contemporary theory and empirical applications, 4th edition, Blackwell Publishing

Palepu, Krishna G., Healy, Paul M. (2008). Business analysis & valuation – using financial statements. 4th edition, South-Western

Weston, J. Fred, Mitchell, Mark L., Mulherin, J. Harold (2004). Takeovers, restructuring, and corporate governance, 4th edition, Pearson Education

Brealey, Richard A., Myers, Stewart C., Marcus, Alan J. (2007). Fundamentals of corporate finance, 5th edition, McGraw-Hill

Brealey, Richard A., Myers, Stewart C., Marcus, Alan J. (2008). Principles of corporate finance, 9th edition, McGraw-Hill

Benninga, Simon (2008). Financial Modeling, 3rd edition, MIT Press

Damodaran, Aswath (2006). Damodaran on valuation: Security analysis for investment and corporate finance, 2nd edition, John Wiley & Sons

Damodaran, Aswath (2010). The dark side of valuation: Valuing young, distressed, and complex businesses, 2nd edition, Pearson Education

Petersen, Christian V., Plenborg, Thomas (2008). Regnskabsanalyse for beslutningstagere, 1st edition, Forlaget Thomson

Industry reports

Bank of America – Merrill Lynch (April 13, 2010). Outlook remains positive for flexible pipe

BP (Sep 10, 2009). BP Statistical Review of World Energy

Deutsche Bank (Mar 24, 2010). Cable industry

EIA (Apr 1, 2010). Annual energy outlook 2010 – with projections to 2035

Euroconstruct (November, 2009). Country report

EWEA (Sep 1, 2009). Oceans of opportunity – Harnessing Europe's largest domestic resource

Frost & Sullivan (2007). Underground transmission and distribution

Frost & Sullivan (2008). World industrial cables market

Frost & Sullivan (2009a). Submarine cable networks outlook

IMF (Apr 1, 2010). World economic outlook – rebalancing growth

Quest Offshore (Nov 1, 2008). SURF installation CAPEX

Equity research

Nordea

Deutsche Bank

Websites

www.airbestpractices.com

www.nkt.com

www.contractorsunlimited.co.uk

www.ec.europa.eu/eurostat

www.globalmarinesystems.com

www.investindk.com

www.ipgphotonics.com

www.optoiq.com

www.petrobras.com/br

www.reuters.com

www.rigzone.com

www.unece.org

www.worldbank.org

Articles

Effektivitet (May 1, 2009). Fortsat vækst sikrer fremtiden for Nilfisk-Advance

Euroasiaindustry (2009). Flexing under pressure

Financial times (Jul 12, 2010). Spill costs to cut BP tax bill by USDbn 10

Highbeam business (May 5, 2008). NKT Flexibles lands DKKbn 1.4 framework contract from Petrobras

Papers

Fernandez, Pablo, Campo, Javier d., (May 21, 2010). Market risk premiums used in 2010 by analysts and companies, IESE Business School

Company information

NKT Cables (Jan 1, 2010). Welcome to the world of NKT Cables

NKT Cables. We deliver traction power to the railway

NKT Cables (Mar 1, 2009). VALCAP - Grid monitoring and rating for high voltage cables and overhead lines

NKT Flexibles. Advantages of flexible pipes

NKT Flexibles. A true global partner

NKT Holding (May 11, 2010). A stronger NKT

NKT Holding (Mar 2, 2010) Annual report 2009

NKT Holding (Mar 5, 2009) Annual report 2008

NKT Holding (Mar 5, 2008) Annual report 2007

NKT Holding (Mar 5, 2007) Annual report 2006

NKT Holding (Mar 9, 2006) Annual report 2005

Databases

FactSet & Thomson Financials

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Appendix 1: Outstanding options at NKT Holding

NKT Holding				
Oustanding options	Management	Executives	Others	Total
Granted in 2006	55,000	24,600	16,875	96,475
- 1 January	55,000	24,600	16,875	96,475
- Forfeited	0	0	0	0
Granted in 2007	51,500	8,800	7,750	68,050
- 1 January	51,500	8,800	10,350	70,650
- Forfeited	0	0	-2,600	-2,600
Granted in 2008	55,750	7,700	9,050	72,500
- 1 January	55,750	7,700	11,250	74,700
- Forfeited	0	0	-2,200	-2,200
Granted in 2009 (primo)	144,400	30,600	22,700	197,700
- 1 January	144,400	30,600	25,000	200,000
- Forfeited	0	0	-2,300	-2,300
Granted in 2009 (ultimo)	60,400	12,100	7,500	80,000
- 1 January	60,400	12,100	7,500	80,000
- Forfeited	0	0	0	0
Total outstanding	367,050	83,800	63,875	514,725

Source: Company information, Own creation

Appendix 2: Accounting corrections

DKKm	2005A	2006A	2007A	2008A	2009A
EBITDA					
NKT Cables			70.0	-25.0	
Nilfisk-Advance		108.0		-50.0	-152.0
EBIT					
NKT Cables				-50.0	

Source: Company information, Own creation

Appendix 3: Historical and forecasted metal prices



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Company			Sales					EBITDA					EBIT		
DKKm	2005A	2006A	2007A	2008A	2009A	2005A	2006A	2007A	2008A	2009A	2005A	2006A	2007A	2008A	2009A
NKT Cables	3,529	5,268	7,624	7,766	6,383	242	364	649	530	373	175	302	504	372	197
Nexans	31,765	33,106	35,923	35,587	29,999	2,958	3,144	3,405	2,422	2,623	2,191	2,437	2,645	1,602	1,714
Prysmian	n.a.	37,309	38,136	38,329	27,801	n.a.	2,512	3,621	3,346	3,592	n.a.	1,670	3,137	2,824	3,062
Draka	13,999	18,847	20,984	21,079	15,262	6969	981	1,642	1,270	574	301	574	1,250	820	106
General Cable	13,347	20,547	25,871	34,926	24,584	816	1,578	2,429	2,726	2,047	549	1,322	2,033	2,210	1,484
Nilfisk-Advance	5,113	5,439	5,784	5,882	5,138	469	636	634	613	469	334	508	494	441	293
Tennant	3,100	3,358	3,724	3,932	3,341	263	312	384	242	248	190	232	285	114	120
Interp ump	2,471	2,719	3,220	3,163	2,555	518	553	685	631	321	421	489	608	549	196
Husqvarna	22,764	23,265	26,337	25,592	26,962	2,938	3,114	3,953	2,872	2,235	2,284	2,452	2,936	1,952	1,185
Black & Decker	18,418	21,848	24,445	24,813	20,950	2,594	2,848	3,437	3,054	2,446	2,223	2,390	2,970	2,535	1,911
Blount International	2,684	2,733	2,890	3,347	2,817	582	564	547	638	463	508	480	448	510	340
Toro	9,975	10,293	10,522	10,529	8,541	1,283	1,412	1,521	1,383	880	1,046	1,176	1,287	1,114	631
Briggs & Stratton	14,883	14,238	12,091	12,061	11,729	1,597	1,551	917	765	801	1,184	1,118	501	379	421
Deere	116,835	122,839	133,749	158,611	129,030	19,644	20,301	24,031	27,003	16,982	16,075	17,891	21,453	23,886	13,355
Photonics Group	104	104	112	171	160	ş	-25	-18	-30	-31	-29	-39	-32	-46	-46
IPG Photonics	540	803	1,058	1,284	1,042	123	217	318	391	143	<i>LL</i>	166	267	317	56
Newp ort	2,263	2,549	2,496	2,497	2,057	273	328	250	140	53	172	232	143	34	-44
Coherent	2,894	3,278	3,370	3,359	2,444	423	435	292	385	70	221	236	102	206	-79
Jenoptik	3,056	3,615	3,887	4,085	3,529	490	473	460	500	289	159	259	223	287	82
NKT Flexibles	491	884	1,237	1,397	1,311	53	138	269	463	305	25	106	237	428	261
Technip	40,059	51,611	58,765	55,746	48,105	2,545	3,518	2,838	6,321	5,858	1,477	2,326	1,624	5,195	4,708
Wellstream	807	1,318	2,389	3,190	3,457	-46	372	477	813	526	-80	335	430	749	443
Source: FactSet, Own	creation														

Appendix 4: Segment and peer group historical financials (cont'd)

