

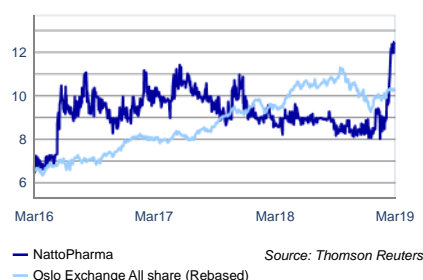
NattoPharma

Food, Beverages and Ingredients
Norway

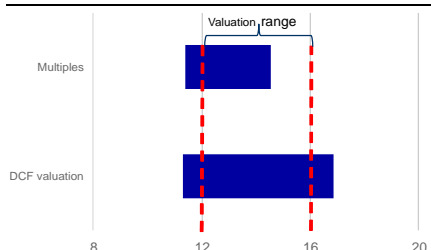
KEY DATA

Stock country	Norway
Bloomberg	NATTO
Reuters	NATTO.OL
Share price (close)	NOK 12.50
Free Float	54%
Market cap. (m)	EUR 24.90/NOK 245.48
Website	www.nattopharma.com
Next report date	30 Apr 2019

PERFORMANCE



VALUATION APPROACH



Source: Nordea estimates

ESTIMATE CHANGES

Year	2019E	2020E	2021E
Sales	n.a.	n.a.	n.a.
EBIT (adj)	n.a.	n.a.	n.a.

Source: Nordea estimates

Ready 2 grow

As a leading producer of vitamin K2 concentrate, NattoPharma is positioned to take its share in the emerging K2 supplements market and has an option on clinical applications of the vitamin. In our base case, we see the company delivering a 27% revenue CAGR and a solid ~5 pp EBITDA margin expansion for 2018-23E. We derive a DCF- and multiples-based fair value range of NOK 12-16 per share in our base case, but also identify a blue-sky DCF scenario that could justify NOK 24-35 per share.

A leader in vitamin K2 looking to expand

NattoPharma is one of the leading global producers of vitamin K2 concentrate for the B2B supplements market, with an estimated 25-30% market share in 2018. It offers natural and synthetic products and aims to grow using existing products, line extensions and new product development. With a 46% stake in biotech company Kaydence Pharma (KP), NattoPharma also has an option on vitamin K2 for clinical use.

A young market with high potential

The market for vitamin K2 is in its infancy and its potential benefits to bone and cardiovascular health are still being debated. However, leading indicators suggest that researchers and the general public have paid increasing attention to vitamin K2 recently and NattoPharma delivered 53% sales growth in 2018. Given the developments for other vitamin supplements, we see attractive market potential if vitamin K2 sees adoption in the mass supplements market and in food products ahead. Excluding potential from new product development, we model a 27% revenue CAGR and a solid ~5 pp EBITDA margin expansion for 2018-23E for NattoPharma.

Key risk factors

We believe the key risks are: 1) demand growth for vitamin K2 stagnating, 2) new competition and price pressure, 3) potential production issues, 4) departure of key personnel, and 5) future financing.

Valuation range: NOK 12.0-16.0 per share

Using mainly DCF and cross-checking with multiples, we find valuation support for a share price range of NOK 12.0-16.0 (excluding KP and new products). In our blue-sky DCF scenario, we find support for NOK 24.0-35.0 per share, and in our bear case we see the shares at NOK 3.0-6.0.

SUMMARY TABLE - KEY FIGURES

NOKth	2015	2016	2017	2018	2019E	2020E	2021E
Total revenue	31,687	53,342	66,606	107,241	137,732	178,928	226,467
EBITDA (adj)	-29,475	484	5,269	6,652	10,533	15,473	21,849
EBIT (adj)	-35,304	-6,413	-2,095	-625	3,026	7,815	14,038
EBIT (adj) margin	-111.4%	-12.0%	-3.1%	-0.6%	2.2%	4.4%	6.2%
EPS (adj)	-1.89	-0.87	1.37	0.17	0.31	0.61	0.92
EPS (adj) growth	-12.7%	53.7%	257.0%	-87.3%	79.0%	94.8%	52.1%
DPS (ord)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EV/Sales	3.2	2.6	2.3	1.3	1.7	1.3	1.0
EV/EBIT (adj)	n.m.	n.m.	n.m.	n.m.	76.3	29.4	16.2
P/E (adj)	n.m.	n.m.	6.6	46.5	40.1	20.6	13.5
P/BV	1.4	2.1	1.5	1.4	2.1	1.9	1.7
Dividend yield (ord)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF Yield bef acq & disp	-22.5%	-4.0%	-8.6%	1.5%	-1.6%	0.4%	1.1%
Net debt	-24,761	-19,818	-13,558	-18,655	-14,729	-15,733	-18,501
Net debt/EBITDA	0.8	13.5	-4.9	-3.7	-1.4	-1.0	-0.8
ROIC after tax	-34.7%	-6.7%	-1.6%	-0.4%	1.9%	4.5%	7.3%

Source: Company data and Nordea estimates

Nordea Markets - Analysts

Oliver Schüller Pisani
AnalystJesper Ilsoe
Analyst

Contents

Factors to consider when investing in NattoPharma	3
Business model and positioning	8
The science around vitamin K2	14
Market outlook	17
Governance aspects	25
Kaydence Pharma	28
Estimates	37
Financial details	41
Valuation: NOK 12.0-16.0 per share	43
Risks	51
Reported numbers and forecasts	53
Disclaimer and legal disclosures	56

Factors to consider when investing in NattoPharma

In this section, we outline the key aspects we believe investors ought to consider before investing in NattoPharma. As a producer of vitamin K2 extracts for the B2B market, the company has considerable growth potential if markets develop favourably ahead and the company can successfully ramp up its production to meet the demand. However, it is an early-phase company operating in a market with limited visibility. Based on DCF- and multiples-derived valuations, we calculate a fair value range of NOK 12.0-16.0 per share, implying 2019E EV/sales of 1.6-2.2x and EV/EBITDA of 21-28x.

NattoPharma is a producer of vitamin K2 concentrate for the wholesale market

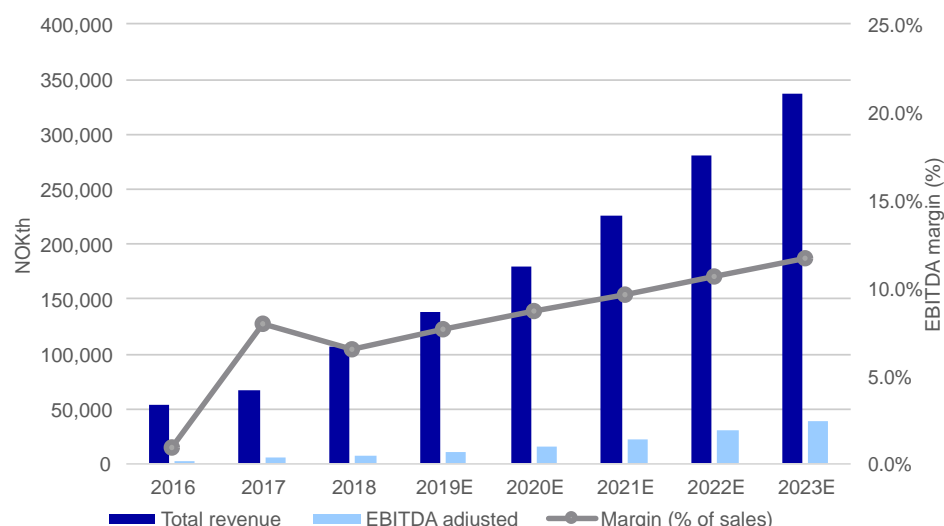
NattoPharma in a nutshell

NattoPharma is one of the biggest producers of vitamin K2 concentrate globally, with an estimated ~25-30% market share today, according to management. The company has four main vitamin K2 products, two of which are based on chickpeas, one on soy and one synthetic product. NattoPharma has been supporting and conducting research on vitamin K2 for some time. It has built a patent portfolio that implies that only NattoPharma and the wholesale customers purchasing its products, marketed under the brand MenaQ7, have the right to claim in some markets (eg the US) that MK-7 (vitamin K2) consumed in foods or as supplements has positive health effects on the cardiovascular system. NattoPharma is likely to launch line extensions and it has announced that it will begin selling a new product, manufactured by two Indian partner companies, for the energy and mood improvement market in 2020.

