NeoDynamics

Sector: Medtech

Pulsating potential

With their unique biopsy instrument, in our view superior to the current gold standard of care, NeoDynamics offers potential to reshape diagnosis of breast cancer. Factoring in strong opinion leaders, experienced management and a committed partner, plus the share's 50% decline since its recent IPO, we initiate coverage with a positive stance.

Innovation, finally

Innovation in imaging technologies gives greater scope to identify suspicious tissues at smaller scale. Yet until NeoNavia - based on NeoDynamics' patented micro-pulse technology - biopsy instruments fail to harness this opportunity.

A new standard

NeoNavia takes samples from the most difficult areas and smallest tissues with greater control and precision than today's gold standard – the Magnum instrument. One study suggests that it achieves higher sample yields without sacrificing quality. We expect the on-going clinical trials to further validate its advantages.

Recipe for success

NeoDynamics has an excellent recipe for commercial success: well-connected opinion leaders (KOLs) and clinical trials led by management experienced in the industry. We expect NeoNavia to gain CE and FDA approval easily and see sales in H2 20, ramping up significantly in 2021. A launch in China should follow in 2021 thanks to their long-term partner Boai NKY Medical Holdings.

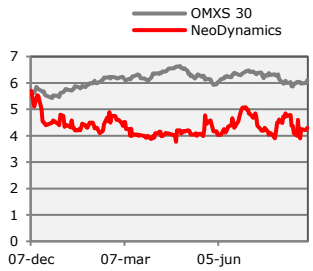
Potential upside but dilution awaits

Since the stock's near -50 percent fall since its introduction late last year, we see a significant upside to the Base Case value of **SEK 10** per share as indicated by our DCF analysis. At current EV of SEK 66 million, we see a potential upside of roughly 130 percent. With the anticipated SEK 15 million in a proposed issue of convertibles, we still believe the company will raise roughly SEK 30-40 million in H1 2020. We estimate a stock dilution of around 60 percent during next year.

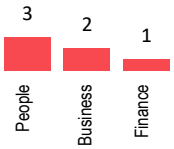
FAIR VALUE RANGE

BEAR	BASE	BULL
4	10	23

NEOD.ST



REDEYE RATING



KEY STATS

Ticker	NEOD.ST
Market	Spotlight
Share Price (SEK)	4.3
Market Cap (MSEK)	66
Net Debt 19E (MSEK)	-8
Free Float	68 %
Avg. daily volume ('000)	39.6

KEY FINANCIALS (SEK)	2017	2018	2019E	2020E	2021E	2022E
Net sales	11	25	22	4	33	59
EBITDA	-7	-15	-10	-31	-4	5
EBIT	-7	-16	-10	-32	-5	4
EPS (adj.)	0.0	0.0	-0.7	-2.3	-0.3	0.2
EV/Sales	0.0	-1.0	2.7	21.9	3.1	1.8
EV/EBITDA	0.1	1.6	-5.7	-2.9	-25.1	21.7
EV/EBIT	0.1	1.5	-5.7	-2.8	-22.3	24.4
P/E	0.0	0.0	-6.4	-1.9	-14.4	19.3

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Investment Thesis

Innovation needed in biopsy instruments…

Tissue samples are crucial in determining whether a patient has breast cancer. As suspected tumours have become easier to spot thanks to the development of imaging technologies, cancer diagnosis has improved. However, a gap between the imaging technologies' advantages and the effectiveness of today's biopsy instruments leads to a shortfall between what should be sampled and what can be.

Innovation in biopsy instruments is needed to improve breast cancer diagnosis further and allow therapy to be initiated faster. In our view, today's breast biopsy instruments are a bottleneck holding back imaging technologies' full potential – especially as breast cancer treatment is shifting towards more biopsies during treatment and not only in diagnosis.

…and provided by NeoNavia

NeoDynamics' unique patented micro-pulse technology, which pulsates the needle 1-2 millimetres at a time, allows for more controlled, precise and safer tissue samples. Unlike the current gold standard (C.R. Bard's Magnum device, which is based on a spring-loaded mechanism), NeoNavia allows radiologists/gynaecologists to stop, configure and target the needle towards suspicious tissue. Samples obtained with NeoNavia are easier and less risky for patients, generating larger tissue yields without sacrificing quality.

Lower cost and risk

We see NeoNavia's ability to obtain samples from the axilla (under the arm) as a significant proof of quality. The first to be affected in metastatic breast cancer, the axilla lymph nodes are in a difficult area for sampling due to richness of nerves and blood vessels. Accordingly, axillary lymph node biopsies are often performed surgically on patients under general anaesthesia. With NeoNavia, only local anaesthesia is required as the needle biopsy can be conducted in a more controlled and precise procedure. Not having to apply general anaesthesia and undergo surgery means lower costs and health risks.

We see NeoNavia's ability to obtain samples from the axilla (under the arm) as a significant proof of quality

Positive feedback before finished clinical trials

We expect a clinical trial to be finalised by the end of the year, and a second study to be finalised by Q3 2020. These include over 460 patients in leading university hospitals in Germany and the UK. The principal supervisor and other medical professionals involved in the studies are key opinion leaders (KOLs) of NeoDynamics, with impressive organisational connections. Prof. Dr. Marc Thill, principal investigator of the German study, praised the product at the annual AWOgyn meeting in February this year.

Valuation summary

We initiate coverage of NeoDynamics with a Base Case of **SEK 10** per share – roughly 130 percent above the current share price. In our view, the company has lacked triggers since its IPO while at the same time having an aggressive burn rate. This has caused a capital risk, which we believe has caused the stock to plummet during a low stock turnover. Going forward, we see several key catalysts in the coming six to 12 months. However, we expect an additional capital raise in H1 2020.

Key Catalysts

Below we highlight the key catalysts for the NeoDynamics case that we anticipate taking effect within six to 12 months. We also highlight the possibility of a take-over, though it is beyond the time frame of six to 12 months.

Finalisation of clinical trials

All of the German study's patients should have been recruited by the end of the year and study data to be available at the start of Q2 20. We expect the clinical trials will help NeoDynamics to further differentiate NeoNavia from currently used biopsies and attract partners. We expect the UK study to be published in Q3 20. We also expect a Swedish retrospective study to be published before year-end.

Regulatory approvals

We expect NeoDynamics to file for CE in Q4 19 and assume an approval in Q2 20. NeoDynamics already has CE approval of the validation version of NeoNavia. In addition to this, management has gone through this process several times prior to NeoNavia. We expect the FDA registration to be filed at the same time as CE and approved in Q2 20. We believe the Chinese regulatory processes to be initiated in late 2020 or early 2021.

US partnership

After the assumed positive results from the German clinical trial and FDA approval in Q2 20, we believe NeoDynamics will sign a partnership with a US company in H2 20. We believe royalties of 20 percent are likely in view of NeoDynamics' unique technology.

Possible take-over candidate

The large players have acquired their biopsy instruments rather than developing their own. We believe that NeoDynamics could be a possible take-over candidate and that this could happen after NeoNavia has gained more traction in 2022/2023 where we assume a one and two percent market share, respectively.

Counter thesis

We highlight the most relevant risks and uncertainties around the NeoDynamics case over the next six to 12 months below.

Significant dilution expected

While we anticipate the proposed convertible issue to raise SEK 15 million for the company, this is not enough to sustain through 2020 according to our estimates. In our view, around SEK 30-40 million will be raised next year. In combination with the convertible conversion this could potentially dilute the stock by roughly 60 percent.

In our view, around SEK 30-40 million will be raised next year

Regulatory and partnership delays

While we see no significant risk that NeoDynamics fails to provide sufficient documentation for regulatory review, especially the EU version, delays outside of the company's control are possible. Delayed CE or FDA approval would clearly hurt nearer-term earnings. Any delays in a potential partnership signing, would also hurt the company's financial position.

Investor sell-off

If investors choose to sell their holdings when the IPO lock-up period ends on December 7, this could put pressure on the share price. Moreover, if the Chinese partner and largest shareholder (Boai NKY Holdings) were to opt not to continue with NeoDynamics, we expect a substantial sell-off over a long period. Furthermore, this would highly discourage the fundamental prospects for NeoDynamics. However, considering their current involvement, we see this as a highly unlikely event.

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Company Profile

Summary

NeoDynamics was initially founded in 2004 based on research at the Karolinska Institute in Stockholm. The company was partly owned by Karolinska Development for a number of years until it decided to exclude medtech companies in 2015. This resulted in Karolinska Development effectively rendering NeoDynamics bankrupt. NeoDynamics was re-founded just a few months later, in 2015, after a combination of old and new shareholders injected 18 million to keep the company alive. Since December 2018, NeoDynamics has been listed on the Spotlight Stock Market.

The company has developed a biopsy instrument called NeoNavia based on its unique micro-pulse technology. NeoNavia provides a more controlled, precise and safer procedure than today's gold standard, with larger sample sizes but without decreasing the sample quality. Moreover, NeoNavia could significantly reduce costs of axillary lymph node biopsies by substituting surgical biopsy procedures in the axilla performed under general anaesthesia.

In 2016, NeoNavia gained CE approval and has since been used for validation purposes on more than 400 patients with excellent results. During Q4 19 we believe NeoDynamics will file for CE and FDA approval of the commercial product it has been developing since 2016. We expect approval in Q2 20. In total, NeoNavia has been the recipient of SEK 170 million in investments and grants into development since 2012

NeoDynamics: Historical highlights	
2004	- NeoDynamics was founded by researchers at KTH and the Karolinska Institute and initially conducted research and development into treatment and diagnostics of cancer
2005-2011	- Several innovations were developed and patented - Studies in breast cancer were conducted, showing promising results - Karolinska Development invested in the company and an organisational and strategic restructuring of NeoDynamics was carried out
2012	- The industrial product development of biopsy products began, based on the company's research and proprietary technology - NeoDynamics received a grant from Vinnova, Sweden's Innovation Agency
2013	- NeoDynamics received yet another grant from Vinnova
2015	- The company was declared bankrupt due to failed refinancing when Karolinska Development divested medtech businesses - After refinancing a new company with the same name, with the majority of previous shareholders participating and all personnel rehired, it acquired all its previous assets - The department focusing on cancer treatment was sold, allowing a clear strategic focus on cancer diagnostics
2016	- China-based Boai NKY Medical Holding invested in the company
2017	- The company received a monetary grant from Vinnova
2018	- NeoDynamics listed its shares on Spotlight Stock Market and conducted a rights issue generating net proceeds of SEK 48 million - NeoDynamics received the "Seal of Excellence" certificate from the European Commission, which manages Horizon 2020
2019	- The company obtained patent approval for a central component of NeoNavia in the US - NeoDynamics and physicians from Karolinska Hospital started a joint venture to develop a new biopsy instrument for more effective tissue sampling of suspected skin cancer. NeoDynamics has the option to increase its ownership from 10% to 40%.