Company		Inve	sted Capi	tal				NWC				PP&I	≣ & Intanci	bles	
DKKm	2005A	2006A	2007A	2008A	2009A	2005A	2006A	2007A	2008A	2009A	2005A	2006A	2007A	2008A	2009A
NKT Cables	906	1,243	2,220	2,442	3,313	n.a.	n.a.	1,055	877	1,089	n.a.	n.a.	1,165	1,565	2,224
Nexans	10,581	15,484	14,061	13,375	13,822	5,961	7,720	11,848	7,928	10,909	4,620	7,764	2,213	5,447	2,913
Prysmian	n.a.	8,107	8,885	8,010	8,785	n.a.	4,110	5,311	5,283	6,036	n.a.	3,997	3,574	2,727	2,750
Draka	6,764	6,812	7,230	7,328	6,217	1,816	1,285	2,173	2,550	1,575	4,948	5,527	5,057	4,779	4,642
General Cable	3,771	4,846	9,619	10,329	9,492	2,122	4,143	4,702	5,946	7,179	1,649	703	4,917	4,383	2,312
Nilfisk-Advance	2,414	2,369	2,511	2,829	2,580	n.a.	n.a.	1,090	1,125	852	n.a.	n.a.	1,421	1,704	1,728
Tennant	873	1,055	1,255	1,547	1,124	688	788	808	803	559	185	266	448	744	564
Interp ump	2,066	2,129	2,346	2,804	3,146	548	749	721	641	203	1,519	1,380	1,625	2,163	2,943
Husqvarna	8,056	8,340	15,172	16,456	14,321	3,430	4,437	-1,049	4,320	6,025	4,626	3,903	16,221	12,136	8,297
Black & Decker	10,386	13,312	16,779	17,414	16,642	5,327	2,172	3,018	1,709	1,233	5,058	11,140	13,761	15,705	15,409
Blount International	1,399	1,222	1,039	1,254	1,256	629	661	721	717	838	770	561	318	537	418
Toro	2,938	2,869	3,016	2,794	2,023	1,715	1,747	1,813	1,791	1,487	1,223	1,123	1,203	1,003	535
Briggs & Stratton	6,808	7,170	6,705	6,579	5,397	4,297	3,931	2,910	3,616	3,125	2,511	3,239	3,795	2,964	2,272
Deere	130,149	143,004	149,372	149,907	138,568	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Photonics Group	97	109	96	120	122	n.a.	n.a.	16	33	40	n.a.	n.a.	80	87	82
IPG Photonics	428	695	1,045	1,267	1,107	120	648	680	740	808	307	46	366	527	300
Newp ort	2,071	2,304	2,519	1,500	1,380	843	1,126	1,546	1,477	1,326	1,229	1,179	974	23	54
Coherent	2,363	2,380	2,294	2,132	1,861	2,120	3,536	3,010	2,223	2,222	243	-1,156	-716	-90	-361
Jenoptik	4,820	4,642	3,360	3,447	2,973	646	1,607	760	370	811	4,175	3,036	2,600	3,077	2,162
NKT Flexibles	313	279	413	556	780	n.a.	n.a.	83	139	250	n.a.	n.a.	330	417	530
Technip	9,535	6,372	3,533	6,176	6,729	826	-149	-2,457	-842	-916	8,709	6,521	5,989	7,018	7,645
Wellstream	736	1,018	1,338	2,038	2,118	-57	39	524	812	1,086	793	979	814	1,226	1,032
Source: EactSot Own	roation														

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Company		Sa	les growt	ų			EBI	rDA marg	i			Ξ	BIT margi		
DKKm	2005A	2006A	2007A	2008A	2009A	2005A	2006A	2007A	2008A	2009A	2005A	2006A	2007A	2008A	2009A
NKT Cables	n.a.	49.3%	44.7%	1.9%	-17.8%	6.9%	6.9%	8.5%	6.8%	5.8%	5.0%	5.7%	6.6%	4.8%	3.1%
Nexans	n.a.	4.2%	8.5%	-0.9%	-15.7%	9.3%	9.5%	9.5%	6.8%	8.7%	6.9%	7.4%	7.4%	4.5%	5.7%
Prysmian	n.a.	n.a.	2.2%	0.5%	-27.5%	n.a.	6.7%	9.5%	8.7%	12.9%	n.a.	4.5%	8.2%	7.4%	11.0%
Draka	n.a.	34.6%	11.3%	0.5%	-27.6%	5.0%	5.2%	7.8%	6.0%	3.8%	2.2%	3.0%	6.0%	3.9%	0.7%
General Cable	n.a.	53.9%	25.9%	35.0%	-29.6%	6.1%	7.7%	9.4%	7.8%	8.3%	4.1%	6.4%	7.9%	6.3%	6.0%
Nilfisk-Advance	n.a.	6.4%	6.3%	1.7%	-12.6%	9.2%	11.7%	11.0%	10.4%	9.1%	6.5%	9.3%	8.5%	7.5%	5.7%
Tennant	n.a.	8.3%	10.9%	5.6%	-15.0%	8.5%	9.3%	10.3%	6.2%	7.4%	6.1%	6.9%	7.6%	2.9%	3.6%
Interp ump	n.a.	10.0%	18.4%	-1.8%	-19.2%	20.9%	20.3%	21.3%	20.0%	12.6%	17.0%	18.0%	18.9%	17.4%	7.7%
Husqvarna	n.a.	2.2%	13.2%	-2.8%	5.4%	12.9%	13.4%	15.0%	11.2%	8.3%	10.0%	10.5%	11.1%	7.6%	4.4%
Black & Decker	n.a.	18.6%	11.9%	1.5%	-15.6%	14.1%	13.0%	14.1%	12.3%	11.7%	12.1%	10.9%	12.1%	10.2%	9.1%
Blount International	n.a.	1.8%	5.8%	15.8%	-15.8%	21.7%	20.6%	18.9%	19.1%	16.4%	18.9%	17.5%	15.5%	15.2%	12.1%
Toro	n.a.	3.2%	2.2%	0.1%	-18.9%	12.9%	13.7%	14.5%	13.1%	10.3%	10.5%	11.4%	12.2%	10.6%	7.4%
Briggs & Stratton	n.a.	-4.3%	-15.1%	-0.3%	-2.8%	10.7%	10.9%	7.6%	6.3%	6.8%	8.0%	7.9%	4.1%	3.1%	3.6%
Deere	n.a.	5.1%	8.9%	18.6%	-18.7%	16.8%	16.5%	18.0%	17.0%	13.2%	13.8%	14.6%	16.0%	15.1%	10.4%
Photonics Group	n.a.	0.0%	7.7%	52.7%	-6.4%	-7.7%	-24.0%	-16.1%	-17.5%	-19.4%	-27.9%	-37.5%	-28.6%	-26.9%	-28.8%
IPG Photonics	n.a.	48.6%	31.7%	21.4%	-18.9%	22.7%	27.0%	30.1%	30.4%	13.7%	14.3%	20.7%	25.2%	24.7%	5.4%
Newport	n.a.	12.6%	-2.1%	0.0%	-17.6%	12.0%	12.9%	10.0%	5.6%	2.6%	7.6%	9.1%	5.7%	1.4%	-2.1%
Coherent	n.a.	13.2%	2.8%	-0.3%	-27.3%	14.6%	13.3%	8.7%	11.5%	2.9%	7.6%	7.2%	3.0%	6.1%	-3.2%
Jenoptik	n.a.	18.3%	7.5%	5.1%	-13.6%	16.0%	13.1%	11.8%	12.2%	8.2%	5.2%	7.2%	5.7%	7.0%	2.3%
NKT Flexibles	n.a.	80.0%	39.9%	12.9%	-6.2%	10.8%	15.6%	21.7%	33.1%	23.3%	5.1%	12.0%	19.2%	30.6%	19.9%
Technip	n.a.	28.8%	13.9%	-5.1%	-13.7%	6.4%	6.8%	4.8%	11.3%	12.2%	3.7%	4.5%	2.8%	9.3%	9.8%
Wellstream	n.a.	63.4%	81.2%	33.5%	8.4%	-5.7%	28.3%	20.0%	25.5%	15.2%	-9.9%	25.4%	18.0%	23.5%	12.8%
Source: FactSet, Own	creation														

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Appendix 4: So

Company		Pre-tax	K ROIC		Sal	es / Inves	ted Capit	al		Sales /	NWC		Sales	s / PP&E 8	k Intangik	oles
DKKm	2006A	2007A	2008A	2009A	2006A	2007A	2008A	2009A	2006A	2007A	2008A	2009A	2006A	2007A	2008A	2009A
NKT Cables	28.1%	29.1%	16.0%	6.8%	4.90	4.40	3.33	2.22	n.a.	n.a.	8.04	6.49	n.a.	n.a.	5.69	3.37
Nexans	18.7%	17.9%	11.7%	12.6%	2.54	2.43	2.59	2.21	4.84	3.67	3.60	3.19	5.35	7.20	9.29	7.18
Prysmian	41.2%	36.9%	33.4%	36.5%	n.a.	4.49	4.54	3.31	n.a.	8.10	7.24	4.91	n.a.	10.07	12.17	10.15
Draka	8.5%	17.8%	11.3%	1.6%	2.78	2.99	2.90	2.25	12.15	12.14	8.93	7.40	3.60	3.97	4.29	3.24
General Cable	30.7%	28.1%	22.2%	15.0%	4.77	3.58	3.50	2.48	6.56	5.85	6.56	3.75	17.47	9.21	7.51	7.34
Nilfisk-Advance	21.2%	20.2%	16.5%	10.8%	2.27	2.37	2.20	1.90	n.a.	n.a.	5.31	5.20	n.a.	n.a.	3.76	2.99
Tennant	24.1%	24.6%	8.1%	9.0%	3.48	3.22	2.81	2.50	4.55	4.67	4.88	4.90	14.88	10.43	6.60	5.11
Interpump	23.3%	27.2%	21.3%	6.6%	1.30	1.44	1.23	0.86	4.19	4.38	4.64	6.05	1.88	2.14	1.67	1.00
Husqvarna	29.9%	25.0%	12.3%	7.7%	2.84	2.24	1.62	1.75	5.91	15.55	15.65	5.21	5.46	2.62	1.80	2.64
Black & Decker	20.2%	19.7%	14.8%	11.2%	1.84	1.62	1.45	1.23	5.83	9.42	10.50	14.24	2.70	1.96	1.68	1.35
Blount International	36.6%	39.6%	44.5%	27.1%	2.09	2.56	2.92	2.24	4.24	4.18	4.65	3.62	4.11	6.58	7.83	5.90
Toro	40.5%	43.7%	38.3%	26.2%	3.54	3.58	3.62	3.55	5.95	5.91	5.84	5.21	8.78	9.05	9.55	11.10
Briggs & Stratton	16.0%	7.2%	5.7%	7.0%	2.04	1.74	1.82	1.96	3.46	3.54	3.70	3.48	4.95	3.44	3.57	4.48
Deere	13.1%	14.7%	16.0%	9.3%	0.90	0.91	1.06	0.89	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Photonics Group	-37.9%	-31.2%	-42.6%	-38.0%	1.01	1.09	1.58	1.32	n.a.	n.a.	6.98	4.38	n.a.	n.a.	2.05	1.89
IPG Photonics	29.6%	30.7%	27.4%	4.7%	1.43	1.22	1.11	0.88	2.09	1.59	1.81	1.35	4.54	5.13	2.88	2.52
Newport	10.6%	5.9%	1.7%	-3.0%	1.17	1.03	1.24	1.43	2.59	1.87	1.65	1.47	2.12	2.32	5.01	n.m.
Coherent	10.0%	4.3%	9.3%	-4.0%	1.38	1.44	1.52	1.22	1.16	1.03	1.28	1.10	n.m.	n.m.	n.m.	n.m.
Jenoptik	5.5%	5.6%	8.4%	2.6%	0.76	0.97	1.20	1.10	3.21	3.28	7.23	5.98	1.00	1.38	1.44	1.35
NKT Flexibles	35.8%	68.5%	88.3%	39.1%	2.99	3.58	2.88	1.96	n.a.	n.a.	12.59	6.74	n.a.	n.a.	3.74	2.77
Technip	29.2%	32.8%	107.0%	73.0%	6.49	11.87	11.48	7.46	152.57	-45.10	-33.80	-54.74	6.78	9.39	8.57	6.56
Wellstream	38.1%	36.5%	44.4%	21.3%	1.50	2.03	1.89	1.66	-147.44	8.48	4.77	3.64	1.49	2.66	3.13	3.06
Source: EastSot Out	oution of the second															