In 2018, NattoPharma increased its product revenue by 53%, had an adjusted EBITDA margin of 6.5% and delivered a positive net profit. For 2018-23, our base-case forecasts (excluding sales from the new product) imply a revenue CAGR of 27% and EBITDA margins expanding by ~5 pp. Our estimates assume that the strong demand growth from 2018 will continue and that NattoPharma can successfully ramp up its production to meet the new demand.

We see NattoPharma delivering solid growth accompanied by EBITDA margin expansion ahead

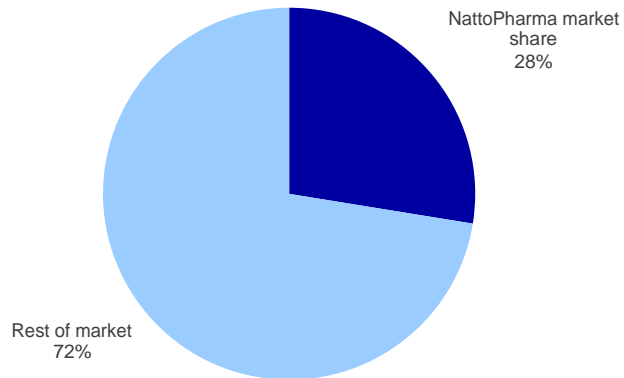
REVENUE, EBITDA AND EBITDA MARGIN FOR 2016-23E



Source: Company data and Nordea estimates

NATTOPHARMA'S ESTIMATED GLOBAL MARKET SHARE VS COMPETITORS

We estimate that NattoPharma had around a 28% global market share in 2018

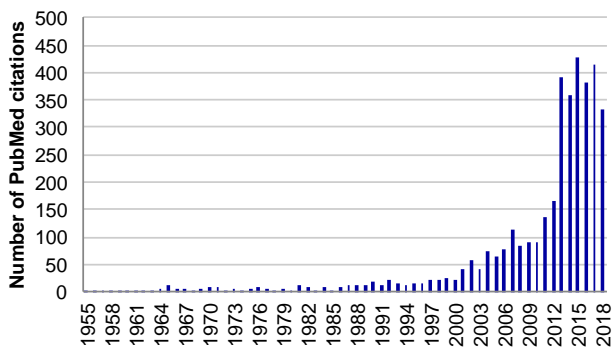


Source: Nordea estimates *Note: subject to significant uncertainty but is the best estimate we can make

A growing market for vitamin K2

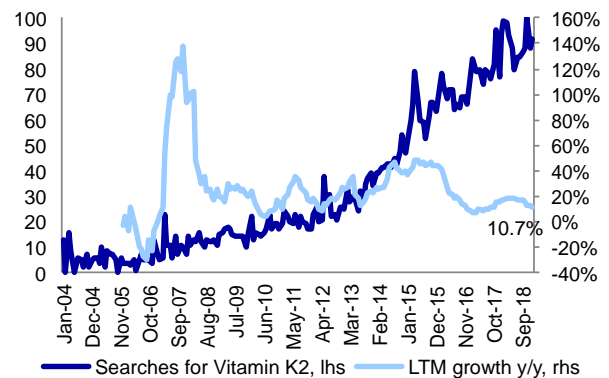
The general supplements market is likely to see demand growth fuelled by mega trends such as an ageing population and focus on healthy living and disease prevention, we believe. Vitamin K2 activates proteins that bind calcium to the bone, while inhibiting it from depositing in the vascular system. Whereas research on vitamin K2 is still in an early phase, NattoPharma has been carrying out R&D for ten to 15 years with some results indicating that supplementation could boost users' cardiovascular and bone health. According to data from the US National Center for Biotechnology Information, the number of citations of vitamin K2 in research has surged in recent years, which could suggest that researchers increasingly see potential benefits from vitamin K2. At the same time, data from Google searches suggests that interest in vitamin K2 has risen sharply in recent years, potentially indicating growing consumer awareness.

CITATION OF VITAMIN K2 IN PUBMED



Source: National Center for Biotechnology Information

LTM GOOGLE SEARCH INDEX AND LTM GROWTH Y/Y

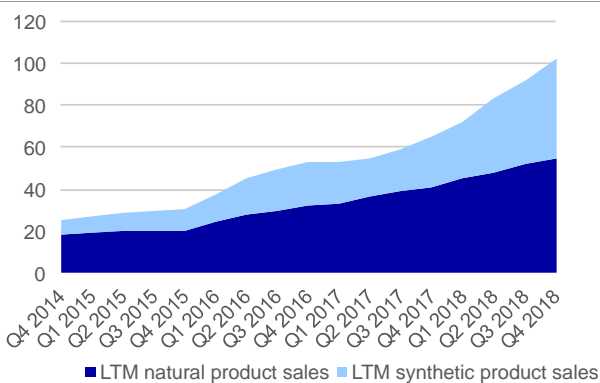


Source: Google and Nordea

Adoption by the food and mass market may drive future volume growth

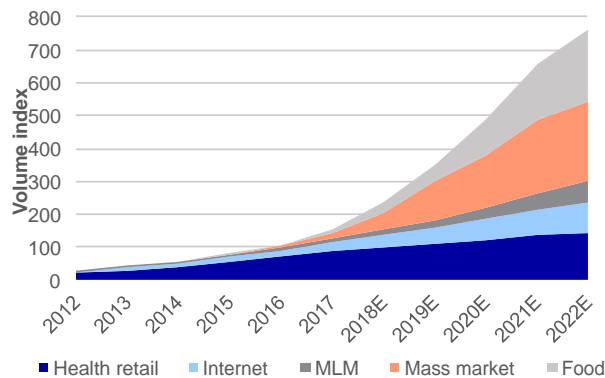
In order for market growth to continue, we believe it is important that vitamin K2 becomes adopted in the mass supplements market and is used in food. In order for this to materialise, we believe the price of vitamin K2 concentrate will have to keep falling substantially, as the inclusion of vitamin K2 cannot add significant cost to the end-products. We already note that NattoPharma's synthetic product, which has a lower price than natural products, is the strongest growth driver for the company. Meanwhile, its competitor Kappa BioScience claims that its prices of synthetic concentrate declined by 45% in 2017. As such, we forecast price pressure for NattoPharma ahead, partly offset by benefits from scale in production.

NATTOPHARMA NATURAL VS SYNTHETIC PRODUCT SALES 2014-18, NOKm



Source: Company data

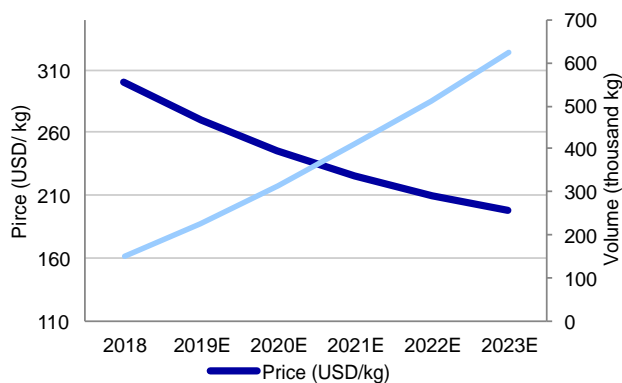
VOLUME INDEX BY CHANNEL (ILLUSTRATIVE)



Source: Company data *Note: the volume index has been manually extracted by Nordea from a company provided chart

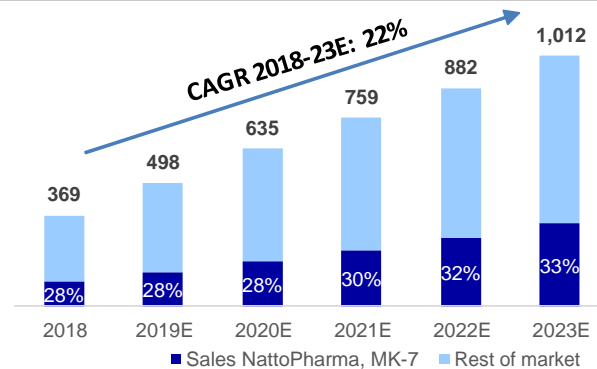
Despite high uncertainty in the number, we forecast a 22% market CAGR during 2018-23 and note that our forecasts imply that NattoPharma will take some market share ahead, largely driven by product line extensions.