Sources: NeoDynamics (2019), Redeye Research

The IPO in 2018 injected SEK 48 million after transaction costs into the company, split as follows:

1. Final development of the commercial version of NeoNavia and CE registration process (33%)
2. Amortisation of debt (32%)
3. Other and operational costs (21%)
4. Clinical studies in Germany and the UK (7%)
5. Marketing and costs related to the launch of NeoNavia (7%)

Product portfolio

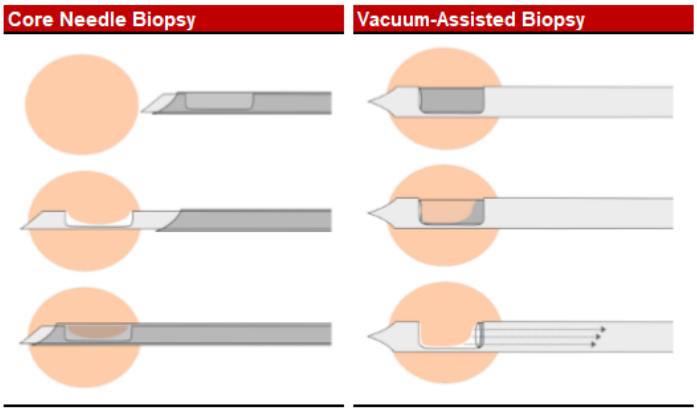
In the following section we discuss NeoDynamics' product in detail, with a brief description of biopsies in general, along with the unique technology the company offers. NeoDynamics currently has one product soon ready for market, NeoNavia, but it is developing another in the related field of biopsy marker clips. The company is also engaged as a minority shareholder in a company developing a new skin biopsy instrument. However, we will only focus on NeoNavia in our view of the investment case.

How biopsies are conducted

A biopsy is a standardised medical procedure used to diagnose tumours. It can be performed surgically (a piece of tissue is removed through a small cut or incision) but is mostly performed using a minimally invasive biopsy instrument. The biopsy instrument is a handheld device equipped with a needle that takes a sample from the suspicious tissue. The gold standard is based on a spring-loaded, so-called core needle (CNB), which is shot into the tissue area, guided by imaging technology, but lacks the possibility to halt insertion once initiated.

… lacks the possibility to halt insertion once initiated.

Before inserting the needle, the patient receives local anaesthesia and a small incision is required so that the needle can be inserted towards the suspected lesion. The tissue is then forced into a cavity and the core needle is withdrawn, emptied and is ready for the next insertion. Alternatively, a larger vacuum-assisted needle (VAB), is used, having the benefit of yielding more tissue and several samples in only one insertion. There is also a fine needle (FNA), but this is mainly used only for first-stage analysis of cancer before histological tissue samples are taken.



Source: NeoDynamics Source: NeoDynamics

The process of determining if the sample is cancerous or not is undertaken by a team of specialists. However, the actual biopsy procedure of taking a tissue sample is carried out by a radiologist, or in some countries by a gynaecologist. These are the users of NeoNavia.

Unique micro-pulse technology excellent for axilla

NeoDynamics has developed its unique technology specifically to overcome the disadvantages of today's biopsy instruments. By inserting the needle step-by-step at 1-2 millimetres at a time, it reduces the risk of missing the suspected tumour and damaging surrounding nerves and blood vessels. The most interesting aspect is the micro-pulse technology's advantages over existing biopsy instruments in taking samples from the axilla. Tissue samples from the axilla are difficult to obtain due to the high density of nerves and blood vessels. Today's spring-loaded core and vacuum needles lack precision and are more invasive for the axilla. Surgical procedures are often carried out instead, requiring general anaesthetic, which raises costs and increases the risks compared with NeoNavia and the novel FlexiPulse needle.

Tissue samples from the axilla are difficult to obtain due to the high density of nerves and blood vessels

NeoNavia – product and method

NeoNavia was developed by engineers and physicians at the Karolinska Institute in Stockholm. The validation version received CE approval in 2016 and has since been used in more than 400 procedures in hospitals in Sweden, Germany, the UK, France and Austria. We assume NeoDynamics will file for CE and FDA approval of the commercial version in Q4 19. We expect CE and FDA approval in Q2 20 and Chinese FDA approval in 2021.

NeoNavia is a tethered system of three parts: the mobile base unit, the handheld driver and the sterile disposable needle probe. The mobile base unit provides the system with electricity, vacuum and compressed air, allowing the instrument to function. The driver operates the different needle probes that can be used for the varying biopsy needs, depending on tumour location and the difficulty in obtaining relevant samples.

NeoNavia - driver, probe and base unit

Source: NeoDynamics

The procedure is guided via ultrasound, which normally requires an assistant; with NeoNavia, however, the practitioner can operate both the needle and the ultrasound. Thanks to the micro-pulses NeoNavia can easily pass through sometimes dense or fibrous tissue to the exact position or near the suspicious lump. After any of the three probes available with NeoNavia has been inserted into the suspicious spot, the sample is taken and extracted for further analysis by the biopsy team.

Following feedback about the validation version, there has been significant product development on the commercial version, including the following:

1. Multi-probe systems, enabling the use of micro-pulses with three different biopsy probes (CorePulse, VacuPulse and the novel FlexiPulse for difficult tissue locations)

2. The ability for single-handed operation, allowing the practitioner to undertake the procedure without changing the ultrasound probe grip

Probes for biopsies

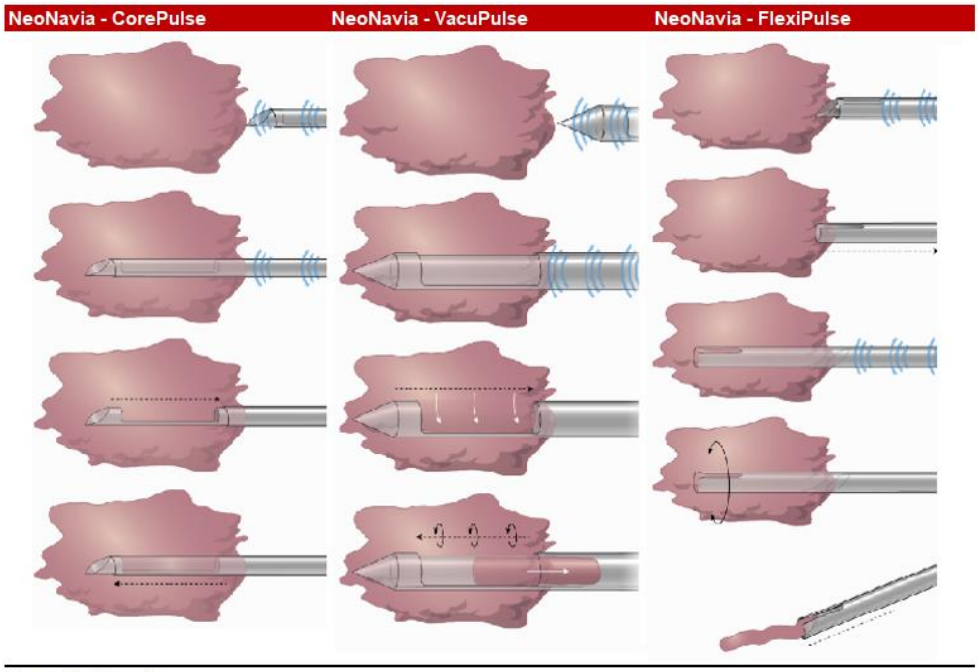
As discussed above, there are two different types of standardised needles, or probes, for histological biopsy procedures: core needle biopsy (CNB) and vacuum-assisted biopsy (VAB). NeoDynamics has developed its own CNB and VAB needle probes for use with the micro-pulse technology, as well as a novel needle probe for more challenging areas, specifically the axilla lymph nodes, where existing probes face problems. All probes used with NeoNavia include micro-pulse technology.

CorePulse is NeoNavia's version of CNB, the procedure that accounts for around 50 percent of breast biopsies, globally. Like other CNBs, CorePulse consists of an inner and an outer needle. The inner needle cuts through the tissue before the outer needle is extracted, filling the hollow sample cavity with tissue. Once the cavity is filled, the outer needle is inserted back into the tissue, cutting off the sample. The needle can then be extracted, and the sample obtained. The micro-pulses help CorePulse's needle get to the correct place in the tumour, before a spring-loaded mechanism is used for the actual cutting. A problem with existing CNBs is the limited sample cavity volume, meaning uncertainty about representative samples and the need for several samples from each patient. NeoNavia CorePulse increases the sample's cavity volume, boosting the chances of obtaining a representative sample and fewer insertions.

VacuPulse is NeoNavia's version of VAB, which accounts for around 20 percent of breast biopsies, globally. VacuPulse also uses micro-pulses to help guide the needle into the tumour. Once there, the inner needle is extracted, opening the sample cavity. As the tumour sample starts to fill the cavity, the vacuum function further forces the sample into the cavity. The inner needle is then rotated and once again inserted into the tumour. Rotation of the inner needle cuts off the sample tissue, which is ready to be extracted for further analysis. The vacuum function which stores samples in the device allows for several samples to be obtained without extracting the needle from the patient.

FlexiPulse is unique in its ability to take samples from difficult locations…

NeoNavia's novel FlexiPulse needle is developed for challenging biopsies on areas such as the axilla and dense breast tissue. It is designed to be inserted into lesions with higher precision and to obtain larger samples without damaging surrounding tissue, blood vessels or nerves. In pre-clinical studies carried out by NeoDynamics, FlexiPulse has been shown to give larger samples without compromising sample or procedure quality compared with the gold standard Magnum CNB device. FlexiPulse is also based on two parts: one inner trocar and one outer hollow needle. When the inner trocar's tip has reached the tumour, it is retracted into the outer needle, and the outer needle pierces through the tumour millimetre by millimetre using micro-pulses and fills the cavity with tissue, also helped by the vacuum function. The sample is then cut off by the tip as the outer needle rotates and can be extracted for further analysis. FlexiPulse is unique in its ability to take samples from difficult locations such as the lymph nodes in the axilla without resorting to surgery and a general anaesthetic. This also implies that samples can be taken with more ease from the axilla during the same scheduled procedure when samples are taken from the breast. Below follows an illustration of the three different probes offered by NeoDynamics.



Source: NeoDynamics

NeoNavia's advantages

NeoNavia has several benefits over today's gold standard biopsy instruments as it was specifically developed to overcome the issues associated with them. The established biopsy instruments today include Magnum by C.R. Bard, Mammotome Elite from Leica Biosystems, ATEC by Hologic, and Achieve by Care Fusion. The most used CNB is Magnum (C.R. Bard), while the most used VAB is Mammotome Elite (Leica Biosystems). However, in our view they are not optimal for the following reasons:

1. CNBs are based on a spring-loaded technique, which lacks the possibility to halt the procedure once it has been initiated, resulting in less control
2. This reduced control increases the risk of damage to nerves and blood vessels
3. Neither CNBs nor VABs, which are very invasive, are optimal for axilla lymph node biopsy, meaning surgical biopsies are often performed instead

NeoNavia has the following advantages over today's gold standard:

1. The micro-pulse technology allows for greater procedure control and higher precision
2. Thanks to better control, precision and increased sample volume, NeoNavia can give higher sample quality and more adequate samples can be taken
3. Complex biopsy procedures in, for example, axilla lymph nodes, are more easily obtained using FlexiPulse. Furthermore, this eliminates the need for a time consuming and costly surgical biopsy with general anaesthetic in many cases

The advantages over today's gold standard cannot be overlooked and carry several benefits for clinicians, patients, hospitals and healthcare in general. We believe the product will bring socio-economic benefits as it optimises the diagnosis of cancer, effectively increasing the likelihood of survival while streamlining the procedure.

Clinicians will benefit from a more precise and controlled instrument, reducing complications and increasing the chances of an accurate diagnosis. Patients will be less exposed to the risk of damaged nerves, blood vessels and pain from repeated insertions. Hospitals benefit

economically from fewer complications and repeated procedures. Healthcare in general benefits from cost savings and optimised resource allocation.

As NeoNavia's validation version has already been implemented in the standard procedures of several radiologists at 15 hospitals, with documentation supporting its superiority over the gold standard, we believe NeoNavia has the possibility to be broadly implemented. Furthermore, practitioners do not need to be re-trained as the solution already fits into today's practices. Considering that previous procedures with NeoNavia have been carried out with the validation version, which is not as optimised as the commercial version, we believe the product will be immensely appreciated, which we see mitigating the product risk even further.