Appendix 5: Breakdown of sales

NKT Cables					
Sales split in %	2005A	2006A	2007A	2008A	2009A
Customers	100%	100%	100%	100%	100%
Wholesalers	40%	41%	41%	37%	36%
Industry	20%	20%	20%	21%	36%
Utilities	40%	39%	39%	42%	28%
Markets	100%	100%	100%	100%	100%
Denmark	20%	17%	13%	12%	11%
Germany	27%	27%	24%	26%	25%
Eastern Europe	27%	23%	28%	27%	22%
Asia	10%	10%	8%	10%	15%
Other	16%	23%	27%	25%	27%

Nilfisk-Advance					
Sales split in %	2005A	2006A	2007A	2008A	2009A
Products	100%	100%	100%	100%	100%
Floor care equipment	37%	39%	38%	38%	39%
Vacuum cleaners	27%	28%	27%	26%	25%
High pressure cleaners	18%	17%	18%	18%	18%
Service contracts and spare parts	18%	16%	17%	18%	18%
Service	7%	8%	7%	7%	8%
Other sales	11%	8%	10%	11%	10%
Markets	100%	100%	100%	100%	100%
Europe	65%	66%	67%	65%	65%
USA	28%	26%	23%	23%	25%
Rest of world	7%	8%	10%	12%	10%

Source: Company information, Own creation



Appendix 6: Growth in sales



Appendix 7: EBIT margins

Source: FactSet, Own creation



Appendix 8: EBITDA margins



Appendix 9: Turnover of invested capital



Appendix 10: Turnover of NWC



Appendix 11: Turnover of PP&E & Intangibles

Appendix 12: Forecast drivers

	Line item	Forecast driver	Forecast ratio
		> Price / Mix & Volume	> YOY growth
	> Sales	Structure & FX	> YOY growth
	> COGS	> Sales	> COGS / Sales
Ţ	≻ G&A	> Inflation	➢ YOY growth
P&	≻ S&M	> Sales	≻ SG&S / Sales
	≻ R&D	> Sales	≻ R&D / Sales
	> Depreciation	➢ PP&E & Intangibles	➢ Depreciation / PP&E & Intangibles
	> Impairment	➢ set equal to zero	➢ set equal to zero
et	> NWC	≻ Sales	> NWC / Sales
ance she	➢ PP&E & Intangibles	≻ Sales	➢ PP&E & Intangibles / Sales
Bal	> Invested Capital	> NWC and PP&E & Intangibles	> see above

Source: Own creation

Appendix 13: Sales drivers at NKT Cables

Industry intelligence	Sales drivers	Products
	 Renovation Upgrade / Substitution	> High voltage and submarine cables
≻ EWEA, AWEA, GWEC, EIA	> Interconnections> Renewable energy	> Medium voltage cables
> BTC	> New building and renovation	> Low voltage cables
> Chinese Ministry of Railways	High speed infrastructure projects	> Railway catenary wires
> Deutsche Bank	➢ Global car production	> Automotive cables
> IMF	> Economic indicators	> Other

Source: Own creation

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DKKm	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Sales	7,629	8,747	9,448	10,016	10,600	11,198	11,780	12,336	12,860	13,373	13,870	14,347	14,800	15,257	15,714
- Sales ex metals	5,604	6,426	6,941	7,358	7,787	8,227	8,654	9,063	9,448	9,824	10,189	10,540	10,873	11,208	11,544
- Metal effect	2,024	2,321	2,507	2,658	2,813	2,971	3,126	3,273	3,412	3,548	3,680	3,807	3,927	4,048	4,170
COGS	5,573	6,326	6,811	7,220	7,642	8,075	8,498	8,904	9,286	9,661	10,023	10,374	10,708	11,043	11,379
- COGS ex metals	3,549	4,005	4,304	4,562	4,829	5,104	5,372	5,630	5,874	6,113	6,342	6,567	6,781	6,994	7,209
- Metal effect	2,024	2,321	2,507	2,658	2,813	2,971	3,126	3,273	3,412	3,548	3,680	3,807	3,927	4,048	4,170
Gross Profit	2,056	2,421	2,637	2,796	2,959	3,123	3,282	3,433	3,574	3,711	3,847	3,973	4,092	4,214	4,335
G&A	473	494	514	531	548	565	582	599	617	636	655	675	695	716	737
S&M	650	745	805	854	903	954	1,004	1,051	1,096	1,140	1,182	1,223	1,261	1,300	1,339
R&D	347	411	451	486	518	551	584	616	647	678	708	738	767	796	825
EBITDA	586	771	867	926	989	1,052	1,112	1,166	1,213	1,258	1,302	1,338	1,370	1,402	1,433
Depreciation	202	229	248	263	280	298	317	335	354	374	393	405	415	426	436
EBITA	384	542	619	662	209	754	795	831	860	884	606	933	954	976	997
Impairment losses on goodw ill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBIT	384	542	619	662	709	754	795	831	860	884	606	933	954	976	997
Source: Own creation															

Sales															
Sales in detail	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Sales split in DKKm	5,604	6,426	6,941	7,358	7,787	8,227	8,654	9,063	9,448	9,824	10,189	10,540	10,873	11,208	11,544
HV&SM	1,644	2,223	2,524	2,717	2,910	3,103	3,292	3,475	3,651	3,817	3,971	4,110	4,234	4,361	4,491
W	1,284	1,389	1,473	1,563	1,658	1,759	1,848	1,923	1,980	2,040	2,101	2,164	2,229	2,296	2,364
۲۸	1,337	1,337	1,377	1,419	1,461	1,505	1,550	1,597	1,645	1,694	1,745	1,797	1,851	1,907	1,964
RW	766	869	940	1,015	1,093	1,176	1,260	1,343	1,425	1,504	1,580	1,652	1,718	1,779	1,832
AUTO	187	209	216	222	229	236	243	250	258	265	273	282	290	299	308
Other	387	398	410	423	435	448	462	476	490	505	520	535	551	568	585
Sales yoy in %	21%	15%	8%	6%	6%	6%	5%	5%	4%	4%	4%	3%	3%	3%	3%
Total	20%	14%	8%	%9	%9	%9	5%	5%	4%	4%	4%	3%	3%	3%	3%
- Price	2%	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- Volume	4%	4%	3%	3%	3%	3%	2%	2%	1%	1%	1%	%0	%0	%0	%0
- Structure	12%	8%	2%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- FX	1%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
Sales split in %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
HV&SM	29%	35%	36%	37%	37%	38%	38%	38%	39%	39%	39%	39%	39%	39%	39%
W	23%	22%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	20%	20%	20%
۲۸	24%	21%	20%	19%	19%	18%	18%	18%	17%	17%	17%	17%	17%	17%	17%
RW	14%	14%	14%	14%	14%	14%	15%	15%	15%	15%	16%	16%	16%	16%	16%
AUTO	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Other	7%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Source: Own creation															

Appendix 14: Forecast for NKT Cables (cont'd)

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Sales															
Sales in detail	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Sales yoy in %															
HV &SM	47%	35%	14%	8%	7%	7%	6%	6%	5%	5%	4%	4%	3%	3%	3%
- Price	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- Volume	5%	5%	5%	5%	4%	4%	3%	3%	2%	2%	1%	1%	%0	%0	%0
- Structure	35%	25%	5%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- FX	1%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
W	20%	8%	6%	6%	6%	%9	5%	4%	3%	3%	3%	3%	3%	3%	3%
- Price	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- Volume	10%	5%	3%	3%	3%	3%	2%	1%	%0	%0	%0	%0	%0	%0	%0
- Structure	5%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- FX	1%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
LV	-4%	%0	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- Price	%0	%0	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- Volume	-5%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- Structure	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- FX	1%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
RW	37%	14%	8%	8%	8%	8%	7%	7%	6%	6%	5%	5%	4%	4%	3%
- Price	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- Volume	10%	5%	5%	5%	5%	4%	4%	4%	3%	3%	2%	2%	1%	1%	%0
- Structure	20%	5%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- FX	1%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
AUTO	34%	12%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- Price	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- Volume	30%	10%	1%	1%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- Structure	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- FX	1%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
Other	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- Price	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- Volume	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- Structure	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- FX	1%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
Source: Own creation															

Appendix 14: Forecast for NKT Cables (cont'd)