MARKET PRICE AND VOLUME ESTIMATES



Source: Nordea estimates

MARKET AND NATTOPHARMA MK-7 SALES, 2018-23E, NOKm



Source: Company data and Nordea estimates

NattoPharma has a 46% stake in and the right to use the future research of biotech company Kaydence Pharma

Option on clinical applications and future patents

NattoPharma owns a 46% stake in its biotech spin-off Kaydence Pharma, which focuses on vitamin K2 for clinical applications. It also has an agreement allowing NattoPharma to use Kaydence Pharma's current and future claims and patents in its supplements business. Kaydence Pharma has yet to initiate clinical trials but has a clear five-year strategy to bring MQ-7 to the pharmaceutical market during 2024. The company concluded a pre-IND (investigational new drug) meeting with the US Food and Drug Administration (FDA) – the US regulatory agency – in November 2018 to discuss its plans for bringing its vitamin K2 product into the pharma market in the US. The FDA also agreed to continue discussions regarding potential subsequent ph II and ph III development programmes once the first-in-human study has been successfully completed.

Although Kaydence is at an early stage, we note that the stake offers NattoPharma's shareholders an option on future research and the success of vitamin K2 for clinical applications. Currently, we do not assign any value to Kaydence Pharma in our valuation, as it is still early days, but we believe potential progress with and supportive data from more and more clinical trials and indications could drive positive news flow and crystallise value over time.

Risk factors

We believe the most important risk factors include:

- The market for vitamin K2 supplements may not grow as much as we expect if key potential health claims are rejected or popularity and awareness among consumers remain low.

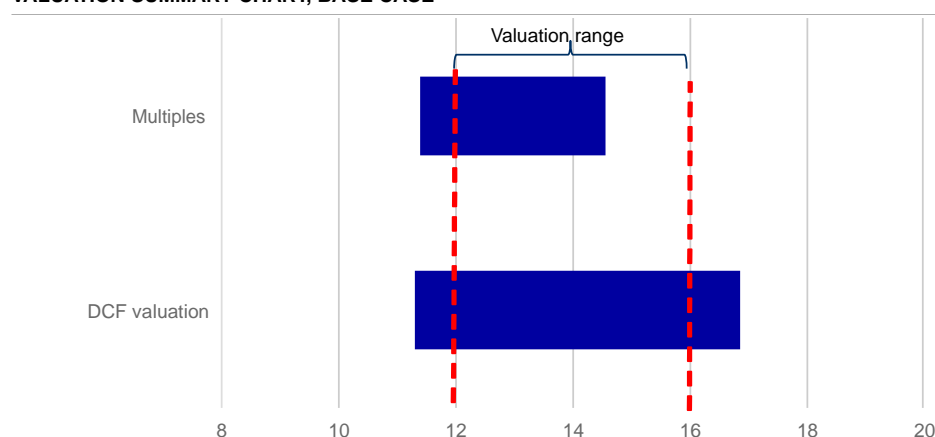
We believe the main risks relate to market demand, competition, key personnel and future financing

- Even if demand increases ahead, new competitors could enter the market. If players with substantial scale benefits (eg big pharma and food companies) or a lower cost base (eg Chinese producers) enter the market with equivalent products, NattoPharma could face substantial pricing pressure or loss of volumes, leading to pressure on operating margins.
- NattoPharma could fail to ramp up production to meet demand due to poor execution or issues with production at scale.
- NattoPharma operates with a close-knit leadership team, making the departure of key management profiles an important risk, in our view.
- In order to support growth, NattoPharma will have to invest in working capital, potentially new production facilities and fund increasing operating expenses. As a result, the company may need new equity and debt financing in the coming years and is dependent on its access to the capital markets.
- In the past (2014 in Norway and Sweden), the media has criticised the vitamin K2 industry for making unsubstantiated health claims. Demand may be hurt if this happens again in the future.

Valuation range

We base our valuation of NattoPharma mainly on a DCF framework and cross-check the valuation with multiples. We apply a WACC of 10.9% in our DCF valuation and find support for a share price of NOK 11-17 in our base case. In the relative valuation, we primarily focus on EV/sales and EV/EBITDA, due to the early-phase nature of the company. Based on these methodologies, we find support for a fair value range of NOK 12.0-16.0 per share, implying EV/sales of 1.6-2.2x and EV/EBITDA of 21-28x. We do not include any value from Kaydence Pharma in our valuation. Our base-case estimates also exclude potential future sales from the (yet unknown) new energy and mood product(s) that the company is trialling. As such, optionality in the base case can be considered very high.

VALUATION SUMMARY CHART, BASE CASE



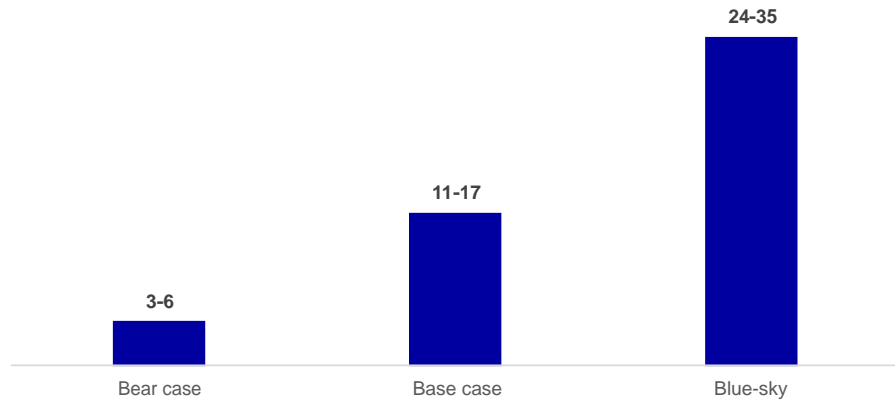
We derive a valuation range of NOK 12.0-16.0 per share

Source: Company data and Nordea estimates

We believe the uncertainty in estimates (both on the upside and downside) is material ahead and we thus also construct a blue-sky scenario, involving strong sales from new products, better-than-expected sales in the existing portfolio and additional EBITDA margin expansion, supporting a share price range of NOK 24-35. Finally, we draw up a bear case, involving no new product sales, slow sales growth in the existing portfolio and limited EBITDA margin expansion, supporting a share price of NOK 3-6.

DCF SHARE VALUATION BY SCENARIO

We construct a positive and a negative DCF scenario versus our base case as a sensitivity check



Source: Company data and Nordea estimates

Business model and positioning

NattoPharma produces vitamin K2 concentrates that are sold in the wholesale (B2B) market to distribution partners across the world. It markets its products under the brand MenaQ7 and has patented rights across the world concerning the benefits of vitamin K(2). The company has a handful of competitors around the world, including Kappa Bioscience, Gnosis, Vesta and Sungen. It also aims to begin selling a new energy and mood enhancer product by H1 2020, in collaboration with two Indian extract and delivery technology companies. NattoPharma has ambitions for NOK ~390-750m of sales by 2022, including new products.

Products

NattoPharma produces various forms of vitamin K2 concentrate that are marketed under the MenaQ7® brand. It has four main products that have different characteristics to match varying customer needs. The products include chickpea-based concentrate, a soy-based one, and a synthetic one. An overview of the products is provided in the table below. NattoPharma does not own any production facilities itself but outsources the production to contract manufacturers. However, it has patented the production processes used and thus owns the production technology.