Furthermore, practitioners do not need to be re-trained as the solution already fits into today's practices

In addition to the advantages mentioned above, when compared with the market-leading CNB instrument, Magnum, NeoNavia yields adequate, larger samples with a lower level of invasion and without lower sample quality. While the healthcare sector is conservative in nature, we believe NeoDynamics has a product that offers clear socio-economic benefits and should not be difficult to implement over time into clinical practice guidelines

Biopsy marker clips

Biopsy marker clips are small threads or clips of metal, placed in the tissue where a sample is collected so as to locate the tissue using imaging technologies after the initial procedure. While it is simple to spot the biopsy marker clip using mammography, it is quite difficult to do so using ultrasound. Today, radiologists and surgeons mostly rely on ultrasound rather than mammography for breast cancer patients. NeoDynamics is in the experimental phase of developing a biopsy marker clip that can more easily be identified using ultrasound. This is not a focus area for NeoDynamics, however, and it will concentrate its resources on NeoNavia. We do not include any potential income from the biopsy marker clip in our valuation or stance on the company in this analysis and instead solely focus on NeoNavia.

Clinical validation

NeoDynamics is dependent on clinical validation for commercial success. In this section, we run through the ongoing trials, a published pre-clinical study from 2018, and our view of future studies. For a company without any current sales for a non-regulatory approved product, data is important to attract attention before launch. NeoDynamics is doing just that.

The company has two important multicentre studies focused on the axilla of breast cancer patients in Germany and the UK. The company will initially focus on peer-to-peer sales of NeoNavia in the EU, rather than using a sales force, meaning utilisation of KOLs is paramount. In our view, conducting large studies on key markets is important for commercial success. The doctors and professors involved in the trials are KOLs for NeoDynamics with impressive organisational connections.

In addition to the two multicentre studies in Germany and the UK, they are also carrying out a smaller but still significant retrospective study in Sweden, aiming to demonstrate NeoNavia's benefits for breast biopsies at Karolinska University Hospital with Dr. Edward Azavedo as principal supervisor. The study should soon be finalised, and we expect to see the publication of results suggesting NeoNavia's advantages compared to CNB's before year-end.

Multicentre studies

The German study (PULSE) is an open multicentre study with 140 breast cancer patients at the largest university hospitals in the country. Its goal is to show NeoNavia's performance for obtaining lymph node tissue samples from the axilla of breast cancer patients compared to today's gold standard. We expect the study to be published at the beginning of Q2 20.

The UK study is a randomised, controlled multicentre study with more than 320 breast cancer patients. The goal is to demonstrate the benefits of NeoNavia compared to today's gold standard for ultrasound-guided biopsies of the axilla lymph nodes in breast cancer patients. NeoDynamics is currently applying for the required study clearance for the UK study. We expect patient recruitment to be completed by Q1 20 and publication by Q3 2020.

We consider the publication of the German study to be a key catalyst for the NeoDynamics share and believe it will facilitate a significant step-up in the company's valuation from today's levels. While the UK study consists of more than twice as many patients as in the German study, we do not expect different results from the two. In our view, this makes the results from the first more important for the investment case than from the UK study, which we assume will follow suit result-wise. We believe the UK study will further validate what we expect will be demonstrated in the German study and to be of additional help in marketing NeoNavia.

Axilla focus

By focusing its studies on the axilla, NeoDynamics has the possibility to show its significant advantages over today's gold standard. The axilla is a difficult area to take biopsy samples from due to its topography (density of nerves and blood vessels). Furthermore, if NeoNavia can demonstrate precision and increased sample size without reduced quality from this delicate area, we believe its usefulness will be proven for regular breast tissue biopsies as well. The praise already received from KOLs using the device, along with the results from a published study by Schässburger et al. in 2018, as well as several poster presentations at scientific congresses, leads us to believe the results of the study will be positive. Furthermore, we believe the clinical trials will be used to provide insights into axillary biopsy procedures to generate a hypothesis for further larger clinical trials of NeoNavia.

Schässburger et al. 2018

In the study by Kai-Uwe Schässburger, responsible for clinical development at NeoDynamics, NeoNavia was compared to the Magnum instrument by Bard, the most used CNB. The study was based on tests from turkey breast, swine pancreas and calf thymus as well as eleven specimens from human breast cancer patients with 38 samples. The study focused on analysing sample size and on the sample quality with NeoNavia.

The aim of testing the tissue samples from breast cancer patients was to review the histological quality given NeoNavia's rotational cutting movement and trocar ejection from the needle. In all 38 samples, the quality was equivalent to Magnum's results. The level of damage present in the samples using NeoNavia was also equivalent to that in the samples obtained using the Magnum instrument.

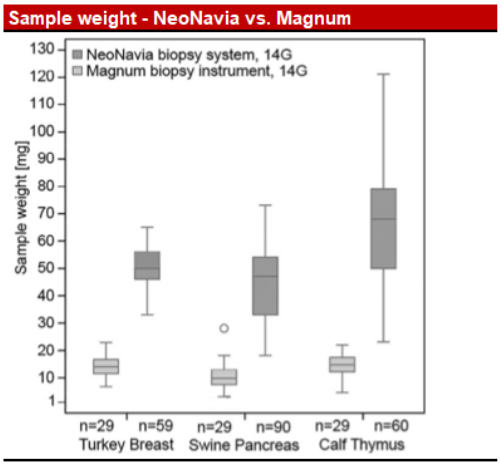
In all 38 samples, the quality was equivalent to Magnum's results

Magnum CNB by Bard

Source: Redeye Research, Crosmed.com

What differentiated NeoNavia from Magnum was the increase in the volume of samples obtained using NeoDynamics' product, as biopsies on turkey breast, swine pancreas and calf thymus found. Although both devices had identical diameter and insertion length, NeoNavia provided a better tissue yield, which in a clinical setting could result in fewer needle insertions required for diagnosis. The average weight sample obtained by NeoNavia was around three to four times greater. In our view, this gives a further indication of the

advantages of NeoNavia and not only its more precise and controlled insertion but also its larger sample sizes without reducing the quality.



Source: Schässburger et al. 2018

We believe this study can give an indication of the results from the PULSE study. We expect the ongoing clinical trials to prove the advantages of NeoNavia further. We see no particular risk related to the clinical trials but instead want to see NeoDynamics fully capitalising on the studies by attracting KOLs and a partner in the US.

Further clinical studies in the US and China

We expect further larger clinical trials to be conducted in the US and China to raise awareness of the product and to attract partners. We expect NeoDynamics to initiate these studies in 2020, with results following in 2021. However, we assume the company will already generate income from these markets by then. We assume these markets may already be penetrable based on results from the German and UK studies, while an additional larger study can help increase implementation more rapidly. We would be particularly interested in a comparison with Leica Biosystems' Mammotome Elite, as this is the most used VAB on the market.

Key Opinion Leaders

In total, NeoDynamics has 14 KOLs – nine in Germany, four in the UK and one in Sweden. All are senior professional practitioners with connections to specialised organisations in oncology/gynaecology. Moreover, the KOLs are engaged in the ongoing clinical trials.

The German hospitals' KOLs are participants in the AWOgyn group, a working group on surgical procedures for the German Society of Gynaecology and AG Mimi, a working group on minimally-invasive breast interventions of the German Society of Senology. The KOLs at the UK hospitals involved in the study are members of the executive committee of the British Society of Breast Radiology. Furthermore, the KOLs have relations to other decisive organisations as well. In our view, this implies that they are in the position to have a considerable impact on the clinical use of NeoNavia. This, too, strengthens our belief that NeoNavia has the potential for broad clinical implementation.

Furthermore, the KOLs have relations to other decisive organisations as well

Selected KOLs

We see several of NeoDynamics' KOLs having important relationships that can help NeoNavia reach commercial success. Specifically, we focus on two German KOLs and two British KOLs with professional experience and involvement in related organisations. We believe that NeoDynamics will gain several more KOLs within six to nine months for the coming US study and that we will see more important relationships built with US-based organisations. Below we briefly discuss the highlighted KOLs for Germany and the UK.

Prof. Dr. Marc Thill of Agaplesion Markuskrankenhaus, Germany, is the principal investigator of the German PULSE study. Most importantly, he is the vice-chairman of AWOgyn. Prior to being a KOL for NeoDynamics, he successfully introduced the SentiMag system in Germany in 2013 via a multicentre study in 2012.

Prof. Dr. Thorsten Kühn of Klinikum Esslingen is the chairman of EUBREAST (European Breast Cancer Research Association of Surgical Trialists) as well as a member of the German S3-Guidelines for Breast Diagnostics management team.

Dr. Anthony Maxwell of Wythenshawe Hospital, UK, is the principal investigator of the UK study. He is the chairman of the executive committee of the British Society of Breast Radiology and a member of the NHS Breast Screening Programme Research Advisory Committee.

Dr. Matthew Wallis of Addenbrooke's Hospital, UK, is a former member of NHS BSP Radiology Quality Assurance committee, a member of the Association of Breast Surgeons Audit group and of the National Evaluation group. He was also the president of the European Society of Breast Imaging from 2010 to 2012.

In February this year at the annual AWOgyn meeting, KOL Dr. Marc Thill presented NeoNavia and the recently started PULSE study, stating:

"For me, this technology has made it easier to perform axillary biopsies. In the PULSE study we will specifically evaluate how the NeoNavia biopsy system and the new type of pulse biopsy needle developed by NeoDynamics performs in the axilla, but also map axillary lymph node management in general. Our entire work group supports this study, which we believe will benefit us in the development of breast cancer diagnosis. We received encouraging feedback from the participants and several centres expressed interest in joining the study."

Market outlook and opportunity

We see potential for NeoDynamics to capitalise on its unique, value-adding biopsy instrument as cancer incidence and, subsequently, biopsy procedures are expected to grow in the coming years, according to several industry sources. In this section we discuss the market outlook for breast biopsies and the opportunity this presents for the company.

Breast cancer – incidence, diagnosis and treatment

Globally, around 2.1 million women are diagnosed with, and some 500,000 women die from the disease annually. Although incidence growth varies between countries, especially between those in the developed and developing worlds, the global expected incidence growth is 5% annually, according to our industry sources. Around 12% of all women globally are diagnosed with breast cancer, making it the most prevalent cancer type among the female population. While many women will be affected by breast cancer, the relative survival rate is quite high at five, ten and 15 years after diagnosis (90%, 85%, 78%).

Breast cancer is often detected during a screening examination and before any symptoms appear, or after a woman discovers a lump. The disease is generally assessed via a so-called "triple diagnosis": palpation of the breast and axillary lymph nodes, imaging technologies to identify any abnormality, and lastly a biopsy for histopathological analysis.

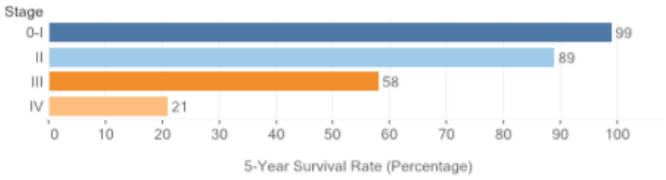
Before breast cancer can be clinically diagnosed, a breast biopsy is required, making this an integral part of the diagnosis. Diagnosis of the patient is carried out by a team of different specialists, as shown below.