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Gross profit															
GP in detail	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
GP split in DKK	2,056	2,421	2,637	2,796	2,959	3,123	3,282	3,433	3,574	3,711	3,847	3,973	4,092	4,214	4,335
HV&SM	789	1,067	1,212	1,299	1,385	1,471	1,554	1,633	1,709	1,782	1,850	1,911	1,966	2,023	2,082
W	385	417	439	463	489	517	541	561	576	591	607	623	640	657	674
LV	374	374	386	396	406	417	428	439	451	461	475	487	500	515	530
RW	345	391	423	457	490	524	559	593	627	629	069	721	748	774	797
AUTO	50	57	58	60	62	64	66	68	70	72	74	76	78	81	83
Other	112	115	119	123	126	130	134	138	142	146	151	155	160	165	170
GP yoy in %	25%	18%	6%	6 %	6 %	6 %	5%	5%	4%	4%	4%	3%	3%	3%	3%
HV&SM	47%	35%	14%	7%	7%	%9	6%	5%	5%	4%	4%	3%	3%	3%	3%
W	20%	8%	5%	5%	6%	%9	5%	4%	3%	3%	3%	3%	3%	3%	3%
LV	-4%	%0	3%	3%	3%	3%	3%	3%	3%	2%	3%	3%	3%	3%	3%
RW	37%	14%	8%	8%	7%	%2	7%	6%	6%	5%	5%	4%	4%	3%	3%
AUTO	34%	12%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Other	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
GP split in %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
HV&SM	38%	44%	46%	46%	47%	47%	47%	48%	48%	48%	48%	48%	48%	48%	48%
W	19%	17%	17%	17%	17%	17%	16%	16%	16%	16%	16%	16%	16%	16%	16%
LV	18%	15%	15%	14%	14%	13%	13%	13%	13%	12%	12%	12%	12%	12%	12%
RW	17%	16%	16%	16%	17%	17%	17%	17%	18%	18%	18%	18%	18%	18%	18%
AUTO	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Other	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
GP margin	36.7%	37.7%	38.0%	38.0%	38.0%	38.0%	37.9%	37.9%	37.8%	37.8%	37.8%	37.7%	37.6%	37.6%	37.6%
HV&SM	48%	48%	48%	48%	48%	47%	47%	47%	47%	47%	47%	47%	46%	46%	46%
W	30%	30%	30%	30%	30%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%
LV	28%	28%	28%	28%	28%	28%	28%	28%	27%	27%	27%	27%	27%	27%	27%
RW	45%	45%	45%	45%	45%	45%	44%	44%	44%	44%	44%	44%	44%	44%	43%
AUTO	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
Other	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%

Source: Own creation

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Margins															
DKKm	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Gross profit	2,056	2,421	2,637	2,796	2,959	3,123	3,282	3,433	3,574	3,711	3,847	3,973	4,092	4,214	4,335
- yoy in %	25%	18%	6%	6%	6%	6%	5%	5%	4%	4%	4%	3%	3%	3%	3%
- % of sales	37%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%
G&A	473	494	514	531	548	565	582	599	617	636	655	675	695	716	737
- yoy in %	5%	5%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- % of sales	8%	8%	7%	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
S&M	650	745	805	854	903	954	1,004	1,051	1,096	1,140	1,182	1,223	1,261	1,300	1,339
- yoy in %	21%	15%	8%	6%	6%	6%	5%	5%	4%	4%	4%	3%	3%	3%	3%
- % of sales	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
R&D	347	411	451	486	518	551	584	616	647	678	708	738	767	796	825
- yoy in %	24%	18%	10%	8%	7%	%9	%9	5%	5%	5%	4%	4%	4%	4%	4%
- % of sales	6%	6%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
EBITDA	586	771	867	926	986	1,052	1,112	1,166	1,213	1,258	1,302	1,338	1,370	1,402	1,433
- yoy in %	57%	32%	12%	7%	7%	%9	%9	5%	4%	4%	3%	3%	2%	2%	2%
- % of sales	10%	12%	12%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	12%
Balance sheet															
DKKm	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
NWC	1,289	1,478	1,596	1,692	1,791	1,892	1,990	2,084	2,173	2,260	2,344	2,424	2,501	2,578	2,655
- yoy in %	18%	15%	8%	6%	6%	6%	5%	5%	4%	4%	4%	3%	3%	3%	3%
- % of sales	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%
PP&E & Intangibles	2,522	2,795	2,950	3,061	3,185	3,315	3,444	3,562	3,685	3,812	3,933	4,047	4,154	4,259	4,364
- yoy in %	13%	11%	%9	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	2%
- % of sales	45%	44%	43%	42%	41%	40%	40%	39%	39%	39%	39%	38%	38%	38%	38%
Depreciation	202	229	248	263	280	298	317	335	354	374	393	405	415	426	436
 Depreciation/PP&E & Intangibles 	8%	8%	8%	6%	6%	6%	9%6	9%6	10%	10%	10%	10%	10%	10%	10%
Invested capital	3,811	4,273	4,546	4,753	4,976	5,208	5,435	5,646	5,858	6,071	6,277	6,472	6,654	6,837	7,019
- yoy in %	15%	12%	6%	5%	5%	5%	4%	4%	4%	4%	3%	3%	3%	3%	3%
- % of sales	68%	67%	66%	65%	64%	63%	63%	62%	62%	62%	62%	61%	61%	61%	61%
Source: Own creation															

Appendix 14: Forecast for NKT Cables (cont'd)

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Christian Kolding Andreasen

P&L															
DKKm	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Sales	5,725	6,195	6,508	6,764	7,017	7,257	7,498	7,740	7,980	8,229	8,484	8,738	9,001	9,271	9,549
COGS	3,275	3,621	3,807	3,950	4,091	4,224	4,360	4,497	4,637	4,785	4,938	5,090	5,249	5,417	5,591
Gross profit	2,450	2,574	2,701	2,814	2,926	3,034	3,138	3,243	3,344	3,444	3,546	3,648	3,751	3,854	3,958
G&A	865	891	918	945	974	1,003	1,033	1,064	1,096	1,129	1,163	1,198	1,234	1,271	1,309
S&M	744	811	859	006	940	980	1,020	1,060	1,097	1,131	1,167	1,202	1,238	1,275	1,313
R&D	172	186	195	203	211	218	225	232	239	247	255	262	270	278	286
EBITDA	699	685	729	766	801	833	860	886	911	936	962	987	1,010	1,030	1,050
Depreciation	194	211	223	234	244	254	264	274	284	295	306	316	323	330	337
One-offs	75	10	0	0	0	0	0	0	0	0	0	0	0	0	0
EBITA	400	464	505	532	558	579	596	612	627	641	656	671	688	701	713
Impairment losses on goodw ill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBIT	400	464	505	532	558	579	596	612	627	641	656	671	688	701	713
Sales															
Sales in detail	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Sales yoy in %	11%	8%	5%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- Price	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%	3%	3%
- Volume	4%	4%	3%	2%	2%	1%	1%	1%	1%	%0	%0	%0	%0	%0	%0
- Structure	4%	2%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- FX	1%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0

Appendix 15: Forecast for Nilfisk-Advance

Source: Own creation

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Margins															
DKKm	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Gross profit	2,450	2,574	2,701	2,814	2,926	3,034	3,138	3,243	3,344	3,444	3,546	3,648	3,751	3,854	3,958
- yoy in %	15%	5%	5%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- % of sales	43%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	41%
G&A	865	891	918	945	974	1,003	1,033	1,064	1,096	1,129	1,163	1,198	1,234	1,271	1,309
- yoy in %	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- % of sales	15%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
S&M	744	811	859	006	940	980	1,020	1,060	1,097	1,131	1,167	1,202	1,238	1,275	1,313
- yoy in %	11%	%6	%9	5%	5%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%
- % of sales	13%	13%	13%	13%	13%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
R&D	172	186	195	203	211	218	225	232	239	247	255	262	270	278	286
- yoy in %	11%	8%	5%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- % of sales	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
EBITDA	699	685	729	766	801	833	860	886	911	936	962	987	1,010	1,030	1,050
- yoy in %	43%	2%	%9	5%	5%	4%	3%	3%	3%	3%	3%	3%	2%	2%	2%
- % of sales	12%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Balance sneet															
DKKm	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
NWC	973	1,053	1,106	1,150	1,193	1,234	1,275	1,316	1,357	1,399	1,442	1,486	1,530	1,576	1,623
- yoy in %	14%	8%	5%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- % of sales	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
PP&E & Intangibles	1,918	2,069	2,167	2,246	2,323	2,395	2,467	2,539	2,610	2,683	2,757	2,831	2,907	2,985	3,065
- yoy in %	11%	8%	5%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- % of sales	34%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	32%	32%	32%	32%
Depreciation	194	211	223	234	244	254	264	274	284	295	306	316	323	330	337
 Depreciation/PP&E & Intangibles 	10%	10%	10%	10%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Invested capital	2,891	3,122	3,274	3,396	3,515	3,629	3,742	3,854	3,966	4,081	4,200	4,317	4,437	4,561	4,688
- yoy in %	12%	8%	5%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- % of sales	51%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	49%	49%	49%	49%
Source: Own creation															

Appendix 15: Forecast for Nilfisk-Advance (cont'd)

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P&L															
DKKm	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Sales	192	225	263	306	357	413	468	526	585	646	698	741	778	810	834
COGS	113	126	141	159	180	202	225	253	281	310	337	359	381	401	419
Gross profit	29	66	122	147	177	211	243	274	304	336	362	381	397	409	415
G&A	29	30	32	33	35	36	38	39	40	41	42	44	45	46	48
S&M	31	36	42	47	54	60	66	71	76	81	84	85	86	89	92
R&D	44	51	59	68	77	86	95	104	112	119	125	128	130	130	129
EBITDA	-25	-18	-11	-2	12	28	45	60	17	94	111	125	136	143	147
Depreciation	16	18	19	22	25	28	31	34	37	40	42	44	47	49	50
EBITA	-41	-36	-29	-23	-13	0	14	26	40	55	69	80	06	95	97
Impairment losses on goodw ill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBIT	-41	-36	-29	-23	-13	0	14	26	40	55	69	80	90	95	97
Sales															
Sales in detail	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Sales yoy in %	20%	18%	17%	17%	17%	16%	13%	12%	11%	10%	8%	%9	5%	4%	3%
- Price	4%	5%	6%	7%	7%	6%	5%	5%	5%	5%	4%	3%	3%	3%	3%
- Volume	14%	12%	10%	6%	6%	6%	8%	7%	6%	5%	4%	3%	2%	1%	%0
- Structure	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- FX	1%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0