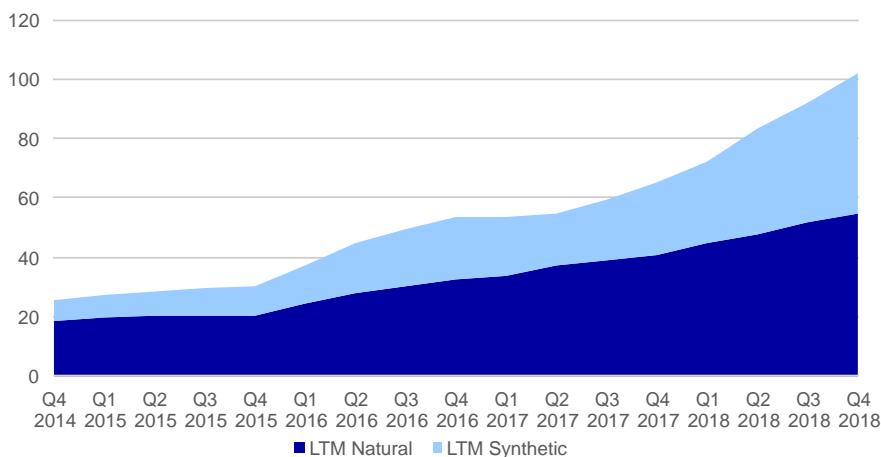
NattoPharma positions its products as premium products based on research and clinically validated results. Within its product portfolio, the synthetic product has the lowest price and the largest volumes, accounting for almost half of the company's 2018 sales and exhibiting the strongest sales growth (~100% y/y for 2018, versus ~35% for the other products). The company believes product claims validated by clinical science, proprietary IP and superior quality (purity) are key elements for pricing power and competitive advantage. According to management, the company has the highest quality synthesis-derived product in the market and has 96% purity of its fermented purified natural K2 product. Importantly, the company has control over the content of the remaining impurities in the natural product. The synthetic product has a (very high) 98% purity. As we understand, many other producers (eg Chinese producers) have considerably lower purity and less control over existing impurities.

PRODUCT OVERVIEW

Brand Name	Natural / Synthetic	Product differentiation
MenaQ7® Natural MK-7	Natural	Chickpea-based product for customers concerned with soy allergens
MenaQ7® Natto MK-7	Natural	Soy-based products with value positioning. Targets China, where chickpea-based products are prohibited.
MenaQ7® Full Spectrum K2	Natural	Premium product that includes MK-6,7 and 9
MenaQ7® PharmaPure MK7	Synthetic	Large volume, value-driven product. Appeals to pharma-positioned customers

Source: Company data and Nordea estimates

SYNTHETIC AND NATURAL LTM SHARE OF NATTOPHARMA SALES, NOKm



NattoPharma's synthetic vitamin K2 concentrate sales have outgrown its natural products

Source: Company data

Patents and claims

As NattoPharma has been pioneering research on vitamin K2, the company's patent situation implies that only NattoPharma and the customers purchasing its products (marketed under the MenaQ7® brand) have the right to claim that MK-7 (vitamin K2) consumed in foods or as supplements, has positive health effects for the cardiovascular system. According to the company, this is particularly important in the US, where the regulation permits the company to make structure/function claims describing the role of vitamin K2 to support health. In the EU, Norway and most countries in South America and Asia, the laws allow only regulatory approved claims relating to vitamin K.

The portfolio of patents from data generated through to the company's historical investment in R&D was transferred to biotech company, Kaydence Pharma, in connection with the spinoff in December 2017. However, NattoPharma retained an exclusive right to use all patents and other scientific data transferred to Kaydence as well as all future development taking place in the company, for use in the supplement and food & beverage business. This allows the company to protect its product features and health claims related to vitamin K2 and the MenaQ7® brand, we believe.

PATENT PORTFOLIO SUMMARY

	Description of patent	Status
1	Use of Vitamin K2 in dietary supplements and food products for promoting bone and cardiovascular health	Granted in the USA and Canada
2	Use of Vitamin K and its derivatives thereof for cardiovascular benefits	Granted in the USA and 15 European countries
3	Use of Vitamin K for reversing calcification	Granted in 17 European countries
4	Pharmaceutical and nutraceutical products comprising Vitamin K2 with Omega-3, including fish oil and krill oil	Granted in New Zealand, Australia, Canada and Japan. Pending status in Europe and the USA
5	Use of Vitamin K for weight maintenance and weight control	Granted in New Zealand. Accepted in Australia. Pending status in Europe, the USA, India and South Korea
6	Process for preparation for MK-7 type of vitamin K2 (synthesis)	Granted in the USA, Israel, Australia. Pending status in Europe, Canada, China, India and South Korea

Source: Company data and Nordea estimates

Revenue model and distribution

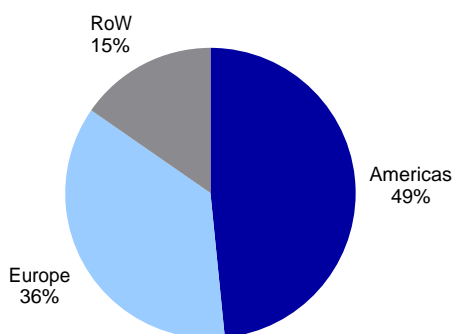
In general, NattoPharma sells its products in packages in either liquid or powder form, with its wholesale customers thus diluting and packaging the product before selling them in retail channels. According to the company, the products are sold mostly via wholesale distribution partners across the world, with the Americas being the largest markets for the group (48% of revenue in 2017 and contributing with the largest share of growth during 2018). Examples of retail brands selling NattoPharma's products include; Weider Global Nutrition, Evolved Organics, Super Nutrition, TerraNova and Wiley's.

GLOBAL MARKET PRESENCE AND DISTRIBUTION PARTNERS



Source: Company data, Investor presentation 2017

REVENUE BY REGION, 2017



Source: Company data and Nordea

EXAMPLES OF DISTRIBUTION PARTNERS BY COUNTRY

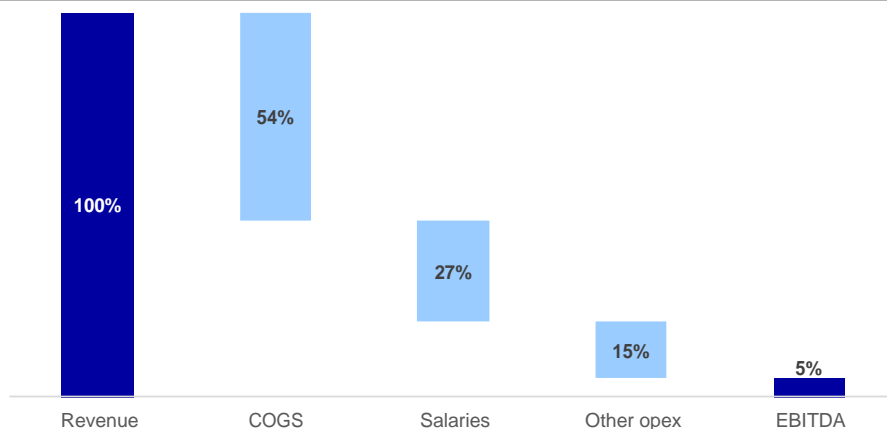
Country	Partner
Norway	TG Montgomery
UK	Wiley's
Finland	FinClub MLM
Brazil	BioLab Pharma
US	Various
China	FishBurg
Vietnam	Smarc

Source: Company data

Cost composition

The main components of the cost of goods sold are the purchase of the concentrate from contract manufacturers and payment for dilution of that concentrate to another company. NattoPharma then sells the product in the wholesale channel and does not incur significant costs for packaging. Operating expenses mainly consist of marketing, salaries and R&D. To our understanding, 2018 saw a particularly sharp increase in opex y/y, driven by several new senior hires. D&A is mainly attributable to amortisation of a patent purchased in 2013 (NOK ~6m per year). Overall, we note that NattoPharma has an asset-light operating model with a high level of variable costs, which should reduce the risk from possible demand volatility somewhat.