Biopsy for diagnosis	
Process	**Specialists**
Sample collection	Radiologists, gynaecologists
Macro- and microscopic sample analysis	Pathologists
Decision on treatment	Radiologists, gynaecologists pathologists, oncologists

Source; Redeye research

The disease can be classified in three different stages based on the TNM system, referring to the size and invasiveness of the tumour (T), the extent of axillary lymph nodes metastases (N) and metastases to other parts of the body (M). The classifications are then combined with five different stages – 0 to IV, where 0 entails non-invasive breast cancer and IV invasive breast cancer that has spread to other organs.

Breast cancer stages and survival rate



Source: NeoDynamics

The graph above illustrates how the five-year survival rate differs between the stages of breast cancer. Typically, older women are diagnosed with later stages of breast cancer as they are excluded from cancer screening tests.

Treatment of breast cancer has evolved from surgically removing entire breasts and axillary lymph nodes, to more precise surgical procedures where only the tumour or tumours are removed. After surgery, a patient was previously administered radiation and medication to hinder any remaining cancer growth. Today, treatment is shifting towards more focus on radiation and medication, rather than mostly surgery. The new trend also increases the number of biopsies required, as samples are required to analyse how well the cancer treatment is working.

Increase of biopsy procedures

We see three reasons as to why biopsy procedures will increase in the coming years:

1) innovation in imaging technologies and liquid biopsies, increasing the need for more tissue biopsies

2) change in cancer treatment, requiring more biopsies to analyse tumours

3) incidence growth, especially in China as more women become subject to examinations.

US, EU-5 and China

We expect NeoDynamics to focus on the five largest countries in the EU (Spain, Germany, Italy, the UK and France) as well as Sweden. However, the impact Sweden will have on the long-term finances of NeoDynamics will be reduced significantly as we expect sales to start being generated from the US and China in 2021.

The expected incidence of breast cancer in the EU-5, US and China for 2020 is 253.000, 291.000 and 368.000 respectively, according to Globocan and Datamonitor. While China has the highest expected number of incidences, we estimate the US to conduct around 2.9 million biopsies the same year, with China coming in second at 2.6 million and EU-5 at around 1.8 million. The number of biopsies, naturally, does not correlate with the number of diagnosed patients, as around one in four women undergoing biopsy is diagnosed. Moreover, we also estimate that the number of biopsies per diagnosed woman differs between the region, with the US at around six biopsies, the EU-5 with four and China with three.

While we believe the EU-5 market will be the smallest market in terms of the number of annual biopsies. However, considering direct sales instead of partnerships, we estimate it will generate most of the sales for NeoDynamics, with the US second and China coming in third. Furthermore, we expect a price level difference between the regions as well. We estimate the US market value of breast biopsies to be around 50 percent higher compared to EU-5 and roughly twice the Chinese market value. In NeoDynamics case, however, we expect the price level for NeoNavia to be around 80 percent of the EU-5 price level considering their local partner's expertise and efforts on marketing the product as a premium segment product.

… we expect the price level for NeoNavia to be around 80 percent of the EU-5 price level

Moreover, we also believe the Chinese market to be more difficult to enter than the US market. However, we believe the partnership with Boai NKY to be of help for NeoDynamics. For the US market, we expect a US partnership during H2 20 to assist NeoDynamics' in entering the US market.

Breast cancer in Sweden

While we see the global market as holding the greatest potential for NeoDynamics, product launch in Sweden is still important for the company – specifically in the early stages of the commercial launch. In the long-term, the revenues generated from Sweden are insignificant in our view. However, we expect NeoDynamics to gain a larger market share in Sweden compared to the other markets of around 10 percent in 2023 and 20 percent in 2028 onwards.

European Clinical Guidelines

We expect NeoDynamics to be included in the European clinical practice guidelines prior to being included in US clinical guidelines, because the European clinical trials will be finalised before those in the US. In the ongoing EU clinical trials, several researchers and supervisors are connected with important organisations that we believe can help with inclusion in the guidelines.

The opportunity

Diagnosis and treatment of breast cancer is changing, with biopsies playing an increasing role. While the need for more precise and less invasive biopsy procedures is, in our opinion, obvious and will become more important soon, today's instruments are lacking. In our view, NeoNavia has the potential to fill the present gap of unsatisfactory instruments.

NeoNavia has clear advantages compared to today's gold standard and does not require a re-training of the radiologists'/gynaecologist' manoeuvring of the instrument. As imaging technologies develop, leading to increased biopsy demand, cancer screening programs in China increase in number and an overall increase in incidence, we believe NeoDynamics has the chance to gain an impressive market share of two percent in 2023 with revenues of SEK 117 million, reaching five percent in 2028-2030.

While we believe a US partnership will be signed during H2 2020, NeoDynamics is, in our eyes, also a possible take-over candidate. Especially considering that the big players have acquired their biopsy portfolios rather than developing them on their own. This topic is further discussed in the Valuation section.

Competition

Below we discuss the competitive landscape and look at an interesting competitor – BiBBInstruments – at a similar stage as NeoDynamics.

Overview of the largest competitors

The market for breast biopsy instruments is dominated by three companies: Beckton Dickinson, Leica Biosystems and Hologic, with respective market shares of 46, 20 and 16 percent in 2013. NeoDynamics' studies compare NeoNavia with Magnum, which is the oldest yet market-leading device. Magnum was manufactured and sold by C.R. Bard, which was acquired by Becton Dickinson in late 2017. Considering NeoNavia's advantages over Magnum, we assume that C.R. Bard/Beckton Dickinson is aware of NeoNavia and could be a possible future partner or even acquirer.

We focus on the two leading breast biopsy companies and their respective flagship biopsy instruments: Beckton Dickinson (including C.R. Bard) and Leica Biosystems (including Devicor Medical Products). While Beckton Dickinson (Bard) is the CNB market leader, Leica Biosystem is the VAB market leader.

Competitive landscape - The two market leaders' breast biopsy instruments

Company	Produt	Type	Advantages	Technology
NeoDynamics	**NeoNavia**	**CNB, VAB, novel needle**		**Micro-pulses**
		CorePulse	Automated CNB, no manual spring-loading, superior control	
		VacuPulse	VAB functionality, several samples with single needle insertion, superior control	
		FlexiPulse	Higher tissue yield with ability to reach difficult areas	
Beckton Dickinson (incl. Bard)	Magnum	CNB	Golden standard, small and light weight, reusable	Spring-loaded
Leica Biosystems	Mammotome Elite	VAB	Only tetherless VAB, able to take several samples without extraction	Manual insertion

Source: Redeye Research

While we consider the competition to be made up of large global enterprises with significant financial muscles, the innovation provided by NeoDynamics and its NeoNavia product remains unique and, in our view, has clear advantages. The clear disadvantage of the competing products is that they are based on the old spring-loaded technique; here, NeoNavia has the upper hand with their micro-pulse technology and without lower-quality tissue samples.

Swedish competitor BiBBInstruments

While BiBBInstruments focuses on the upper gastro-intestine, the company has also developed a biopsy instrument, called EndoDrill Core Needle, that can be used on breast tissue. The instrument is based on a manual rotational technique where the drill-shaped needle can obtain sample sizes larger than the actual insertion length of the needle. Like NeoNavia, EndoDrill Core Needle has been developed using a different technique to the traditional, old "fire-and-forget"-technology.

BiBBInstruments' EndoDrill Core Needle

Source: BiBBInstruments

EndoDrill Core Needle was evaluated at three Swedish university hospitals (Lund, Linköping and Uppsala) before the CE-marked product was launched in Sweden at the end of June this year. However, EndoDrill Core Needle has not yet undergone any clinical trials, unlike NeoNavia, which is currently undergoing one and has one soon to start. In our opinion, clinical trials are important to fully validate the product and are a perfect tool to facilitate registrational processes in, for example, the US and China. BiBBInstruments plans to initiate a clinical trial for EndoDrill Core Needle. However, their main focus is not on this product and they have instead stated that they are initiating a clinical trial with another instrument.

A key difference between EndoDrill Core Needle and NeoNavia is that NeoNavia has the possibility to use three different probes: core needles, vacuum-assisted needles and NeoDynamics' novel FlexiPulse needle. EndoDrill Core Needle is only equipped with its novel drill-based core needle, which, we believe, could possibly hinder practitioners from fully applying the biopsy instrument as it is different from today's practices. The advantage we see with NeoNavia is that it fits into today's care flow and does not require any additional training for practitioners.

EndoDrill Core Needle

Source: BiBBInstruments

The market for breast biopsy is huge and we do not see a "winner takes all" situation in the distant future. We believe that NeoDynamics has a great chance to take Swedish market share despite the presence of EndoDrill Core Needle, and we do not view BiBBInstruments as a particular threat for breast cancer biopsy for the following reasons:

1) No clinical trials, past or present, for EndoDrill Core Needle, while NeoNavia will have gone through two in H2 20
2) EndoDrill Core Needle offers a drill-based manual method, while NeoNavia provides an automated insertion that fits into today's practices, which requires no new training
3) NeoDynamics' pre-clinical study by Schässburger et al. 2018 shows the benefits of NeoNavia compared to today's gold standard. BiBBInstruments has not published such a study for its EndoDrill Core Needle
4) Both products are new to the market (NeoNavia is not yet commercially available) and we believe they can gain traction regardless of each other because of the size of the market

5) BiBBInstruments' core focus is on gastrointestinal biopsies, while NeoDynamics' is on breast biopsies. Furthermore, the two companies are similar financially and organisationally, minimising BiBBInstruments' possibility to "push" NeoDynamics aside

Liquid biopsies

The method of taking a biopsy through a blood samples is referred to as a liquid biopsy. Today, this method is far from being as established as traditional tissue biopsies and we believe it is not to be seen as a competitive method to, for example, breast biopsies. We expect the method to remain in a research setting in the near-future, and that the use of tissue biopsies will instead benefit from the advancements of liquid biopsies.

Strategy

Below we discuss the company's strategy to go from an R&D-intensive business to achieve commercial success. In our view, NeoDynamics' path to the commercial stage is based on three factors: 1) studies and KOLs, 2) partners and distributors and 3) direct sales. While the company has put considerable effort into clinical validation of NeoNavia, we would like to see more execution on commercially oriented processes, specifically signing with a US partner during the beginning of H2 20.

Business model

NeoDynamics' business model is based on sales of the driver and probes, as well as the base unit, although this can be leased. While the price levels are significantly higher for the base unit and driver, the probes will generate recurring sales as they cannot be reused. We expect over 90 percent of the income, on average between 2020-2030, to be generated through recurring sales of the probes. Given the reviews and praise from practitioners, results from the Schässburger et al. 2018 study and what we expect from the ongoing clinical trials, we believe NeoNavia will be included in clinical guidelines and receive reimbursement for its key markets.

Studies and KOLs

As stated earlier, NeoDynamics' focus on providing data from clinical trials is important in attracting the attention of, and interest from, medical professionals, partners and investors. By providing clear clinical information on performance, safety, health and economic aspects, NeoDynamics will gain additional support from KOLs who we expect will recommend NeoNavia to their professional network. This top-down approach will generate more sales through a more efficient process.

As discussed in the KOLs section, NeoNavia is supported by well-connected KOLs, who have taken a positive stance on the instrument early in the PULSE study. We believe the company's strategy of using KOLs for peer-to-peer sales in the conservative healthcare industry is the right way to go. We expect more KOLs to be added in the US in the next six to nine months and assume they will have the same positive outlook on NeoNavia. However, we expect a partnership to drive sales in the US.

Partners, distributors and direct sales

While NeoDynamics puts an emphasis on peer-to-peer sales, we also assume that partners and distributors will be used to supply the NeoNavia at higher volumes. In our view, the company must start attracting distributors so that NeoNavia can be successfully rolled out in the second half of 2020. Today, NeoDynamics has no commercial distributors. While distribution agreements are central in sales channels, we do not consider them great stock catalysts considering the company's already stated strategy of peer-to-peer and direct sales.