Appendix 16: Forecast for Photonics Group

Source: Own creation

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Margins															
DKKm	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Gross profit	79	66	122	147	177	211	243	274	304	336	362	381	397	409	415
- yoy in %	31%	26%	23%	20%	20%	19%	16%	12%	11%	10%	8%	5%	4%	3%	2%
- % of sales	41%	44%	47%	48%	50%	51%	52%	52%	52%	52%	52%	52%	51%	51%	50%
G&A	29	30	32	33	35	36	38	39	40	41	42	44	45	46	48
- yoy in %	6%	6%	5%	5%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%
- % of sales	15%	13%	12%	11%	10%	6%	8%	7%	7%	6%	6%	6%	6%	6%	6%
S&M	31	36	42	47	54	60	99	71	76	81	84	85	86	89	92
- yoy in %	14%	18%	17%	13%	13%	12%	6%	8%	7%	6%	4%	2%	%0	4%	3%
- % of sales	16%	16%	16%	16%	15%	15%	14%	14%	13%	13%	12%	12%	11%	11%	11%
R&D	44	51	59	68	77	86	95	104	112	119	125	128	130	130	129
- yoy in %	19%	16%	15%	15%	13%	12%	10%	6%	8%	7%	5%	3%	1%	%0	-1%
- % of sales	23%	23%	22%	22%	22%	21%	20%	20%	19%	19%	18%	17%	17%	16%	16%
EBITDA	-25	-18	-11	-2	12	28	45	60	77	94	111	125	136	143	147
- yoy in %	-20%	-26%	-43%	-85%	-838%	142%	60%	33%	27%	23%	17%	13%	10%	5%	2%
- % of sales	-13%	-8%	-4%	-1%	3%	7%	10%	11%	13%	15%	16%	17%	18%	18%	18%
Balance sheet															
Invested capital in detail	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
NWC	44	50	55	61	71	83	94	105	117	129	140	148	156	162	167
- yoy in %	10%	12%	11%	11%	17%	16%	13%	12%	11%	10%	8%	%9	5%	4%	3%
- % of sales	23%	22%	21%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
PP&E & Intangibles	96	110	126	144	164	186	206	226	246	265	279	296	311	324	334
- yoy in %	17%	15%	14%	14%	14%	13%	11%	10%	9%	8%	6%	6%	5%	4%	3%
- % of sales	50%	49%	48%	47%	46%	45%	44%	43%	42%	41%	40%	40%	40%	40%	40%
Depreciation	16	18	19	22	25	28	31	34	37	40	42	4	47	49	50
 Depreciation / PP&E & Intangibles 	17%	16%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Invested capital	140	160	181	205	236	268	300	331	363	394	419	444	467	486	500
- yoy in %	15%	14%	13%	13%	15%	14%	12%	11%	10%	8%	6%	%9	5%	4%	3%
- % of sales	73%	71%	%69	67%	66%	65%	64%	63%	62%	61%	60%	60%	60%	60%	60%

Appendix 16: Forecast for Photonics Group (cont'd)

Source: Own creation

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			Loroc	10100	1, 100				Loroc	LOPOC	Lococ			10000	
	2010E	ZUTIE	ZUIZE	2013E	2014E		20105		2018E	ZUTSE	ZUZUE	ZUZIE	ZUZZE	ZUZJE	2024E
Sales	1,363	1,502	1,719	1,967	2,210	2,390	2,535	2,690	2,826	2,969	3,088	3,213	3,309	3,409	3,511
COGS	858	939	1,057	1,194	1,339	1,453	1,549	1,654	1,752	1,855	1,946	2,031	2,098	2,168	2,240
Gross profit	504	563	662	773	871	937	986	1,036	1,074	1,113	1,143	1,182	1,211	1,241	1,271
G&A	82	85	87	06	93	96	98	101	104	108	111	114	117	121	125
S&M	109	125	148	175	199	213	221	229	235	238	238	238	242	249	260
R&D	112	132	160	191	214	222	228	229	226	223	216	225	232	239	246
EBITDA	201	222	267	317	365	406	439	477	509	546	578	909	620	632	641
Depreciation	44	51	61	72	85	91	95	100	104	108	111	114	116	119	123
EBITA	157	171	206	245	280	316	344	377	405	438	467	491	504	513	518
Impairment losses on goodw ill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBIT	157	171	206	245	280	316	344	377	405	438	467	491	504	513	518
Sales															
Sales in detail	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Sales yoy in %	4%	10%	14%	14%	12%	8%	6 %	%9	5%	5%	4%	4%	3%	3%	3%
- Price	-2%	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
- Volume	%0	1%	1%	1%	1%	5%	3%	3%	2%	2%	1%	1%	%0	%0	%0
- Structure	5%	7%	10%	10%	8%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
- FX	1%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0

Appendix 17: Forecast for NKT Flexibles

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Gross profit 504 563 662 - yoy in % -12% 17% 17% - % of sales 37% 38% 39% 0.90 in % 37% 38% 38% 0.90 in % 37% 38% 38% 0.90 in % 37% 38% 38% 0.90 in % 3% 3% 3% 0.90 in % 6% 6% 5% 0.90 in % 109 125 148 0.90 in % 21% 14% 19% 0.90 in % 8% 8% 9% 0.90 in % 112 132 160 1.90 in % 18% 9% 9% 0.90 in % 8% 9% 9% 0.90 in % 11% 18% 21% 0.90 in % 9% 9% 9%	773 17% 39% 90 3% 5% 175 18% 9% 191	871 9 13% 13% 39% 39 39% 36 33% 36 33% 36 33% 36 33% 36 33% 36 33% 36 33% 36	37 986	1,036	1 074						
- yoy in % -12% 12% 17% - % of sales 37% 38% 39% - % of sales 37% 38% 39% C&A 82 85 87 C&A 82 85 87 C % of sales 3% 3% 3% - yoy in % 6% 6% 5% S&M 109 125 148 - % of sales 21% 14% 19% S&M 21% 14% 19% - % of sales 8% 8% 9% S&M 112 132 160 P oof sales 18% 18% 21% - % of sales 8% 9% 9% P oof sales 18% 18% 21% - % of sales 8% 9% 9% P of sales 18% 10% 20% P of sales 9% 9% 9% P of sales 9% 9% 9% P of sales 9% 9% 9% P of sales <	17% 39% 90 3% 5% 175 18% 9% 191	13% 8 39% 39 39% 39 33% 33 33% 34 33% 35 33% 36 33% 36 33% 36 33% 36 33% 36 33% 36 33% 36 34% 4				1,113	1,143	1,182	1,211	1,241	1,271
- % of sales 37% 38% 39% - % of sales 82 85 87 - yoy in % 3% 3% 3% 5% - % of sales 6% 6% 5% 5% S&M 109 125 148 9% - % of sales 21% 14% 19% - % of sales 8% 8% 9% 9% - % of sales 112 132 160 - % of sales 118% 18% 21% - % of sales 8% 9% 9% 9% - % of sales 201 222 267 21% - % of sales 201 234% 10% 20%	39% 90 3% 5% 175 18% 9% 191	39% 35 93 3% 3 3%	3% 5%	5%	4%	4%	3%	3%	2%	2%	2%
G&A 82 85 87 - yoy in % 3% 3% 3% 3% - % of sales 6% 6% 5% 5% - % of sales 109 125 148 9% - yoy in % 21% 14% 19% 9% - yoy in % 8% 8% 8% 9% 9% - % of sales 112 132 160 160 160 - % of sales 118% 18% 21% 21% 160 16	90 3% 5% 175 18% 9% 191	93 3% 4%	39% 39%	39%	38%	38%	37%	37%	37%	36%	36%
- yoy in % 3% 3% 3% - % of sales 6% 6% 5% S&M 109 125 148 S&M 21% 14% 19% - w of sales 8% 8% 9% W of sales 112 132 160 - w of sales 118% 18% 21% - w of sales 118% 21% 21% - w of sales 112 132 160 - w of sales 18% 24% 21% - w of sales 201 222 267 - w of sales - yoy in % -34% 10% 20%	3% 5% 175 18% 9% 191	3% 3 4%	96 98	101	104	108	111	114	117	121	125
- % of sales 6% 6% 5% S&M 109 125 148 S&N 21% 14% 19% - yoy in % 8% 8% 9% - % of sales 8% 8% 9% R 112 132 160 - % of sales 118% 18% 21% - yoy in % 8% 9% 9% - % of sales 113 132 160 - % of sales 18% 9% 9% - % of sales 18% 9% 9% - % of sales - % 9% 9% 9% - % of sales - % 9% - % 9% 9% - % of sales - % 9% - % 9% 9% 9% - % of vales - % 9% - % 9% - % 9% 9% 9% - % of vales - % 9% - % 9% - % 9% 9% 9% 9% - % of vales - % 9% - % 9% - % 9% 9% 9% 9% - % of vales - % 9% - % 9% - % 9% 9	5% 175 18% 9% 191	4%	3% 3%	3%	3%	3%	3%	3%	3%	3%	3%
S&M 109 125 148 - yoy in % 21% 14% 19% - w of sales 8% 8% 9% R&D 112 132 160 Poy in % 112 132 160 - yoy in % 18% 9% 9% - yoy in % 201 222 21% - yoy in % -34% 10% 20%	175 18% 9% 191		4%	4%	4%	4%	4%	4%	4%	4%	4%
- yoy in % 21% 14% 19% - % of sales 8% 8% 9% R&D 112 132 160 - yoy in % 118% 18% 9% - % of sales 8% 9% 9% - % of sales 18% 9% 9% - % of sales 8% 9% 9% - % of sales 8% 9% 9% - % of sales 8% 9% 9% - % of sales -30% 201 222 267 - yoy in % -34% 10% 20% 20%	18% 9% 191	199 2	13 221	229	235	238	238	238	242	249	260
% of sales 8% 8% 9% 9% R&D 112 132 160 <th>9% 191</th> <th>14% 7</th> <th>7% 4%</th> <th>4%</th> <th>3%</th> <th>1%</th> <th>%0</th> <th>%0</th> <th>2%</th> <th>3%</th> <th>4%</th>	9% 191	14% 7	7% 4%	4%	3%	1%	%0	%0	2%	3%	4%
R&D 112 132 160 - yoy in % 18% 18% 21% - % of sales 8% 9% 9% BITDA 201 222 267 - yoy in % -34% 10% 20%	191	6 %6	%6 %6	6%	8%	8%	8%	7%	7%	7%	7%
- yoy in % 18% 18% 21% - % of sales 8% 9% 9% BITDA 201 222 267 - yoy in % -34% 10% 20%		214 2	22 228	229	226	223	216	225	232	239	246
- % of sales 8% 9% 9% EBITDA 201 222 267 - yoy in % -34% 10% 20%	19%	12% 4	1% 3%	%0	-1%	-2%	-3%	4%	3%	3%	3%
EBITDA 201 222 267 - yoy in % -34% 10% 20%	10%	10% 5	%6 %6	6%	8%	8%	7%	7%	7%	7%	7%
- yoy in % -34% 10% 20%	317	365 4	06 439	477	509	546	578	909	620	632	641
	19%	15% 11	1% 8%	%6	7%	7%	%9	5%	2%	2%	1%
- % of sales 15% 15% 16%	16%	17% 17	7% 17%	18%	18%	18%	19%	19%	19%	19%	18%
Balance sheet											
Invested capital in detail 2010E 2011E 2012E 2	2013E 20	14E 2015	E 2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
NWC 259 278 309	344	376 3	94 406	420	435	451	466	482	496	511	527
- yoy in % 7% 11%	11%	9% 6	5% 3%	3%	4%	4%	3%	3%	3%	3%	3%
- % of sales 19% 18%	18%	17% 17	7% 16%	16%	15%	15%	15%	15%	15%	15%	15%
PP&E & Intangibles 545 595 674	763	849 9	08 953	1,001	1,040	1,081	1,112	1,144	1,165	1,193	1,229
- yoy in % 9% 13%	13%	11% 7	%9 2%	5%	4%	4%	3%	3%	2%	2%	3%
- % of sales 40% 40% 39%	39%	38% 38	3% 38%	37%	37%	36%	36%	36%	35%	35%	35%
Depreciation 44 51 61	72	85	91 95	100	104	108	111	114	116	119	123
- Depreciation / PP&E & Intangibles 8% 9% 9%	10%	10% 10	10% 10%	10%	10%	10%	10%	10%	10%	10%	10%
Invested capital 804 873 983	1,107	1,224 1,3	02 1,359	1,420	1,475	1,532	1,578	1,626	1,661	1,704	1,755
- yoy in % 9% 13%	13%	11% 6	3% 4%	5%	4%	4%	3%	3%	2%	3%	3%
- % of sales 59% 57%	56%	55% 55	5% 54%	53%	52%	52%	51%	51%	50%	50%	50%