COST COMPOSITION 2018



Source: Company data and Nordea estimates

Competition

NattoPharma has a number of competitors around the world

NattoPharma has a number of direct competitors around the world that focus on vitamin K2. According to the company, the following are the most relevant:

- Gnosis Spa
- Kappa Bioscience
- Sungen
- Vesta
- J-Oil Mills
- Synergia (Menaquinone Gold)

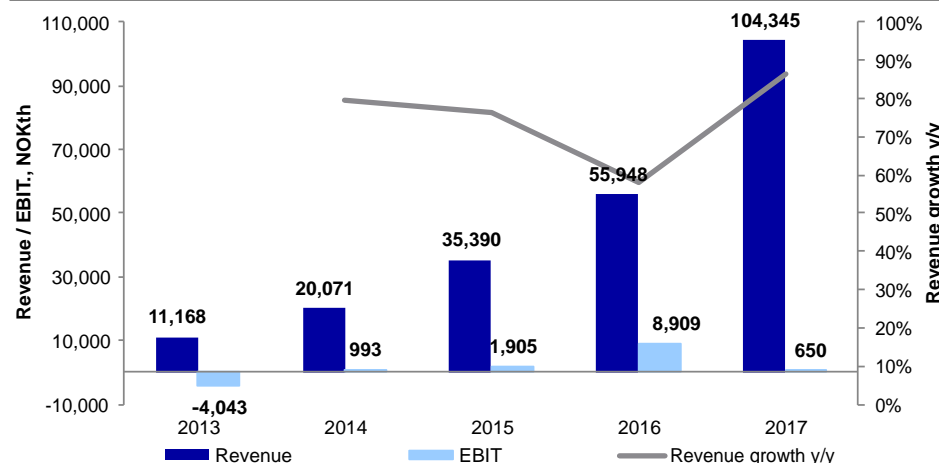
As we understand, there are also a number of Chinese producers, mainly operating within the domestic market. Examples of these include; Shanghai Reson Biotech, Guangdong Goodscend, Seebio Biotech and Kyowa Hakko. The financial disclosure is very limited for most competitors. We note that the Norwegian competitor within synthetic vitamin K2, Kappa Bioscience, has some disclosure and has exhibited healthy growth during 2013-17.

DIRECT COMPETITOR OVERVIEW

Competitor	Country
Gnosis	Italy
Kappa BioScience	Norway
Sungen Pharma	China
Vesta Ingredients	US
J-Oil Mills	Japan
Synergia (Menaquinone Gold)	India

Source: Company data and Nordea

KAPPA BIOSCIENCE REVENUE



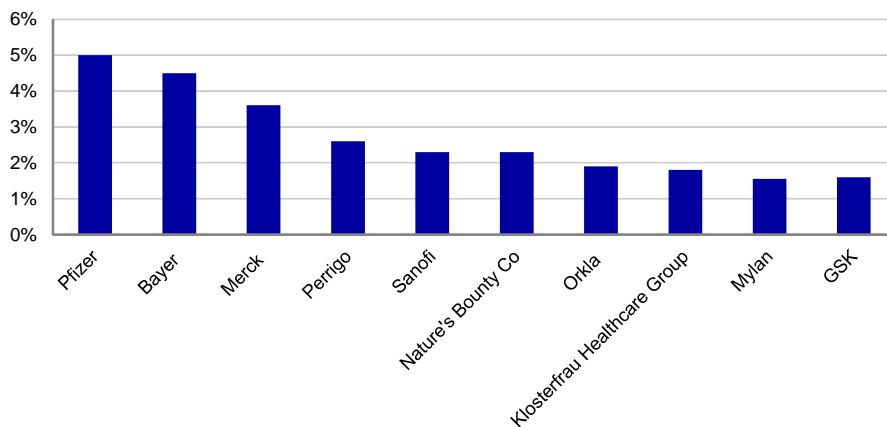
The Norwegian competitor, Kappa Bioscience, has exhibited healthy growth in recent years

Source: Brønnøysundregistrene and Nordea *Note 2016 and 2017 show consolidated group figures and include non-K2 products.

From a vitamin's market perspective, one might also consider large pharmaceutical companies and branded consumer goods companies with in-house production competitors. However, our understanding is that few of these focus on vitamin K2 to any extent. Should that become the case in the future, we note that NattoPharma could become a potential M&A target.

Large healthcare and FMCG companies have significant positions within the vitamin supplements market in Western Europe

VITAMINS AND DIETARY SUPPLEMENTS MARKET SHARES IN WESTERN EUROPE, 2017



Source: Euromonitor and Nordea

New products

NattoPharma will distribute a product within energy and mood management

NattoPharma announced in the H2 2018 report that it would be launching a new product range targeting the energy and mood improvement market. At the H2 presentation, the company said it would be "combining ancient wisdom with modern delivery technology". The company has entered into a marketing and supply agreement with Laila Nutraceuticals and Inventia Healthcare, which are the manufacturers of the product and the delivery technology (two Indian companies). NattoPharma will not be a producer itself but will be acting only as a marketing and sales partner, leveraging its existing customer relationships within the vitamin K2 business. To our understanding, there should be good opportunities for cross-selling in the existing client portfolio. However, gross margins are likely to be lower than for NattoPharma's vitamin K2 products. There are ongoing clinical trials and other studies relating to its products that the company expect will be finished in 2019. Subsequently, NattoPharma expects commercial sales to begin during H1 2020.

Energy and mood supplement sales are expected to grow faster the general health supplements industry, according to the Nutrition Business Journal

GROWTH IN CONSUMER SALES Y/Y

Growth y/y	2017E	2018E	2019E	2020E	2021E
Sports/Energy/Weight Management	6.9%	7.3%	7.2%	7.2%	7.3%
Mental Health/Mood and Stress	7.1%	3.4%	3.6%	3.9%	3.9%
Brain/Cognitive Health	8.3%	9.1%	6.1%	8.5%	13.6%
General Health	4.0%	3.4%	2.2%	3.9%	4.0%

Source: Nutrition Business Journal 2017

Company 2019 guidance and long-term ambitions

NattoPharma guides for 30-35% revenue growth, gross margins of 40-45% and declining opex/sales y/y for 2019. Management highlights that the US is likely to be a key growth driver, partly as a result of a new partnership with Weider Global Nutrition, which has placements in Costco and will begin roll-out in Q1 2019 across 500 stores. Gross margins are subject to uncertainty due to both market price pressure and internal capacity constraints (large orders with short lead times are still demanding for NattoPharma), which is why the company guides for possible gross margin contraction versus 2018 (43%). NattoPharma also expects to be making further headcount additions, although less senior (and less expensive) than in 2018.

The company expects 30-35% revenue growth and some pressure on gross margins y/y for 2019

GUIDANCE SUMMARY TABLE 2019

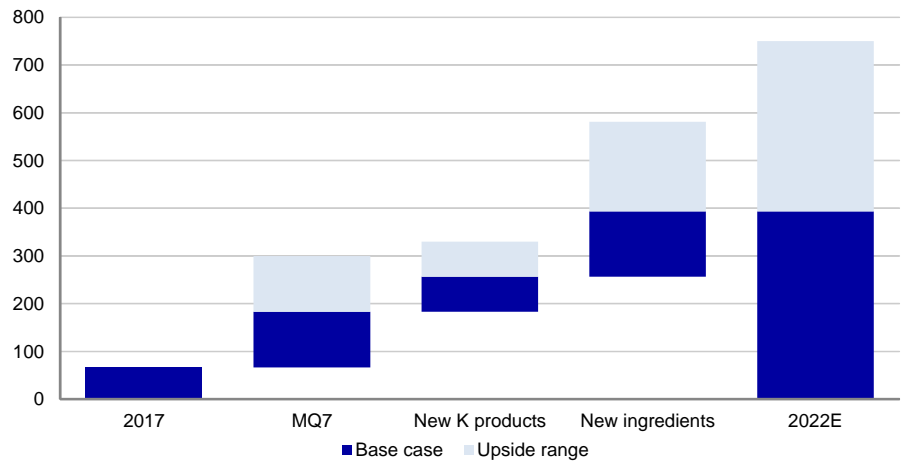
Item	2019
Revenue	Growth of 30-35% y/y
Gross margin	40-45%
Opex (adj) /sales	Continue trending down

Source: Company data and Nordea estimates

NattoPharma has provided a five-year revenue outlook chart indicating that it aims to generate revenue of NOK ~390-750m by 2022. Via further market growth and new application areas of the existing vitamin K2 products, we calculate that the company expects to realise NOK ~190-300m of revenue by 2022. In addition, line extensions such as MQ7 Full Spectrum can add NOK ~70-140m and new active ingredients can add NOK ~130-190.

REVENUE 2017-22E GUIDANCE BRIDGE, NOKm

NattoPharma has ambitions for sales of NOK ~390-750m for 2022E



Source: Company data and Nordea estimates

The science around vitamin K2

The overall research on vitamin K2 is arguably still in an early phase but NattoPharma has been active in driving R&D for ten to 15 years on the topic. The vitamin activates proteins that bind calcium to the bone, while inhibiting them from depositing in the vascular system. The generally accepted claims in the EU and Norway are that vitamin K (K1 and K2) contributes to maintaining normal bone structure and normal blood clotting. Vitamin K2 naturally occurs in animal products, dairy and some fermented products. However, some research indicates that K2 supplementation could benefit for example bone strength and cardiovascular health. We note that the research focus on the vitamin appears to have increased in recent years, as measured by the number of citations.