NeoDynamics will focus on finding a partner in the US and already has a partner for the Chinese market: Boai NKY Medical Holdings Ltd. (We discuss this in greater detail later in this report). Considering the praise NeoNavia has already received and the presented study results, we assume attracting a partner will not be difficult. We expect a potential partnership with royalties of 20 percent. We believe a signed US partnership could have a significant impact on the stock price, and we expect a US partnership to be signed in about nine months, as we believe the German PULSE study will be finished and published by then.

We believe distributors will be used on markets outside EU-5 and Sweden, where we expect the company to address these countries using their in-house sales force. While the company already has stated that their in-house sales force will be used for Germany and the UK, we assume that the remaining EU-5 countries will be included as well (Spain, Italy and France).

Boai NKY Holdings Limited

Boai NKY Holdings Limited is a Chinese life science company founded in 2009; it had revenues exceeding USD 100 million in 2018. Boai NKY has a market cap of 758 USD million and is listed on the Shenzhen Stock Exchange. Boai NKY holds around 32 percent of the shares in NeoDynamics and is represented on the board by Xiao-Jun Xu, associate professor at the Karolinska Institute. In addition to this, the chairman of Boai NKY, Huasheng Fang, is the fourth-largest owner of NeoDynamics with around 5 percent of the shares. In total, Boai NKY together with Huasheng Fang holds over 37 percent of the shares in the company. We see it as a particularly positive that Boai is not only a partner to market and sell NeoNavia in China but also a large shareholder with board involvement. This, we believe, further strengthens the perception of its long-term focus on NeoDynamics.

Regulatory processes

We see it as a particularly positive that Boai is not only a partner to market and sell NeoNavia in China but also a large shareholder with board involvement

Will believe NeoDynamics will file for CE approval for NeoNavia in Q4 19 and we expect the company to receive this in Q2 20. As the companys has already undergone the process of receiving CE approval for the validation version of NeoNavia, we believe delays or incomplete documentation from NeoDynamics are unlikely. Furthermore, Magnus Olsen, responsible for development and production, and Kai-Uwe Schässburger, responsible for clinical development and medical affairs, have long track records of taking products through the CE process.

We expect the FDA registration process be initiated in Q4 2019 via a 510(k), and we anticipate approval in Q2 20. While NeoDynamics has stated that it will focus on a top-down approach, starting at selected centres in New York and Texas, we believe that a partnership may accelerate a nationwide rollout in a short time period. A partnership may follow the results from the German clinical trial in H2 2020, in our view.

We believe the Chinese market will open for NeoDynamics after the Chinese FDA approves NeoNavia in 2021. We expect a Chinese clinical study to be initiated in 2020 that could be of help to increase awareness of NeoNavia. Moreover, we assume that Boai NKY will be of help with the Chinese registration process.

Potential exit

None of the big players have developed their own biopsy instruments, instead they have acquired them to expand their own product portfolios. In our view, this strategy makes sense for the big companies as they would not have to put time into developing a product and patents. Instead, with their financial muscles, they have the possibility to scoop up these companies when they have gained traction or enough clinical data. NeoDynamics mentions that their company could be a potential take-over candidate, in our view, this is not unlikely. We believe NeoNavia's advantages need more documentation and the company to start selling before any potential buyer would act, as the healthcare industry is rather

conservative, and the large companies can afford to wait before making a move. We discuss this in more detail in the Valuation section.

People

NeoDynamics' management has experience in the healthcare industry, specifically medtech, and the finance sector. In our view, management is capable of taking NeoNavia to market and expanding the business, considering its vast experience and seniority. Furthermore, we are positive about management's connections with KOLs and specifically its experience in taking products from development through regulatory processes and to the market.

Name	Position	Holdings	Experience
Management			
Anna Eriksrud	CEO	31,844 shares	Eriksrud has experience as healthcare entrepreneur within Health Care, starting and operating Apoteksamariten from 2009 to 2015. In addition, she has extensive experience in marketing and managing international teams within medtech and pharmaceuticals in leading positions abroad at Q-Med and Pharmacia.
Jörgen Vrenning	CFO	356,054 shares	Vrenning has previously been at Catella, Handelsbanken and Carnegie working as an Asset Manager and CEO. Also, he has been an external CEO and CEO at NeoDynamics before the IPO. Vrenning has a BSc in Business and Economics from the Stockholm School of Economics.
Magnus Olsen	Chief Development & Operations Officer	84,993 shares	Olsen has more than 15 years' experience in product development and portfolio management within the medtech sector. Prior to joining NeoDynamics in 2012, Olsen was project leader and in the management team of St. Jude Medical.
Kai-Uwe Schässburger	Director Clinical Development & Medical Affairs	50,000 shares	Schässburger has thorough experience from clinical validation and has a solid network of Key Opinion Leaders in Europe and the US. He has an MSc in Physics from KTH and a PhD in Medical Science from Karolinska Institutet.
Gunilla Almqvist	Sales and Marketing Manager	-	Almqvist has thorough experience within product management, brand management, business development and marketing. Further, she has carried out successful launches of pharmaceuticals working both towards medical professionals and the consumer market.
Ian Galloway	Country Manager, UK	-	Galloway is hired on a consultancy basis and is responsible for marketing and product launch in the UK. He has experience as Healthcare Director and comes most recently from consultancy work at Sobi where he acted as Senior Brand Manager.

Sources: NeoDynamics (2019), Redeye Research

The Board of Directors, led by Ingrid Salén, consists of experienced professionals with impressive industrial and academic track records. We find it particularly positive that Boai NKY, the largest shareholder in NeoDynamics and its commercial partner, has a board representative: Xiao-Jun Xu, associate professor at the Karolinska Institute.

Name	Position	Holdings	Experience
Board of Directors			
Ingrid Salén	Chairman	290,694 shares	Salén had been working at Scania CV as a Purchasing Manager and joined the medtech sector in 2012 when she started as Director of Sourcing and Supplier Management at Maquet Critical Care. She is currently an advisory consultant and board member of several companies in different sectors.
Clas Pettersson	Board member	242,834 shares	Pettersson is currently CFO at XMReality and has had similar roles, although part-time, at AMRA Medicals and Impact Coatings. Furthermore, Pettersson have a history as an entrepreneur, is a board member in several companies and is a member at University of Linköping's Venture capital department.
Ulf Boberg	Board member	7,500 shares	Boberg has nearly 20 years' experience working in Life Sciences as CEO, board member and Chairman of the Board. Most recently, he acted as CEO of Miris Holding and before that, Creative Antibiotics Sweden. Boberg has a PhD in Renal Physiology and an Executive MBA from Uppsala University.
Xiao-Jun Xu	Board member	-	Xu is a renowned PhD at Karolinska Institutet and has published over 180 scientific research reports. Moreover, Xu has been involved in several pharmaceutical projects regarding commercialisation and is currently a board member of Boai NKY Medical Holdings Ltd, NeoDynamics' largest owner.
Carina Bolin	Board Member	24,390 shares	Bolin holds a Master of Law from Uppsala University and is a general counsel at Olink Proteomics. She previously held the same position at Q-Med and has been a lawyer at ABB. In addition, Bolin has been a board member of several smaller companies.

Sources: NeoDynamics (2019), Redeye Research

Owners

We find the ownership of NeoDynamics to be impressive and interesting, with three high net worth individuals on the top 10 list: Johan Thorell, Huasheng Fang and Rutger Arnhult. As mentioned earlier, Chinese medtech company and NeoDynamics' partner Boai NKY Medical Holdings Limited is the largest shareholder with 32.17 percent of the shares. Furthermore, Huasheng Fang, chairman of that company, is the fourth-largest shareholder in NeoDynamics. Moreover, among management and the board, Jörgen Vrenning, Ingrid Salén and Claes Pettersson are on the top 10 list, holding a total of 5.85 percent of the shares. We would like to see more insider ownership, specifically from CEO Anna Eriksrud, who has holdings of around SEK 136.000. As the company has mentioned, it sees a buy-out of NeoDynamics as possible, we would expect substantially higher insider ownership. However, the CEO and two others in the management team have options for 550,000 shares at SEK 10.50 per share with right to exercise October 2021. Considering the stock is currently trading at SEK 4.30 a share, today's levels would be a bargain as well if management depends on the SEK 10.50 per share strike price.

The proposed convertible issue of SEK 15 million has already received pre-subscriptions of SEK 10 million of a small group of existing investors. We believe that the same group of investors are likely to take part in next years' expected capital raise as well.

Top 10 Owners	Stocks	% Capital
Boai NKY Medical Holdings Ltd	4 922 544	32,17%
Rutger Arnhult	1 278 457	8,35%
Johan Thorell	914 900	5,98%
Huasheng Fang	768 290	5,02%
Jörgen Vrenning	361 754	2,36%
ADB Invest AB	360 700	2,36%
Ingrid Salén	290 694	1,90%
Humlan Fastighetsutveckling AB	290 000	1,89%
Claes Pettersson	242 834	1,59%
Mats Espander	200 242	1,31%

Source; Redeye Research, MF Holdings

Lock-up

The NeoDynamics IPO included a lock-up restraining management, key investors and board members from selling more than ten percent of their holdings during the first year. The lock-up period ends on December 7th, 2019 and could potentially lead to a sell-out in the stock.

As it was mentioned in the proposition of the convertibles that a small group of existing shareholders have pre-subscribed for two-thirds of the convertibles, we believe they are on the top-ten list already. From this, we assume that it is the investors who are already included in the lock-up with a long-term focus. We are rather confident that any sell-out after the lock-up is not very likely.

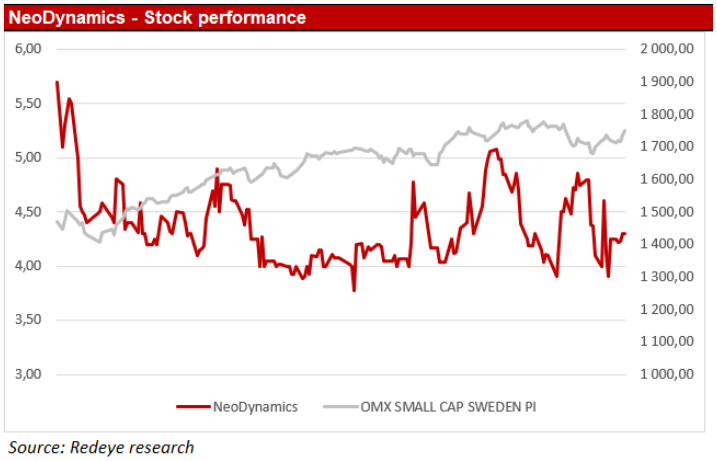
Lock-up	% capital
Boai NKY Medical Holdings	32,17%
Rutger Arnhult	8,35%
Johan Thorell	6,00%
Jörgen Vrenning	2,36%
Ingrid Salén	1,90%
Claes Petterson	1,59%
Ivaria AB	0,88%
Magnus Olsen	0,56%
Kai-Uwe Schässburger	0,33%
Anna Eriksrud	0,21%

Source; Redeye Research, MF Holdings

Stock performance

Disappointing performance since IPO

The stock is down around six percent in 2019 and some 50 percent since the IPO in December 2018 at SEK 8.20 per share. The stock has had a volatile first year of trading, reaching a low of SEK 3.70 per share at the end of April. From its all-time low it soared to SEK 5.20 in early July but has since seen a fall of 19 percent and is now trading at around SEK 4.30 per share.