Appendix 17: Forecast for NKT Flexibles (cont'd)

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Summary	NKI Cables	NIITISK-Advance	Photonics Group	NKI FIEXIDIES	NKI HOIGING
Market estimates					
Risk free rate	2.8%	2.8%	2.8%	2.8%	2.8%
Market risk premium	5.0%	5.0%	5.0%	5.0%	5.0%
Capital structure					
Equity w eight	60.4%	69.8%	76.8%	86.9%	-418.7%
Debt w eight	39.6%	30.2%	23.2%	13.1%	518.7%
Beta calculation					
Industry asset beta	1.15	0.85	1.35	1.14	
Equity beta	1.90	1.22	1.75	1.31	
Cost of equity	12.3%	8.9%	11.5%	9.3%	
Debt risk premium	3.0%	3.0%	3.0%	3.0%	
Tax rate	25.0%	25.0%	25.0%	25.0%	
Cost of debt	5.7%	5.7%	5.7%	5.7%	
After tax cost of debt	4.3%	4.3%	4.3%	4.3%	
WACC	9.1%	7.5%	9.8%	8.6%	8.3%

Appendix 18: Cost of capital - WACC

Industry asset beta					
DKKm	P	Equity beta	ሌ	D/E	Asset beta
NKT Cables					
Nexans	10,924	1.69	0.15	0.66	1.02
Prysmian	21,638	1.72	0.23	0.43	1.20
Draka	6,151	1.98	0.21	0.65	1.20
General Cable	10,510	1.87	0.29	0.70	1.10
Median		1.80	0.22	0.65	1.15
Nilfisk-Advance					
Tennant	3,923	1.62	0.32	0.46	1.11
Interpump	4,607	0.59	0.18	0.63	0.36
Husqvarna	22,096	0.96	0.22	0.39	0.69
Black & Decker	59,405	1.29	0.15	0.14	1.13
Blount International	4,228	66.0	0.32	0.55	0.64
Toro	9,801	1.44	0.31	0.14	1.27
Briggs & Stratton	6,577	1.06	0.10	0.31	0.81
Deere	272,410	1.58	0.23	0.85	0.85
Median		1.18	0.23	0.43	0.85
Photonics Group					
IPG Photonics	5,228	1.38	0.23	0.02	1.35
New port	2,441	2.02	0.19	0.30	1.55
Coherent	3,921	0.99	0.18	n.a.	n.a.
Jenoptik	3,117	0.65	0.25	0.66	0.39
Median		1.18	0.21	0.30	1.35
NKT Flexibles					
Technip	30,163	1.37	0.34	0.15	1.19
Wellstream	4,999	1.23	0.29	0.14	1.08
Median		1.30	0.32	0.15	1.14

Appendix 19: Cost of capital - Industry asset beta

Median Source: FactSet, Own creation

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Debt risk
f capital –
20: Cost o
Appendix 2

Cost of debt esimation						
DKKm	NKT Cables	Nilfisk-Advance	Photonics Group	NKT Flexibles	NKT Holding	Group (excl. Flex)
NII (2009A)	-70.60	-83.80	-4.00	n.a.	34.10	-124.30
NIBD (avg. 2008A-09A)	1810.75	1342.25	111.65	-262.25	-785.60	2479.05
Estimated cost of debt - book interest rate method	3.90%	6.24%	3.58%	n.a.	4.34%	5.01%
EBIT (2009A)	197.00	293.00	-46.00	261.00	-11.00	433.00
NII (2009A)	-70.60	-83.80	-4.00	n.a.	34.10	-124.30
Interest coverage ratio	2.79	3.50	-11.50	n.a.	0.32	3.48
Rating	B+	BB+	Ω	n.a.	D	88
Typical default spread	4.50%	3.20%	20.00%	n.a.	20.00%	3.65%
Risk free rate	2.76%	2.76%	2.76%	2.76%	2.76%	2.76%
Estimated cost of debt - interest coverage method	7.26%	5.96%	22.76%	n.a.	22.76%	6.41%
Difference betw een methods	-3.36%	0.28%	-19.18%	n.a.	-18.42%	-1.39%
Estimated avg. risk premium						2.95%

Source: Own creation

Appendix 21: Value of corporate overhead

NKT Holding	
DKK	
Corporate overhead 2009A	-11.0
- Grow th	3.0%
- WACC	8.3%
NPV of corporate overhead	-212.9

Source: Own creation

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JXXC	Outstanding	×	თ	×-ې	Total value (excl. time)	First date	Hurdle	Last date	Xnew	d1	d2	N(d1)	N(d2)	Price	Total value (incl. time)
Granted in 2006	96,475	358	381	23	2,242,709	31-03-10	8%	31-03-11	386	0.156	-0.050	0.562	0.480	33.289	3,211,580
- 1 January	96,475														
- Forfeited	0														
Granted in 2007	68,050	596	381	0	0	31-03-10	8%	31-03-12	695	-1.474	-1.803	0.070	0.036	3.442	234,241
- 1 January	70,650														
- Forfeited	-2,600														
Granted in 2008	72,500	583	381	0	0	31-03-11	8%	31-03-13	680	-0.940	-1.357	0.173	0.087	12.368	896,657
- 1 January	74,700														
- Forfeited	-2,200														
Granted in 2009 (primo)	197,700	155	381	226	44,669,628	31-03-12	8%	31-03-14	181	2.056	1.567	0.980	0.941	225.325	44,546,811
- 1 January	200,000														
- Forfeited	-2,300														
Granted in 2009 (ultimo)	80,000	364	381	16	1,306,122	31-03-13	8%	31-03-15	425	0.398	-0.153	0.655	0.439	93.096	7,447,652
- 1 January	80,000														
- Forfeited	0														
Total outstanding	514,725				48,218,459										56,336,941
Assumptions															
Xnew	exercise price at la	ast expir	ation da	te (inclua	tes hurdle rate)										
Rf per year	2.76%														
Volatility per year	21.74%														
Business days per year	260														