Characteristics of vitamin K2

Vitamin K2 binds calcium to the bone mineral matrix while inhibiting calcium from depositing in arteries and soft tissues by activating the K-dependent proteins osteocalcin and matrix Gla protein (MGP), respectively. The claims that are legal to use for marketing purposes in Norway and the EU are that vitamin K2:

1. Contributes to maintaining normal bone structure; and,
2. Contributes to maintaining normal blood clotting.

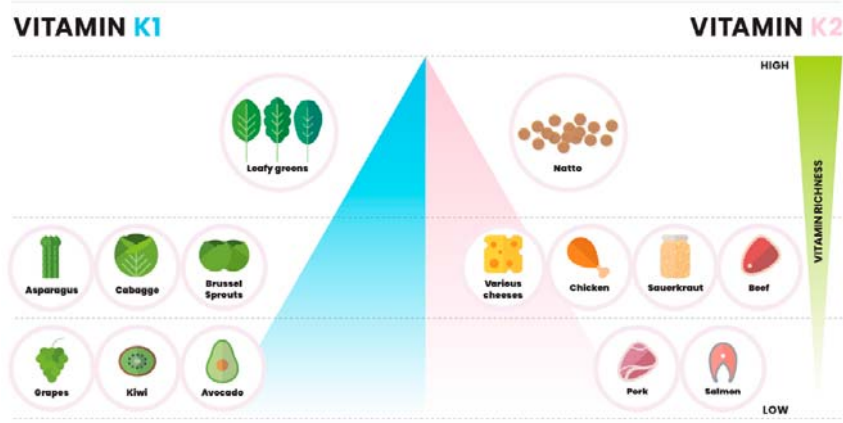
While studies of vitamin K2 are still not in abundance, some existing studies have shown that vitamin K2 could improve bone strength and cardiovascular health by inhibiting the development of arterial stiffness. Studies have even demonstrated reversal of arterial stiffness, according to NattoPharma. As such, supplementation could have positive effect for some individuals.

Vitamin K in food

Vitamin K2 exists naturally in dairy and meat products

Vitamin K exists in two chemical forms, referred to as K1 (phylloquinone) and K2 (menaquinone). Whereas vitamin K1 exists in rich amounts in vegetables, vitamin K2 mainly exists in meat, dairy products and some fermented products. Vitamin K2 is also produced by intestinal bacteria in humans, although the amounts and potential uptake from internal production remain largely unknown.

VITAMIN K2 BY FOOD CATEGORY



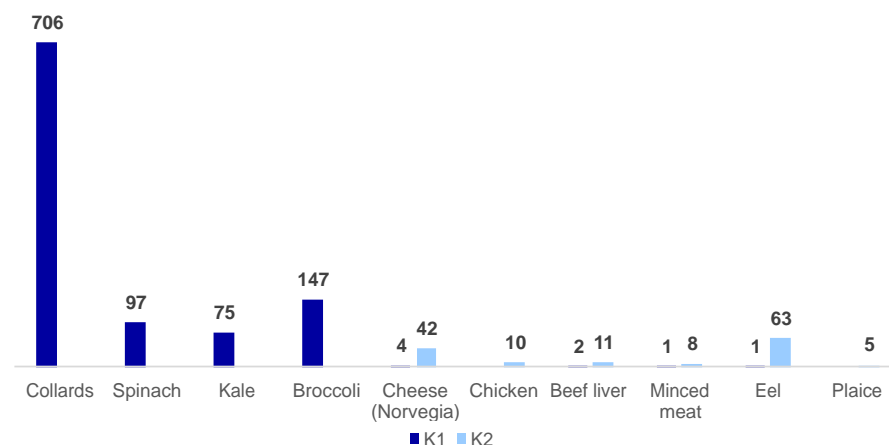
Source: Halder, Ploingarm, Asim et al. *Journal of Molecular Sciences* 2019

Dairy products are the key natural sources of vitamin K2

In the chart below, we use data from a 2019 article in the *Journal of Molecular Sciences*, indicating that cheese has among the highest level of vitamin K2 among normally consumed food types.

VITAMIN K1 AND K2 IN FOOD, MICROGRAMS PER 100G

Whereas vitamin K1 exists in high amounts in vegetables, vitamin K2 exists in generally lower concentration in meat and dairy products



Source: Halder, Ploingarm, Asim et al. *Journal of Molecular Sciences* 2019

The European Food Safety Authority does not recognise a difference between vitamin K1 and K2

Recommended and adequate daily intakes

Today, recommended daily intake values for vitamin K2 vary by country/region and are typically based mainly on the role of vitamin K in the blood coagulation process. The European Food Safety Authority does not recognise a difference between vitamin K1 and K2, and deems that the existing body of research is insufficient to establish an RDI for vitamin K, according to a scientific opinion from 2017 from the EFSA Panel on Dietetic Products. The EFSA however has an "adequate intake" (AI) estimate for vitamin K at 1 microgram per kg body weight per day, which is also broadly in line with the recommendations of the WHO and the Food and Agriculture Organisation (FAO). The US National Academy of Medicine (previously the Institute of Medicine) has estimated an AI of vitamin K of 90 and 120 micrograms per day for women and men, respectively.

According to Halder, Ploingarm, Asim et al (*Journal of Molecular Sciences* 2019) the existing AIs of vitamin K can be achieved easily by the Western diet, particularly via intake of vitamin K1 (which as we show above exists in rich amounts in various food vegetables). However, the intake of vitamin K2 from food typically corresponds to only 5-25% of the total vitamin K intake. A key question is therefore whether vitamins K1 and K2 differ in biological function and if the current AI estimates account for the full need of humans. Some of NattoPharma's studies suggest that the amounts of vitamin K2 consumed in food could be insufficient for overall health. Based on this rationale, the company believes supplementation is advisable to improve various health aspects.

Key scientific substantiation of claims

As mentioned, the research on vitamin K2 is still limited compared to other vitamins and the EFSA considers the results of the existing body of research relating to vitamin K as highly uncertain overall. Reflecting that need for data, NattoPharma has been a driving player in the research surrounding vitamin K2 during the past ten to 15 years. The company claims its MenaQ7 product is the only clinically validated vitamin K2 supplement that provides real health benefits, and it notes that essentially all industry efficacy claims are based on its >19 human clinical trials.

Three-year study for cardiovascular and bone health

A study that is often referred to by NattoPharma is a clinical three-year study conducted in cooperation with the University of Maastricht. The results were published in 'Osteoporosis International' in 2013 (bone results) and in 'Thrombosis and Haemostasis' in 2015 (cardiovascular results).

- 2013 results: Knapen MH, Schurgers LJ, Vermeer C. Vitamin K2 supplementation improves hip bone geometry and bone strength indices in postmenopausal women.
- 2015 results: Knapen MHJ, Braam LAJL, Drummen NE, Bekers O, Hoeks APG, Vermeer C. Menaquinone-7 supplementation improves arterial stiffness in healthy postmenopausal women: double-blind randomised clinical trial.

For the cardiovascular results, the study tracked a sample of 244 postmenopausal women, where 124 received placebo and 120 received 180 micrograms of MenaQ7® (NattoPharma's product) per day over a three-year period. The study concluded that long-term use of vitamin K2 supplements improves arterial stiffness in healthy postmenopausal women, especially in women having high arterial stiffness.

For the bone results, the study tracked 244 postmenopausal women where 124 received a placebo and 120 received 180 micrograms of MenaQ7® (NattoPharma's product) per day over a three-year period. The study showed statistically significant protection of the vertebrae and the hip (femoral neck) against bone loss. After three years of supplementation, maintenance in both bone mineral content and bone mineral density were statistically significant in the MenaQ7® group, as well as with statistically improved bone strength.