Source: Redeye research

In our view, the negative performance can be explained through the high burn rate with a need for cash and lack of triggers for 2019. Furthermore, there is almost a non-existent stock turnover which itself can be physical barrier for investors to purchase shares in NeoDynamics. However, we see several interesting triggers during the first half of 2020; finished clinical trials, regulatory approvals and a potential partnership in H2 2020, though

the anticipated convertible injection of capital is not enough to sustain 2020 operations. In our view, a total of around SEK 40 million is required until the company turns cash flow positive in 2023 of which roughly SEK 30 million is required to survive 2020.

Patents

NeoDynamics has four pending patents for India, the US, China and Europe, as well as four approved patents for China, the US, EU-5, Sweden, Canada, Australia and Japan. These global patents expire between 2027 and 2034, giving NeoDynamics time to capitalise on its product and to strengthen the patents nearing expiry.

Its micro-pulse technology has patent coverage in China, the US, Germany, France, the UK, Sweden and Japan. The patents related to the needle design of NeoNavia are covered in Europe and the US and are under investigation in China.

We believe patents for the US, China and EU-5 are the most important for NeoDynamics, considering the number of breast biopsies conducted in these regions as well as the price levels of such procedures.

	Patent	Approved	Under investigation	Expires in
NeoNavia	Reciprocating needle for tissue sampling	China, US, Germany, France, Great Britain, Sweden, Japan	India	2029 (2031 in the US)
	Digital tip tissue sampling arrangement	Europe	US, China	2034
	Trocar arrangement for tissue sampling device	Europe, US	China	2034
	Multi Biopsy probe driver arrangement		Europe, US, China	-
Technology for future development of NeoNavia	Enhancement Technology for Biopsy Procedures to minimize the risk of cell dissemination	China, US, Germany, Spain, France, Great Britain, Italy, Sweden, Japan, Australia, Canada		2027 (2029 in the US)

Redeye Research, NeoDynamics

Financial forecast

Our financial estimates are based on the growth prospects we see for NeoDynamics in breast cancer diagnosis. Our calculations are based on the US, EU-5 and Chinese market. Below we discuss the number of biopsies on these markets, the company's potential market share, geographical distribution, product distribution, price levels, gross margins, sales and capital need that we expect in our Base Case.

Number of breast biopsies

We estimate the number of breast biopsies based on the incidence of breast cancer, but also on the number of women who undergo the procedure without being diagnosed with the disease. According to our industry sources, around one in five women examined with biopsy has cancer. This means that the number of breast biopsies exceeds the number of women diagnosed. Furthermore, we expect around three biopsies per diagnosed woman in China, four in EU-5 and six in the US. From these numbers we estimate the number of biopsies to just over 7.3 million in EU-5, US, China and Sweden in 2020. Under the period 2020-2030, we assume a five percent annual increase in the number of biopsies.

Breast cancer incidence (thousand)

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
EU-5	253	268	279	284	287	299	311	323	336	350	364
US	291	308	321	330	337	354	368	383	398	414	431
China	368	392	418	445	474	505	538	573	611	651	694
Sweden	8	8	8	8	8	8	8	8	9	9	9
Total	**920**	**977**	**1025**	**1068**	**1107**	**1166**	**1225**	**1288**	**1354**	**1423**	**1496**

Source: Redeye Research, Datamonitor, Globocan

Number of breast biopsies (thousand)

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
EU-5	1771	1877	1952	1991	2011	2092	2175	2262	2353	2447	2545
US	2910	3085	3208	3304	3370	3539	3680	3828	3981	4140	4306
China	2575	2744	2924	3115	3319	3536	3768	4014	4277	4557	4856
Sweden	63	64	64	65	65	66	67	67	68	69	70
Total	**7319**	**7769**	**8148**	**8475**	**8766**	**9233**	**9690**	**10172**	**10679**	**11213**	**11776**

Source: Redeye Research

Potential market share

We believe the global market will be more difficult to penetrate than the local Swedish market due to the market size and importance for the larger players. While we believe NeoDynamics has the potential to gain market share in Sweden rather quickly, reaching ten percent already in 2023 according to our estimations, we take a more conservative stance towards the global markets.

Thanks to its KOLs, expected positive clinical trials, an anticipated US partnership and an already established Chinese partnership, we believe NeoDynamics has the potential to gain a one percent market share in 2022, growing substantially under the period, reaching five percent in 2028 from 0,05 percent in 2020, where we assume a product launch under the latter part of H2.

Market share - NeoDynamics

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
EU-5	0,05%	0,5%	1%	2%	3%	4%	4,5%	5%	5%	5%	5%
US	0,05%	0,5%	1%	2%	3%	4%	4,5%	5%	5%	5%	5%
China	0%	0,5%	1%	2%	3%	4%	4,5%	5%	5%	5%	5%
Sweden	2%	4%	6%	10%	12%	14%	16%	17%	18%	18%	18%
Total	**0%**	**0,5%**	**1%**	**2%**	**3%**	**4%**	**4,6%**	**5%**	**5%**	**5%**	**5%**

Source: Redeye Research

Based on the market share of the volume of anticipated breast biopsies, we expect NeoNavia to be used in around 175.000 procedures in 2023, reaching roughly 600.000 procedures in 2030.

Geographical distribution

While we believe the Swedish market is important for the company's financials in the short-term, its significance will be reduced during the period. The US and Chinese market are the largest markets in terms of the number of biopsies. However, we estimate a 20 percent royalty from partnerships on these markets, resulting in most of the income to be generated from EU-5 as we expect an in-house sales force for that market.

Number of biopsies - NeoNavia (thousand)

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
EU-5	0,9	9	20	40	60	84	98	109	118	127	127
US	1,5	15	32	66	101	142	166	184	199	215	215
China	0,0	14	29	62	100	141	170	193	214	237	243
Sweden	1,3	3	4	6	8	9	11	11	12	12	13
Total	**3,6**	**41**	**85**	**175**	**269**	**376**	**444**	**496**	**543**	**592**	**598**

Source: Redeye Research

Geographical distribution of sales

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
EU-5	45%	58%	59%	59%	59%	59%	59%	58%	58%	58%	58%
US	15%	20%	21%	21%	22%	22%	23%	23%	23%	23%	23%
China	0%	12%	12%	13%	13%	13%	13%	13%	14%	14%	14%
Sweden	39%	10%	8%	7%	6%	5%	5%	5%	5%	5%	5%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Redeye Research

Product distribution

We expect NeoDynamics' probes to somewhat follow industry product distribution where the CNB probes will make up most of the number of biopsies sold. However, considering the different price levels of the probes, we estimate that most of the income will be generated from their novel FlexiPulse probe. During the period we estimate a stable distribution of the number of probes sold, and distribution of sales.

Product distribution - sales

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CorePulse	34%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%
VacuPulse	20%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
FlexiPulse	45%	43%	43%	43%	43%	43%	43%	43%	43%	43%	43%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Redeye Research

Product distribution - probes

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CorePulse	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%
VacuPulse	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
FlexiPulse	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Redeye Research

Price levels of the probes

We expect the probes for NeoNavia to be priced similarly to today's prices. We estimate the competitors' VAB probes to be priced at around SEK 2.100 – 2.700 and CNB probes at around SEK 320 – 730 in the EU. We base our estimated prices for NeoNavia on these numbers as well as prices listed in NeoDynamics' prospectus. We also estimate that the overall price level in the US to be 50 percent higher than in EU-5 and the Chinese price levels to be 80 percent of the EU-5 price levels. We believe that NeoDynamics has to potential to have this rather high price in China thanks to its partner's industry experience and focus on premium price levels in the region. We assume a price erosion of two percent annually, during our forecast period.

Price levels - Probes				
(SEK)	US	EU-5	China	Sweden
CorePulse	1 043	696	556	696
VacuPulse	3 611	2 140	1 926	2 140
FlexiPulse	3 210	2 408	1 926	2 408
CNBs	803	535	268	535
VABs	3 692	2 461	1 231	2 461

Source: Redeye Research, NeoDynamics

Gross margins affected by geographical price levels

We believe the different probes to have attractive gross margins, especially in the US, where we expect the highest price level. However, as the price levels drop in EU-5 and China compared to the US, the gross margins will be negatively affected.

Gross margin - US

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CorePulse	77%	77%	77%	77%	77%	77%	77%	77%	77%	77%	77%
VacuPulse	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
FlexiPulse	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%

Source: Redeye Research

Gross margin - EU-5

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CorePulse	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
VacuPulse	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
FlexiPulse	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%

Source: Redeye Research

Gross margin - China

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CorePulse	n/a	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
VacuPulse	n/a	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
FlexiPulse	n/a	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%

Source: Redeye Research

As illustrated in the above tables, there is a gap between the gross margins in the different regions, because of changing regional price levels but the same costs of goods sold. In our Base Case the overall gross margin for NeoDynamics is at average 69 percent during our forecast period.

Sales 2020-2030

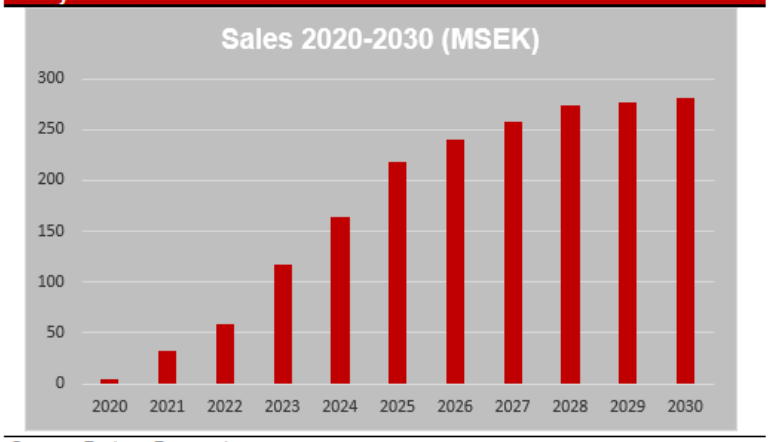
Considering the areas discussed above, our Base Case entails a market share of around five percent of the total number of biopsies expected in 2028 onwards. Furthermore, we expect sales with a CAGR of 52 percent during the period with gross margins averaging 69 percent.

NeoDynamics: Sales - Base Case

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Market share	0,05%	0,5%	1%	2%	3%	4%	4,6%	5%	5%	5%	5%
# of biopsies	3,6	41	85	175	269	376	444	496	544	593	599
Income	**4**	**33**	**59**	**117**	**164**	**219**	**240**	**258**	**274**	**280**	**285**
YoY growth		693%	78%	99%	40%	33%	10%	8%	6%	2%	2%
Gross margin	69%	68%	69%	69%	69%	69%	70%	70%	70%	70%	70%

Source: Redeye Research

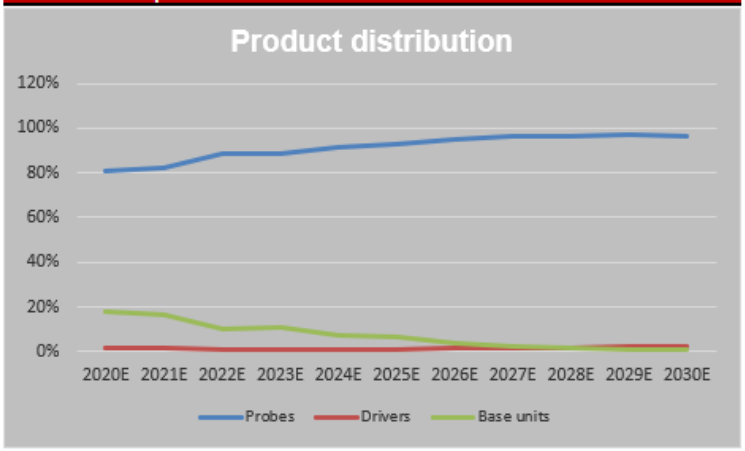
NeoDynamics: Sales - Base Case



Source: Redeye Research

During the beginning of the period we estimate that sales from the base units will have a significant effect on the net income for NeoDynamics. However, we do not believe that these systems will need to be replaced during our forecast period, resulting in sales from the probes to make up the majority of income. On average, we assume probes will make up 90 percent of sales.