Source: Company information, Own creation

NKT CABLES															
pKKm	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Sales	7,629	8,747	9,448	10,016	10,600	11,198	11,780	12,336	12,860	13,373	13,870	14,347	14,800	15,257	15,714
yoy in %	20.6%	14.7%	8.0%	6.0%	5.8%	5.6%	5.2%	4.7%	4.2%	4.0%	3.7%	3.4%	3.2%	3.1%	3.0%
BITA	384	542	619	662	209	754	795	831	860	884	606	933	954	976	997
margin	5.0%	6.2%	6.6%	6.6%	6.7%	6.7%	6.7%	6.7%	6.7%	6.6%	6.6%	6.5%	6.4%	6.4%	6.3%
Tax on EBITA	96	135	155	166	177	188	199	208	215	221	227	233	239	244	249
% of EBITA	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
VOPLAT	288	406	464	497	531	565	596	623	645	663	681	700	716	732	748
Depreciations	201.8	229.2	247.8	263.3	280.3	298.4	316.9	334.8	353.7	373.6	393.3	404.7	415.4	425.9	436.4
Bross cash flow	490	635	712	760	812	864	913	958	966	1,037	1,075	1,105	1,131	1,158	1,184
Changes in NWC	200.0	188.9	118.5	96.0	98.7	101.0	98.3	94.0	88.5	86.6	84.0	80.6	76.6	77.1	77.3
CAPEX	499.8	502.4	402.5	374.4	404.3	428.7	445.8	452.2	476.7	500.8	514.6	519.0	521.6	531.5	541.1
Bross investments	200	691	521	470	503	530	544	546	565	587	599	600	598	609	618
CFF	-210	-56	191	290	309	334	369	412	433	449	476	505	533	549	566
Time in days (mid-year)	60	299	659	1,019	1,379	1,739	2,099	2,459	2,819	3,179	3,539	3,899	4,259	4,619	4,979
Discount factor	0.99	0.93	0.85	0.78	0.72	0.66	09.0	0.55	0.50	0.46	0.42	0.39	0.36	0.33	0.30
>V of FCFF	-207	-52	163	226	221	219	222	227	219	208	202	196	190	179	169
nvested capital	3,811	4,273	4,546	4,753	4,976	5,208	5,435	5,646	5,858	6,071	6,277	6,472	6,654	6,837	7,019
% of sales	50.0%	48.9%	48.1%	47.5%	46.9%	46.5%	46.1%	45.8%	45.5%	45.4%	45.3%	45.1%	45.0%	44.8%	44.7%
ROIC	8.1%	10.0%	10.5%	10.7%	10.9%	11.1%	11.2%	11.2%	11.2%	11.1%	11.0%	11.0%	10.9%	10.9%	10.8%
JPV of FCFF	2,382														
NPV of terminal value	2,527														
Enterprise value	4,909														
NIBD	1,930														
Market value	2,979														
Cost of capital							erminal v	alue							
Market estimates		ш	Beta calcu	lation		>	/alue drive	Ľ							
Risk free rate	2.8%	-	ndustry as:	set beta	1.15	2	IOPLAT 2025E				270				
Varket risk premium	5.0%	ш	Equity weig	ht	0.60	0	Brow th rate				3.0%				
Debt risk premium	3.0%	ш	3eta equity		1.90	Ľ	SONIC				9.1%				
Tax rate	25.0%					>	VACC				9.1%				
Capital structure		3	NACC		9.1%	-	erminal v	alue			8,446				
Equity w eight	0.60	U	Cost of equ	ity	12.3%										
Debt w eight	0.40	5	Cost of deb	++	4.3%										

Appendix 23: DCF valuation of NKT Cables

Source: Own creation

Christian Kolding Andreasen

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NILFISK-ADVANCE															
DKKm	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Sales	5,725	6,195	6,508	6,764	7,017	7,257	7,498	7,740	7,980	8,229	8,484	8,738	9,001	9,271	9,549
- yoy in %	11.4%	8.2%	5.1%	3.9%	3.7%	3.4%	3.3%	3.2%	3.1%	3.1%	3.1%	3.0%	3.0%	3.0%	3.0%
EBITA	400	464	505	532	558	579	596	612	627	641	656	671	688	701	713
- margin	7.0%	7.5%	7.8%	7.9%	7.9%	8.0%	8.0%	7.9%	7.9%	7.8%	7.7%	7.7%	7.6%	7.6%	7.5%
Tax on EBITA	100	116	126	133	139	145	149	153	157	160	164	168	172	175	178
- % of EBITA	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
NOPLAT	300	348	379	399	418	434	447	459	470	481	492	503	516	525	534
Depreciations	193.7	211.0	223.2	233.6	243.9	253.9	264.0	274.2	284.4	295.1	306.1	315.7	322.7	329.9	337.2
Gross cash flow	494	559	602	633	662	688	711	733	754	776	798	819	838	855	872
Changes in NWC	121.3	79.8	53.3	43.6	42.9	40.9	41.0	41.0	41.0	42.2	43.4	43.3	44.6	45.9	47.3
CAPEX	384	362	321	312	321	326	336	346	355	368	381	390	399	408	417
Gross investments	505	442	375	356	364	367	377	387	396	410	424	433	443	454	464
FCFF	-	117	228	277	298	321	334	346	358	366	374	386	395	402	407
Time in days (mid-year)	60	299	659	1,019	1,379	1,739	2,099	2,459	2,819	3,179	3,539	3,899	4,259	4,619	4,979
Discount factor	0.99	0.94	0.88	0.82	0.76	0.71	0.66	0.61	0.57	0.53	0.49	0.46	0.43	0.40	0.37
PV of FCFF	-11	111	199	226	226	227	219	212	203	193	184	177	168	159	150
Invested capital	2,891	3,122	3,274	3,396	3,515	3,629	3,742	3,854	3,966	4,081	4,200	4,317	4,437	4,561	4,688
- % of sales	50.5%	50.4%	50.3%	50.2%	50.1%	50.0%	49.9%	49.8%	49.7%	49.6%	49.5%	49.4%	49.3%	49.2%	49.1%
ROIC	11.0%	11.6%	11.9%	12.0%	12.1%	12.2%	12.1%	12.1%	12.0%	12.0%	11.9%	11.8%	11.8%	11.7%	11.6%
NPV of FCFF	2,644														
NPV of terminal value	2,710														
Enterprise value	5,354														
- NBD	1,610														
Market value	3,744														
Cost of capital							Ferminal v	/alue							
Market estimates			eta calcula	ation			/alue driv	er							
Risk free rate	2.8%	<u> </u>	idustry ass	et beta	0.85	~	NOPLAT 2026	Ц			551				
Market risk premium	5.0%	ш	quity w eigh	٦t	0.70		Brow th rate	a)			3.0%				
Debt risk premium	3.0%		eta equity		1.22		RONIC				7.5%				
Tax rate	25.0%					_	NACC				7.5%				
Capital structure		>	VACC		7.5%		Ferminal v	/alue			7,354				
Equity w eight	0.70	0	cost of equit	ţ	8.9%										
Debt w eight	0.30	0	ost of debt		4.3%										
Source: Own creation															

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PHOTONICS GROUP															
DKKm	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Sales	192	225	263	306	357	413	468	526	585	646	698	741	778	810	834
- yoy in %	19.7%	17.6%	16.6%	16.6%	16.6%	15.5%	13.4%	12.4%	11.3%	10.3%	8.2%	6.1%	5.1%	4.0%	3.0%
EBITA	-41	-36	-29	-23	-13	0	14	26	40	55	69	80	06	95	97
- margin	-21.4%	-16.0%	-11.2%	-7.6%	-3.6%	0.1%	3.1%	5.0%	6.8%	8.5%	9.8%	10.8%	11.5%	11.7%	11.6%
Tax on EBITA	-10	ၐ	-7	φ	ų	0	4	7	10	14	17	20	22	24	24
- % of EBITA	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
NOPLAT	-31	-27	-22	-17	-10	0	1	20	30	41	51	60	67	71	72
Depreciations	16	18	19	22	25	28	31	34	37	40	42	44	47	49	50
Gross cash flow	-15	ၐ	'n	4	15	28	42	54	67	81	93	105	114	120	122
Changes in NWC	4	9	9	9	10	11	1	12	12	12	11	6	7	9	5
CAPEX	30	32	35	40	45	49	51	54	57	58	57	61	62	61	60
Gross investments	34	38	40	46	55	60	62	99	68	70	67	20	69	67	65
FCFF	-49	-47	43	41	-40	-32	-21	-12	?	10	26	35	45	52	58
Time in days (mid-year)	60	299	659	1,019	1,379	1,739	2,099	2,459	2,819	3,179	3,539	3,899	4,259	4,619	4,979
Discount factor	0.98	0.93	0.84	0.77	0.70	0.64	0.58	0.53	0.48	0.44	0.40	0.36	0.33	0.30	0.27
PV of FCFF	-48	-44	-37	-32	-28	-20	-12	9-	-	4	10	13	15	16	16
Invested capital	140	160	181	205	236	268	300	331	363	394	419	444	467	486	500
- % of sales	73.0%	71.0%	69.0%	67.0%	66.0%	65.0%	64.0%	63.0%	62.0%	61.0%	60.0%	60.0%	60.0%	60.0%	60.0%
ROIC	-23.5%	-18.0%	-13.0%	-9.0%	-4.4%	0.1%	3.8%	6.2%	8.6%	10.9%	12.7%	13.9%	14.8%	14.9%	14.7%
NPV of FCFF	-154														
NPV of terminal value	207														
Enterprise value	53														
- NBD	12														
Market value	41														
Cost of capital							Ferminal v	'alue							
Market estimates			eta calcula	ation			/alue driv	er							
Risk free rate	2.8%	<u> </u>	idustry ass	et beta	1.35	2	JOPLAT 2025	ш			75				
Market risk premium	5.0%	Ш	quity w eigh	ţ	0.77	U	Grow th rate				3.0%				
Debt risk premium	3.0%	8	eta equity		1.75		SONIC				9.8%				
Tax rate	25.0%					>	VACC				9.8%				
Capital structure		>	VACC		9.8%	-	Ferminal v	'alue			758				
Equity w eight	0.77	0	ost of equit	٨	11.5%										
Debt w eight	0.23	0	ost of debt		4.3%										
Source: Own creation															