Vitamin K2 in children's health

NattoPharma's MenaQ7® products are also used in retail products targeting children's health (eg sold under the Wiley's and Carsons brands). In this area, it is particularly bone health that is relevant. NattoPharma points to a 2008 study published in the British Journal of Nutrition:

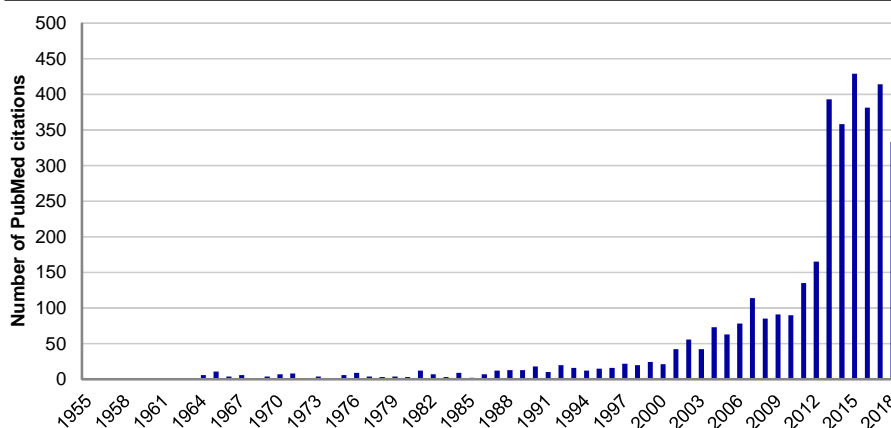
- van Summeren MJ, van Coeverden SC, Schurgers LJ, Braam LA, Noirt F, Uiterwaal CS, Kuis W, Vermeer C. K vitamins status is associated with childhood bone mineral content

The study tracked 307 children between six and ten years taking 45-50 micrograms of Vitamin K2 as MK-7 (MenaQ7®). The study found that an improved vitamin K status was associated with more pronounced increase in bone mass in healthy children. As such supplementation could benefit the bone health in children.

Growing research focus

As mentioned, vitamin K2 is an area that has received relatively limited research focus historically, and uncertainty about health effects remains. However, based on the number of citations in the NCBI database PubMed, we note research interest appears to have picked up substantially in recent years. As shown in the chart below, 2013 saw the number of new citations in PubMed increase from 165 to 393 – a level that has been maintained in following years. In our view, this could be an indication that medical researchers increasingly see potential for health effects from vitamin K2. To be prudent, it is also worth noting that 2018 saw a 20% decline in citations y/y (from 414 in 2017 to 333 in 2018).

NUMBER OF PUBMED CITATIONS FOR VITAMIN K2 BY YEAR



The number of vitamin K2 citations in the US PubMed has grown sharply in recent years, stabilising around 300-400 per year

Source: NCBI

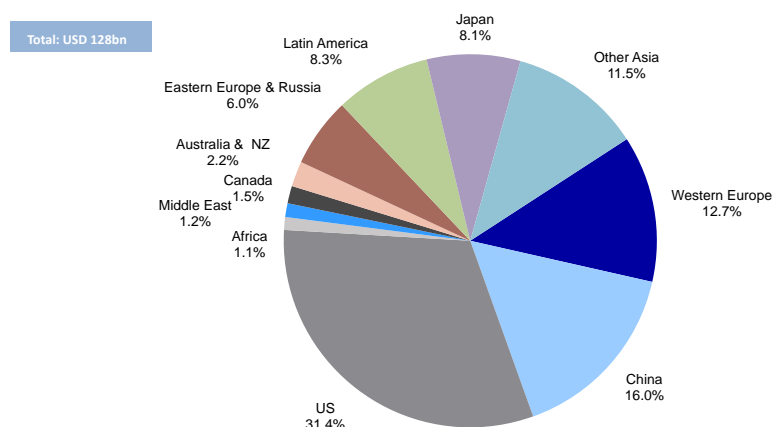
Market outlook

In the context of dietary supplements, the US is the largest market in the world, accounting for 31.4% of the USD 128bn global market. Compared with other vitamins, the vitamin K2 supplement market and consumer awareness of vitamin K2 are still in their infancy. The vitamin's potential health benefits, however, are shared with popular supplement ingredients such as vitamin D, calcium, and omega 3, which experienced sudden growth as their health claims became widely accepted. Based on rough estimates, we expect high volume growth for vitamin K2 ahead, building on the current ~150 tonnes in the global market. However, we highlight that this will likely be accompanied by falling prices. With a 2018 estimated global market share of ~28% (exact figures are quite uncertain), we expect NattoPharma to benefit from healthy market growth in the future.

Dietary supplements and vitamins market globally

According to Nutrition Business Journal data, global supplement consumer sales amounted to a USD 128bn market in 2017. The US is the biggest market by far, accounting for 31.4% of global consumer sales in 2017. China and Western Europe are the largest markets after the US, with 16.0% and 12.7% shares, respectively. According to Euromonitor, the global supplement and vitamin industry grew by a CAGR of 6% between 2012 and 2017, and the highest growth areas are Australasia and Asia Pacific. The US and Western Europe exhibited ~3% market growth during 2012-17.

GLOBAL SUPPLEMENT CONSUMER SALES BY REGION IN 2017, % OF USD 128bn TOTAL



The global consumer sales of supplements amounted to USD 128bn in 2017

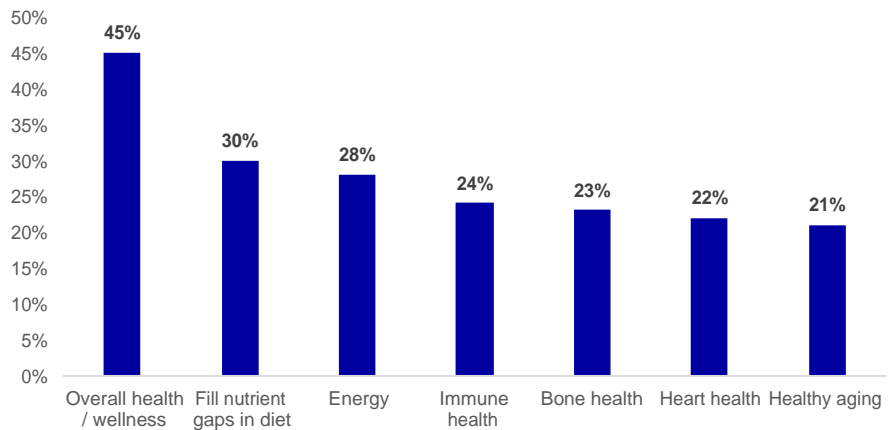
Source: Nutrition Business Journal

Key demand drivers

For vitamin supplements in general, we believe the growing global elderly population, in combination with better awareness of healthy living practices and a focus on disease prevention, will continue to drive demand ahead. In the US, general health, bone health, heart health and healthy ageing are among the top reasons for supplement use, according to a 2017 survey conducted by Ipsos and sponsored by CRN (a lobbying group). According to the UN Department of Economic and Social Affairs, the population aged 60 or above is expected to grow faster than all younger age groups. As of 2017, this group was growing at a rate of 3% per year and the UN forecast implies a CAGR of 2.5% for 2015-50. As such, we believe these megatrends will interact to support general good demand for global supplement sales.