Distribution of product sales



Source: Redeye Research

Convertible issue proposition and further capital need

On August 28th, NeoDynamics proposed an issue of convertibles up to SEK 15 million, which would fund operations until early 2020. As of the end of Q2 2019, NeoDynamics had around SEK 6 million in cash. We estimate that the anticipated convertibles will fund operations through Q1 2020, where we expect more funds to be raised. Two-thirds of the convertible issues have received pre-subscriptions from existing shareholders, and we believe that the company will be able to issue the full amount of SEK 15 million. The subscription price of the convertible bonds has been priced at SEK 1 per convertible and will run with a ten percent annual interest. Furthermore, the convertibles can be converted at a price corresponding to a future share issue.

We estimate an additional SEK 30-40 million is required for the company to turn cash flow positive in 2023, of which roughly SEK 30 million is required to survive 2020. We expect a capital injection during H1 2020, likely during Q1 2020. Depending on the development of the company, for example a successful CE and FDA filing and clinical study results, a direct issue could be possible. However, we take a more conservative stance considering the uncertainties and subsequently assume a rights issue. We believe this would dilute the stock significantly, as the convertibles alone would dilute the stock by roughly 25 percent, and an additional rights issue would also increase the number of shares. We estimate a total dilution of around 60 percent in 2020.

Valuation

We value the case from three different scenarios, the Base Case as the most likely scenario to play out, the Bear Case as our pessimistic scenario and the Bull Case as our optimistic scenario. Moreover, we also discuss a scenario where NeoDynamics is taken over by a larger player – something that is typical for the industry.

In our Base Case we believe initial sales will be generated during the latter part of H2 20, all income generated during 2019 are categorised as “activated work for own account”, meaning it is not cash flow generating. We estimate that 2022 will be the first year with a profit, reaching SEK 3 million in net income with an EBIT margin of seven percent and sales of SEK 59 million. However, for the rest of the period we expect EBIT margins averaging 26

percent, peaking at 30 percent in 2025. We expect sales to reach SEK 285 million in 2030 up from SEK 33 million in 2021.

NeoDynamics: Income Statement - Base Case																		
(SEKm)	2017	2018	Q 1 19E	Q2 19E	Q3 19E	Q4 19E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Income	**11**	**25**	**5**	**6**	**5**	**5**	**22**	**4**	**33**	**59**	**117**	**164**	**219**	**240**	**258**	**274**	**280**	**285**
Gross margin	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*69%*	*68%*	*69%*	*69%*	*69%*	*69%*	*70%*	*70%*	*70%*	*70%*	*70%*
Gross profit	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**23**	**40**	**80**	**113**	**151**	**167**	**180**	**192**	**196**	**200**
Activated work for own account	11	25	5,4	6,3	5,0	5,0	22	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
RnD, external and other operating costs	-14	-33	-7	-8	-5	-5	-25	-26	-12	-21	-35	-49	-66	-84	-90	-96	-101	-103
Personnel	-5	-7	-2	-2	-2	-2	-8	-8	-15	-15	-18	-18	-18	-18	-22	-22	-22	-25
Amortization/depreciation	-0,4	-0,6	-0,1	-0,1	-0,1	-0,1	-1	-1	-1	-1	0	0	-1	-1	-1	-2	-2	-2
EBIT	**-7**	**-16**	**-4**	**-4**	**-2**	**-2**	**-12**	**-32**	**-5**	**4**	**27**	**46**	**66**	**64**	**67**	**72**	**71**	**70**
EBIT margin	***n/a***	***n/a***	***n/a***	***n/a***	***n/a***	***n/a***	***n/a***	***n/a***	***n/a***	***7%***	***23%***	***28%***	***30%***	***27%***	***26%***	***26%***	***26%***	***25%***
Financial income	0,0	0,1	0,0	0,0	0,0	0,0	0	0	0	0	0	0	0	0	0	0	0	0
Financial costs	0,0	-2,7	0,0	0,0	0,0	0,0	0	-2	0	0	0	0	0	0	0	0	0	0
EBT	-7	-18	-4	-4	-2	-2	-12	-34	-5	4	27	46	66	64	67	72	71	70
Taxes	0,0	0,0	0,0	0,0	0,0	0,0	0	0	0	-1	-6	-9	-14	-13	-14	-15	-15	-14
Net profit	**-7**	**-18**	**-4**	**-4**	**-2**	**-2**	**-12**	**-34**	**-5**	**3**	**21**	**36**	**53**	**51**	**53**	**58**	**57**	**56**
Net profit margin	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*		*n/a*	*n/a*	*n/a*	18%	22%	24%	21%	21%	21%	20%	19%

Source: Redeye Research

Closing in on the end of the period, we expect NeoDynamics' costs to rise as more focus will be on developing and strengthening patents as they are reaching their expiration dates. During the period we believe NeoDynamics will add more key personnel to the business. Specifically, we believe four more people will be hired in 2021, increasing the number of employees to nine. At the end of the period we expect 15 employees in the company.

Scenarios

In all three scenarios we use a fundamental Discounted Cash Flow (DCF) framework:

- Base Case (most likely)
- Bear Case (pessimistic)
- Bull Case (optimistic)

Our DCF valuation indicates a range of SEK 4 – 23 per share with our Base Case at **SEK 10** per share.

Key model assumptions

All scenarios are based on some key model assumptions in addition to their respective specific assumptions. These are listed as:

Positive clinical trials

In order for NeoDynamics to be able to sell at larger volumes, positive clinical results are required to gain the interest of KOLs and partners.

Regulatory approvals in time

We base our sales forecasts on the timing of regulatory approvals, any delays would negatively impact the short-term sales of NeoDynamics. We expect CE and FDA in Q2 20 and Chinese regulatory approval in 2021.

Partnerships

In addition to the Chinese partnership, we expect NeoDynamics to sign with a US partner during H2 2020. The royalties we assume are at 20 percent during the whole period, for both China and the US. EU-5 will be addressed using direct sales.

Wacc

A central part of our valuation is the weighted average cost of capital (WACC). In our rating of NeoDynamics, we estimate a WACC of 15%, which is used in all three scenarios.

Capital injection

In all three scenarios, we expect the proposed convertible issue to come through, and that an additional SEK 30-40 million will be raised during H1 2020. We do not include the anticipated dilution of roughly 60 percent in our calculations.

Base Case scenario

We assume sales of SEK 4 million in 2020, reaching a two percent market share in 2022 with revenues of SEK 59 million and a net income of SEK 3 million. During the period we estimate a CAGR of 53 percent, reaching sales of SEK 285 million in 2030 with a market share of five percent. The gross margin during the period is estimated at an average of 69 percent with an average EBIT margin of 26 percent after turning cash flow positive in 2023 until 2030.

NeoDynamics: Base Case - Key Assumptions			
Assumptions		**DCF value**	
CAGR Sales 2020-2030	53%	WACC	15%
EBIT margin 2023-2030 (avg)	26%	Net present value FCF	46
Peak market share	5%	Net present value of terminal	84
Terminal		EV	129
Terminal growth FCF	2%	Net cash	25
Terminal EBIT margin	24%		
		DCF value	155
		Estimated Fair value	10
		Current share price	4,3
		Potential	133%

Source: Redeye Research

Bear Case scenario

In our Bear Case, we estimate sales of SEK 2.6 million in 2020, reaching a one percent market share in 2023 with revenues of SEK 51 million and a net income of SEK 6 million. We estimate a CAGR of 51 percent, reaching sales of SEK 164 million in 2030 with a market share of three percent. The gross margin during the period is estimated at an average of 60 percent with an average EBIT margin of 21 percent after turning cash flow positive in 2024.

NeoDynamics: Bear Case - Key Assumptions			
Assumptions		**DCF value**	
CAGR Sales 2020-2030	51%	WACC	15%
EBIT margin 2024-2030 (avg)	21%	Net present value FCF	-7
Peak market share	3%	Net present value of terminal	39
Terminal		EV	32
Terminal growth FCF	1%	Net cash	25
Terminal EBIT margin	19%		
		DCF value	57
		Estimated Fair value	3,8
		Current share price	4,3
		Potential	-13%

Source: Redeye Research

Bull Case scenario

In our Bull Case scenario, we estimate sales of SEK 7 million in 2020, reaching a two percent market share in 2022 with revenues of SEK 123 million a net income of SEK 20 million. We estimate a CAGR of 55 percent, reaching sales of SEK 513 million in 2030 with a market share of eight percent. The gross margin during the period is estimated at an average of 75 percent with an average EBIT margin of 28 percent after turning cash flow positive in 2022.

NeoDynamics: Bull Case - Key Assumptions			
Assumptions		**DCF value**	
CAGR Sales 2020-2030	55%	WACC	15%
EBIT margin 2023-2030 (avg)	28%	Net present value FCF	151
Peak market share	8%	Net present value of terminal	172
Terminal		EV	323
Terminal growth FCF	2%	Net cash	25
Terminal EBIT margin	26%		
		DCF value	349
		Estimated Fair value	23
		Current share price	4,3
		Potential	429%

Source: Redeye Research

Potential take-over candidate

As the large players themselves have not developed their biopsy instruments, but have built their product portfolios through acquisitions, we also look at this scenario for NeoDynamics. However, we do not include this in any of our fundamental scenarios (Base, Bear, Bull), as we believe that this early phase company has much more to prove. First off, getting regulatory approvals, followed by ramping up sales.

According to Medtech 360, the large players' (for example, Beckton Dickinson incl. Bard, Leica Biosystems and Hologic) acquisitions of listed companies have been made at 15-20 times EBIT. What is also interesting is to look at the number of biopsies performed by these companies before being taken over, and to what price.

SenoRx, with their Encor breast biopsy instrument, was acquired by Bard in 2010 for 213 million USD. At the time it had conducted around 130.000 biopsies five years after its market introduction. In 2016, Hologic acquired Suros Surgical with their ATEC breast biopsy instrument at the price of 240 million USD. In 2006, ATEC had been used in about 60.000 biopsy procedures three years after its market introduction.

In 2023 we expect an EBIT result of SEK 27 million with an accumulated number of biopsy procedures of around 304.000. In our view, the number of biopsy procedures is not the most important factor for determining what a potential price tag could be for a take-over. Instead, we believe looking at the EBIT of the entire business better entails the reason to acquire the company. In that case, with an EBIT multiple of 15-25, a potential price tag on NeoDynamics could be between SEK 400-670 million in 2023. Before any such price tag would be reasonable, however, the company has much more to prove.

Sensitivity analysis – WACC and share price

Our DCF valuation is heavily dependent on the WACC applied, in all our cases we use a discount rate of 15 percent based on Redeye Rating. However, because of the sensitivity of the WACC used and its impact on the share price, we demonstrate how our valuation could differ in our scenarios.

NeoDynamics: Sensitivity - Share Price					
Case	13%	14%	15%	16%	17%
Base	12	11	**10**	9	8
Bear	5,2	4,4	**4**	3,2	2,7
Bull	29	26	**23**	20	17

Source: Redeye Research

Peer valuation

In addition to our DCF model, we present a peer valuation that is excluded from our scenarios. The peer valuation is constructed to present another perspective on the valuation of NeoDynamics. For investors, peer valuation can be of interest to see how a company could be valued, given parameters similar to that of another comparable company or companies. However, in this case we highlight the uncertainties when comparing early-phase companies to other early-phase companies. Instead, by looking at companies that are not too distant from NeoDynamics, financially wise, but have been granted regulatory approvals, we believe some interesting aspects can be discussed.