Flexibles
of NKT
valuation
26: DCF
Appendix :

NKT FLEXIBLES															
DKKm	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Sales	1,363	1,502	1,719	1,967	2,210	2,390	2,535	2,690	2,826	2,969	3,088	3,213	3,309	3,409	3,511
- yoy in %	3.9%	10.2%	14.4%	14.4%	12.4%	8.2%	6.1%	6.1%	5.1%	5.1%	4.0%	4.0%	3.0%	3.0%	3.0%
EBITA	157	171	206	245	280	316	344	377	405	438	467	491	504	513	518
- margin	11.6%	11.4%	12.0%	12.4%	12.7%	13.2%	13.6%	14.0%	14.3%	14.7%	15.1%	15.3%	15.2%	15.0%	14.7%
Tax on EBITA	39	43	51	61	70	29	86	94	101	109	117	123	126	128	129
- % of EBITA	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
NOPLAT	118	128	154	183	210	237	258	283	304	328	350	368	378	385	388
Depreciations	44	51	61	72	85	91	95	100	104	108	111	114	116	119	123
Gross cash flow	162	179	215	256	295	327	353	383	408	436	461	483	494	504	511
Changes in NWC	റ	19	32	35	31	19	1	14	16	16	15	16	14	15	15
CAPEX	59	100	140	162	170	150	140	147	143	149	142	146	138	147	159
Gross investments	67	119	171	197	202	169	152	161	159	165	157	162	152	162	174
FCFF	94	59	44	59	93	158	201	221	249	271	304	321	342	342	337
Time in days (mid-year)	60	299	659	1,019	1,379	1,739	2,099	2,459	2,819	3,179	3,539	3,899	4,259	4,619	4,979
Discount factor	0.99	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.38	0.35	0.32
PV of FCFF	93	56	38	47	68	106	124	126	130	131	135	131	129	118	107
Invested capital	804	873	983	1,107	1,224	1,302	1,359	1,420	1,475	1,532	1,578	1,626	1,661	1,704	1,755
- % of sales	59.0%	58.1%	57.2%	56.3%	55.4%	54.5%	53.6%	52.8%	52.2%	51.6%	51.1%	50.6%	50.2%	50.0%	50.0%
ROIC	14.9%	15.3%	16.7%	17.6%	18.0%	18.7%	19.4%	20.3%	21.0%	21.8%	22.5%	23.0%	23.0%	22.9%	22.5%
NPV of FCFF	1,536														
NPV of terminal value	1,472														
Enterprise value	3,009														
- NIBD	200														
Market value	2,809														
Cost of capital						ĺ	Terminal v	ralue							
Market estimates			Beta calcul	ation		-	Value driv	er							
Risk free rate	2.8%	-	ndustry ass	set beta	1.14		NOPLAT ₂₀₂	Ë			400				
Market risk premium	5.0%		Equity w eigl	ut.	0.87		Grow th rate	a)			3.0%				
Debt risk premium	3.0%		seta equity		1.31		RONIC				8.6%				
Tax rate	25.0%					-	NACC				8.6%				
Capital structure		-	NACC		8.6%		Terminal v	/alue			4,631				
Equity w eight	0.87	U	Cost of equi	ty	9.3%										
Debt w eight	0.13	U	Cost of debt		4.3%										
Source: Own creation															



Appendix 27: Forecast of ROIC, RONIC & WACC

Source: Own creation





Source: Company information, Own creation

Appendix 29: SOTP valuation – DCF & Multiples

DCF SOTP - base scenari	0						
DKKm	Ownership	EV	- NIBD	- Options	- Minorities	Equity	per share
NKT Cables	100%	4,908.9	1,930.0	0.0	0.0	2,978.9	125.9
Nilfisk-Advance	100%	5,353.9	1,610.0	0.0	0.0	3,743.9	158.2
Photonics Group	100%	53.2	12.2	0.0	0.0	41.0	1.7
NKT Flexibles	51%	1,534.5	102.0	0.0	0.0	1,432.5	60.5
Holding company		0.0	-1,104.4	56.3	23.0	1,025.1	43.3
NPV of group overheads		-212.9	0.0	0.0	0.0	-212.9	-9.0
NKT Holding		11,637.6	2,549.8	56.3	23.0	9,008.5	380.7
Shares, fully diluted (million)		23.66					

Multiples SOTP - base sc	enario						
DKKm	Ownership	EV	- NIBD	- Options	- Minorities	Equity	per share
NKT Cables	100%	3,975.8	1,930.0	0.0	0.0	2,045.8	86.5
Nilfisk-Advance	100%	6,180.2	1,610.0	0.0	0.0	4,570.2	193.2
Photonics Group	100%	197.0	12.2	0.0	0.0	184.8	7.8
NKT Flexibles	51%	974.4	102.0	0.0	0.0	872.4	36.9
Holding company		0.0	-1,104.4	56.3	23.0	1,025.1	43.3
NPV of group overheads		-212.9	0.0	0.0	0.0	-212.9	-9.0
NKT Holding		11,114.5	2,549.8	56.3	23.0	8,485.4	358.6
Shares, fully diluted (million)		23.66					



Source: Company information, Own creation

Name: Mads Thamsborg Title: Investment Analyst Company: Lancaster Investment Management LLP

What is your expectation with regard to NKT Cables new production facility in Cologne?

"The new factory in Cologne focuses on MV and HV cables, and thanks to its location near the Rhinen, transport of cables by water could yield significant savings. The plant has three lines but it is possible to add one more line, but the decision to expand is pending though as it will cost approx. DKKm 100. The Chinese plant was originally acquired for ¼ of the replacement value as the former partner went bankrupt, and it uses the same machines as the factory in Cologne. Still gross margins are lower at the Chinese factory compared to the factory in Cologne, whereas EBIT margins are the same. The same difference in margins applies to Prysmian, which suggest that fixed costs are somewhat lower in China. NKT Cables does not provide guidance, but our estimate is that sales in China will be DKKm 200 in 2010 and DKKm 500 by 2011."

What characterizes R&D investments in the cable industry?

"Well, price pressure has led producers to focus on lowering costs mostly by modernizing plants such that work processes are automated and improved. NKT Cables is at the forefront compared to its competitors in this regard. Furthermore, they have focused on centralizing its factories which has lowered unit costs and the costs associated with having to change production. Other initiatives are targeted product development, which covers areas such as material inventions. One example is NKT Cables recent invention of a 15 km cable, which requires fewer joints. This is important as the joints represent most of the costs in cables."

What are your estimates of Gross Profit margins within the different product segments in the cables industry?

"Within HV&SM the GP margin is approx. 50%, and within railway my estimate is 47%. Both are high margin segments where product reliability is crucial to customers. My estimate of the MV segment is 33%, but this could increase if demand for HV&SM takes off. The LV and other segments is approx. 30%, but the recent collapse in the housing market could mean that margins in the LV segment are even lower."

How do you see the future product portfolio of NKT Cables? And do you think they will venture into new product areas?

"Management has already signaled that they intend to focus more on the HV&SM and RW segments and reduce their focus exposure to the LV segment. However I don't think they will enter into other industrial markets. Instead I think they will develop their current product mix mostly through organic growth with a focus on the high-margin growth areas – in particular focusing on becoming a significant player within the European market."

Do you see any new restructuring initiatives coming from Nilfisk-Advance in regard to its production facilities?

"Nilfisk-Advance plans to increase production at its existing facilities, as it is estimated that they can produce around 15-20% more without adding new capacity. And despite limited visibility orders are coming in and average order size is actually increasing. It is in particular the commercial segment which is driving this increase."

Do you see any potential problems in the fact that Petrobras is such a significant customer in the flexible pipe market? For instance that they will pressure prices thanks to a high bargaining power?

"It is true that Petrobras is an important customer, but as evidenced by their investment projections, they will most likely be dependent on flexible pipes for quite some time. This is also why they are giving orders to all three producers. For example, Wellstrem's recently received a deepwater order despite their lack of expertise in this area compared to NKT Flexibles and Technip. I think the current uncertainty in the market is more critical, as this will pressure prices in 2010 as oil and gas companies are waiting for the economy to stabilize before investing in new exploration programs." Name: Morten Elvstrøm Title: Electrical Installer Company: Hj Jørgesen & Søn

How are rules and regulations affecting the cable industry today? And are companies changing their products and services in response to the legal environment?

"There is certainly a trend toward more similar rules across EU, and I think the trend has been driven by the expansion of EU. More specifically, the huge differences in rules and regulations are problematic when coupled with free labor mobility as electrical installers from Eastern EU need to get acquainted with the Danish rules and regulations, which are among the toughest in EU. Among other things they need to be aware of rules in regard to voltage levels, conductor construction designs, armoring and sheath. Most cables offered by producers through outlets in EU comply with Danish standards, but previously this was not always the case. So you could say that producers in general are moving toward products that fulfill the highest requirements."

Do you see any changes in products as a response to technological developments?

"In general a lot of new technological inventions are being introduced with customers demanding even more complex solutions in order to optimize energy utilization, but also to create so called "intelligent houses" where you can program a range of things. All this requires software that can facilitate the installation. I would therefore say that producers are increasingly focusing on selling solutions rather than merely products."

How do you perceive the LV cables of NKT Cables in terms of price and quality compared to other cables?

"I generally do not buy LV cables from NKT Cables as their prices are approx. 10-15% higher than other LV cables, but my impression is that NKT Cables targets larger customers with a min. of 100 employees as they will be able to get some quantity discounts."