Peers to NeoDynamics							
(SEKm)	Market Cap	Cash*	EV	Q2 Sales	Products	CE approval	FDA approval
NeoDynamics	66	21**	45	0	NeoNavia	No	No
BiBBInstruments	134	7,5	127	0,2	EndoDrill GI Upper	Yes	No
					EndoDrill Core Needle	Yes	No
					EndoDrill Model X	No	No
Dignitana	365	11	354	12	DigniCap	Yes	Yes
ScandiDos	158	2	156	16	Delta Discover	Yes	Yes
					Delta Phantom	Yes	Yes
Medfield	219	8	211	1	Medfield Strokefinder MD100	No	No
		Mean	212		**Average # of products**	2	

**based on latest interim report*
***adjusted for aniticpated convertible issue for NeoDynamics*
Source: Redeye Research

As the table above illustrates, NeoDynamics lacks regulatory approvals for their product NeoNavia, while most of the compared companies have received approvals and have sales. As mentioned in our investment thesis, regulatory approvals are key catalysts for the company, and we believe a higher valuation is given in the event of approval, which we expect in Q2 2020. While the mean EV of BiBBInstruments, Dignitana, Scandidos and Medfield is SEK 212 million, the average number of products per company is two, while NeoDynamics only has one product.

In the event of regulatory approvals (CE and FDA) for NeoNavia, we argue that an EV of around 50 percent of the mean EV of the peers, should be justified – which would correspond to around SEK 100 million. Adding back the cash position of SEK 21 million, the market capitalization could be SEK 121 million, compared to the SEK 138 million as calculated from our DCF model.

While comparing NeoDynamics to BiBBInstruments initially may sound justified, considering it is also a small Swedish biopsy company, it is our view that the companies are not fully comparable on a more detailed level. Because of BiBBInstruments' wider focus on more indications than just breast cancer, we do not believe NeoDynamics and BiBBInstruments should be compared to as exact peers. However, with further commercial steps taken by the two companies, a fair comparison may be possible in the future. As of today, BiBBInstruments' market capitalization is around 100 percent higher than NeoDynamics at SEK 134 million, interestingly enough this is also close to our Base Case valuation for the company.

Summary Redeye Rating

The rating consists of three valuation keys, each constituting an overall assessment of several factors that are rated on a scale of 0 to 1 points. The maximum score for a valuation key is 5 points.

Rating changes in the report

People: 3

Business: 2

Financials: 1

INCOME STATEMENT	2017	2018	2019E	2020E	2021E
Net sales	11	25	22	4	33
Total operating costs	-18	-40	-32	-36	-37
EBITDA	-7	-15	-10	-31	-4
Depreciation	0	-1	0	0	0
Amortization	0	0	0	-1	-1
Impairment charges	0	0	0	0	0
EBIT	-7	-16	-10	-32	-5
Share in profits	0	0	0	0	0
Net financial items	0	-3	0	-3	0
Exchange rate dif.	0	0	0	0	0
Pre-tax profit	-8	-18	-10	-35	-5
Tax	0	0	0	0	0
Net earnings	-8	-18	-10	-35	-5

BALANCE SHEET	2017	2018	2019E	2020E	2021E
Assets					
Current assets					
Cash in banks	6	26	23	13	3
Receivables	0	0	3	1	5
Inventories	1	0	1	2	7
Other current assets	5	7	0	0	0
Current assets	11	32	27	15	15
Fixed assets					
Tangible assets	1	1	1	0	2
Associated comp.	0	0	0	0	0
Investments	0	0	0	0	0
Goodwill	0	0	0	0	0
Cap. exp. for dev.	0	0	0	0	0
O intangible rights	24	49	55	55	55
O non-current assets	0	0	0	0	0
Total fixed assets	25	50	56	56	57
Deferred tax assets	0	0	0	0	0
Total (assets)	36	82	83	71	72
Liabilities					
Current liabilities					
Short-term debt	5	1	0	36	42
Accounts payable	2	4	1	1	5
O current liabilities	2	2	2	2	2
Current liabilities	9	7	4	39	50
Long-term debt	0	0	0	-13	-3
O long-term liabilities	0	0	0	0	0
Convertibles	0	0	15	15	0
Total Liabilities	9	8	19	41	46
Deferred tax liab	0	0	0	0	0
Provisions	0	0	0	0	0
Shareholders' equity	27	75	65	30	25
Minority interest (BS)	0	0	0	0	0
Minority & equity	27	75	65	30	25
Total liab & SE	36	82	83	71	72

FREE CASH FLOW	2017	2018	2019E	2020E	2021E
Net sales	11	25	22	4	33
Total operating costs	-18	-40	-32	-36	-37
Depreciations total	0	-1	0	-1	-1
EBIT	-7	-16	-10	-32	-5
Taxes on EBIT	0	0	0	0	0
NOPLAT	-7	-16	-10	-32	-5
Depreciation	0	1	0	1	1
Gross cash flow	-7	-15	-10	-31	-4
Change in WC	-1	1	0	1	-5
Gross CAPEX	-25	-26	-6	0	-2
Free cash flow	-34	-40	-17	-30	-11

CAPITAL STRUCTURE	2017	2018	2019E	2020E	2021E
Equity ratio	74%	90%	78%	42%	35%
Debt/equity ratio	19%	2%	23%	127%	153%
Net debt	0	-24	-8	25	36
Capital employed	26	51	57	55	61
Capital turnover rate	0.3	0.3	0.3	0.1	0.5

GROWTH	2017	2018	2019E	2020E	2021E
Sales growth	44%	121%	-13%	-81%	693%
EPS growth (adj)	0%	0%	0%	239%	-87%

DCF VALUATION		CASH FLOW, MSEK	
WACC (%)	15.0 %	NPV FCF (2018-2020)	-49
		NPV FCF (2021-2027)	71
		NPV FCF (2028-)	107
		Non-operating assets	26
		Interest-bearing debt	-2
		Fair value estimate MSEK	153
Assumptions 2017-2023 (%)			
Average sales growth	46.9 %	Fair value e. per share, SEK	10.0
EBIT margin	-106.0 %	Share price, SEK	4.3

PROFITABILITY	2017	2018	2019E	2020E	2021E
ROE	0%	-36%	-15%	-73%	-16%
ROCE	-47%	-29%	-13%	-43%	-7%
ROIC	0%	-59%	-20%	-56%	-8%
EBITDA margin	-62%	-60%	-47%	-756%	-12%
EBIT margin	-66%	-63%	-47%	-770%	-14%
Net margin	-67%	-73%	-47%	-834%	-14%

DATA PER SHARE	2017	2018	2019E	2020E	2021E
EPS	0.00	0.00	-0.67	-2.27	-0.30
EPS adj	0.00	0.00	-0.67	-2.27	-0.30
Dividend	0.00	0.00	0.00	0.00	0.00
Net debt	0.00	0.00	-0.51	1.65	2.34
Total shares	0.00	0.00	15.30	15.30	15.30

VALUATION	2017	2018	2019E	2020E	2021E
EV	-0.4	-24.0	58.0	91.1	101.6
P/E	0.0	0.0	-6.4	-1.9	-14.4
P/E diluted	0.0	0.0	-6.4	-1.9	-14.4
P/Sales	0.0	0.0	3.0	15.8	2.0
EV/Sales	0.0	-1.0	2.7	21.9	3.1
EV/EBITDA	0.1	1.6	-5.7	-2.9	-25.1
EV/EBIT	0.1	1.5	-5.7	-2.8	-22.3
P/BV	0.0	0.0	1.0	2.2	2.6

SHARE PERFORMANCE		GROWTH/YEAR	16/18E
1 month	-6.9 %	Net sales	38.7 %
3 month	3.1 %	Operating profit adj	16.9 %
12 month		EPS, just	0.0 %
Since start of the year	-6.1 %	Equity	55.6 %

SHAREHOLDER STRUCTURE %	CAPITAL	VOTES

SHARE INFORMATION	
Reuters code	NEOD.ST
List	
Share price	4.3
Total shares, million	15.3
Market Cap, MSEK	65.8

MANAGEMENT & BOARD
CEO
CFO
IR
Chairman

FINANCIAL INFORMATION

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Redeye Rating and Background Definitions

Company Quality

Company Quality is based on a set of quality checks across three categories; PEOPLE, BUSINESS, FINANCE. These are the building blocks that enable a company to deliver sustained operational outperformance and attractive long-term earnings growth.

Each category is grouped into multiple sub-categories assessed by five checks. These are based on widely accepted and tested investment criteria and used by demonstrably successful investors and investment firms. Each sub-category may also include a complementary check that provides additional information to assist with investment decision-making.

If a check is successful, it is assigned a score of one point; the total successful checks are added to give a score for each sub-category. The overall score for a category is the average of all sub-category scores, based on a scale that ranges from 0 to 5 rounded up to the nearest whole number.

The overall score for each category is then used to generate the size of the bar in the Company Quality graphic.

People

At the end of the day, people drive profits. Not numbers. Understanding the motivations of people behind a business is a significant part of understanding the long-term drive of the company. It all comes down to doing business with people you trust, or at least avoiding dealing with people of questionable character.

The People rating is based on quantitative scores in seven categories: Passion, Execution, Capital Allocation, Communication, Compensation, Ownership, and Board.

Business

If you don't understand the competitive environment and don't have a clear sense of how the business will engage customers, create value and consistently deliver that value at a profit, you won't succeed as an investor. Knowing the business model inside out will provide you some level of certainty and reduce the risk when you buy a stock.

The Business rating is based on quantitative scores grouped into five sub-categories: Business Scalability, Market Structure, Value Proposition, Economic Moat, and Operational Risks.

Financials

Investing is part art, part science. Financial ratios make up most of the science. Ratios are used to evaluate the financial soundness of a business. Also, these ratios are key factors that will impact a company's financial performance and valuation. However, you only need a few to determine whether a company is financially strong or weak.

The Financial rating is based on quantitative scores that are grouped into five separate categories: Earnings Power, Profit Margin, Growth Rate, Financial Health, and Earnings Quality.

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Disclaimer

Important information
Redeye AB ("Redeye" or "the Company") is a specialist financial advisory boutique that focuses on small and mid-cap growth companies in the Nordic region. We focus on the technology and life science sectors. We provide services within Corporate Broking, Corporate Finance, equity research and investor relations. Our strengths are our award-winning research department, experienced advisers, a unique investor network, and the powerful distribution channel redeye.se. Redeye was founded in 1999 and since 2007 has been subject to the supervision of the Swedish Financial Supervisory Authority.
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Redeye does not issue any investment recommendations for fundamental analysis. However, Redeye has developed a proprietary analysis and rating model, Redeye Rating, in which each company is analyzed and evaluated. This analysis aims to provide an independent assessment of the company in question, its opportunities, risks, etc. The purpose is to provide an objective and professional set of data for owners and investors to use in their decision-making.

Redeye Rating (2019-09-02)

Rating	People	Business	Financials
5p	11	8	1
3p - 4p	57	47	29
0p - 2p	16	29	54
Company N	84	84	84

Duplication and distribution

CONFLICT OF INTERESTS

Oscar Bergman owns shares in the company: No
Arvid Necander owns shares in the company: No
Redeye performs/have performed services for the Company and receives/have received compensation from the Company in connection with this.