US SURVEY: TOP REASONS FOR TAKING DIETARY SUPPLEMENTS (N = 1,528)

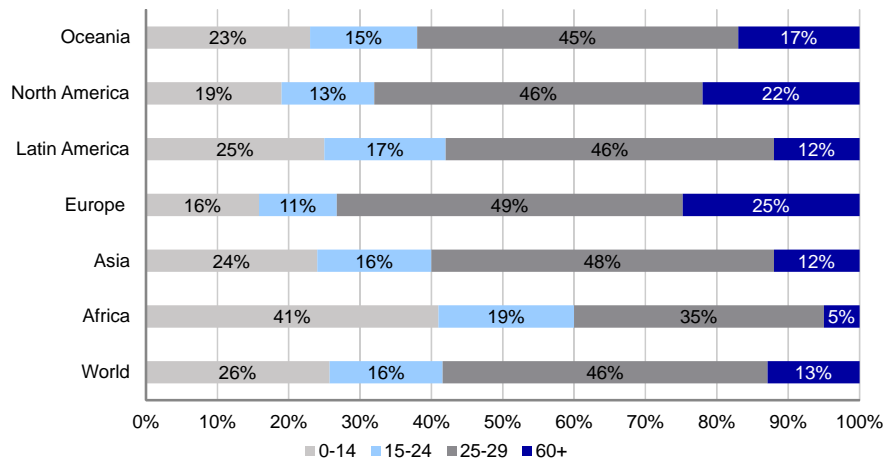
Healthy ageing, bone and heart health were among the top reasons for supplement use in the US 2017



Source: CRN Consumer Survey 2017 conducted by Ipsos

SHARE OF POPULATION BY AGE GROUP ACROSS THE WORLD

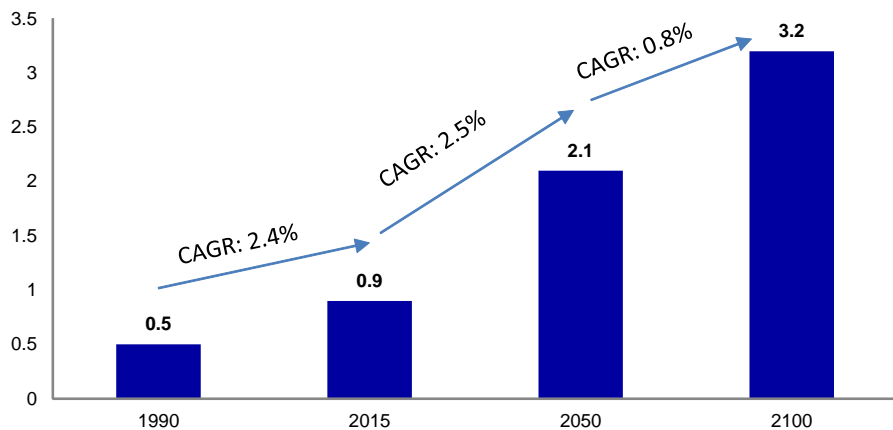
North America, Europe and Oceania are the regions with the highest proportion of people aged above 60



Source: UN Department of Economic and Social Affairs

POPULATION AGED 60 OR ABOVE BY YEAR, BILLIONS

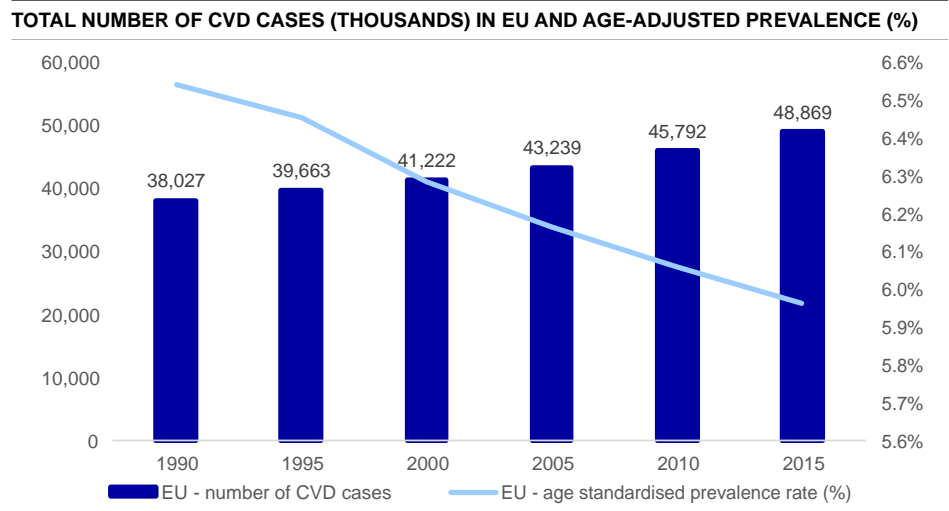
The population above 60 is expected to continue growing at a CAGR of ~2.5%, according to the UN



Source: UN Department of Economic and Social Affairs

For vitamin K2 specifically, most of the current research focuses on the prevention of cardiovascular diseases (CVD) and osteoporosis. Both of these diseases are linked to old age and as we pointed to above, bone and heart health are key concerns among US supplement users. With a growing elderly population, the absolute number of diseases may increase, spurring a greater focus on prevention. Based on data from the Institute for Health Metrics and Evaluation (IHME), the absolute number of people in the EU living with CVDs was 49 million in 2015; this number has been growing in absolute and relative terms. The age-adjusted prevalence of CVD in the EU has been declining, however, possibly meaning that progress on prevention has been made in recent years.

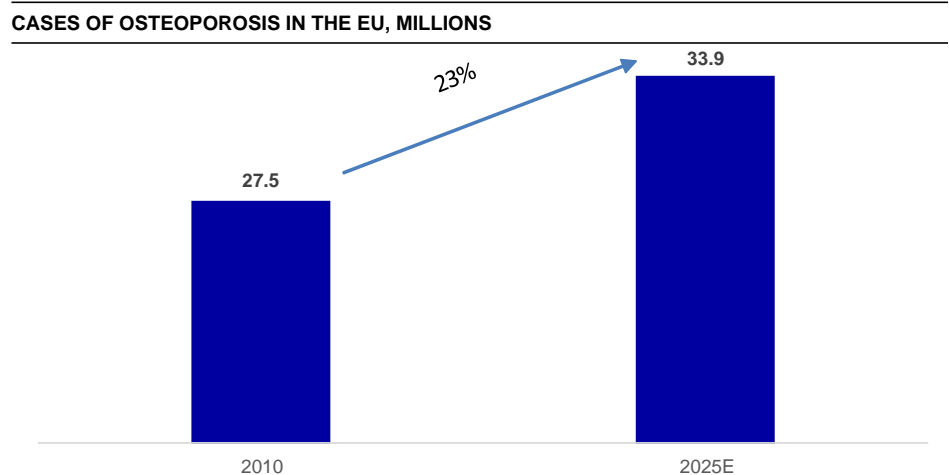
Cardiovascular diseases are a growing problem in absolute term



Source: IHME

Similarly, due to an ageing population, cases of osteoporosis in the EU are projected to rise from 27.5 million in 2010 to 33.9 million in 2025, corresponding to an increase of 23% (CAGR 1.4%), according to the International Osteoporosis Foundation (IOF). The disease is particularly prevalent in women, with a female-to-male osteoporotic fracture ratio of 1.6. We note that the IOF refers to new research on vitamin K2, pointing to benefits – particularly for postmenopausal women, like those in Natto's three-year study – on the homepage of its website.

The number of cases of osteoporosis in the EU is growing rapidly



Source: International Osteoporosis Foundation

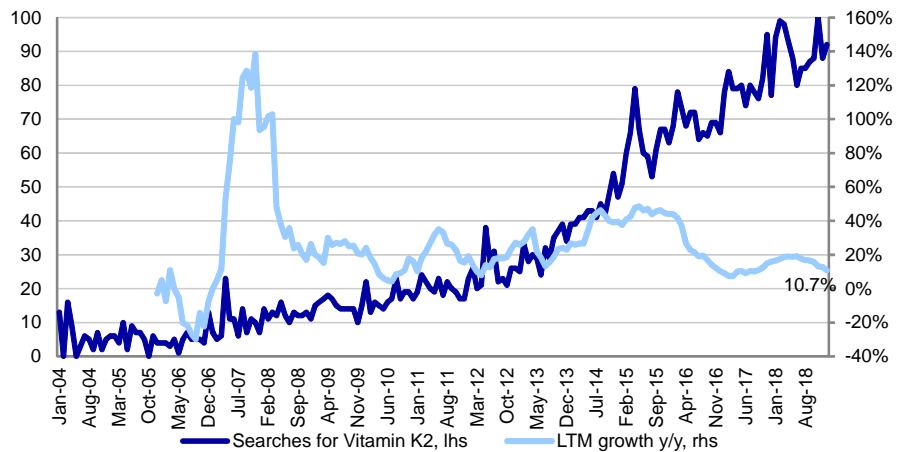
If future research can corroborate that vitamin K2 can indeed reduce the risk of these diseases, we believe a substantial demand wave could be triggered. This is still highly uncertain, however, and the European Food Safety Authority does not recognise these claims or even that there is a practical difference between vitamin K2 and vitamin K1, due to the high uncertainty of existing research.

Consumer awareness and market outlook

Compared with many other vitamins, we believe K2 is still in its infancy when it comes to consumer awareness and supplement sales. By accessing data from Google Trends, we note that the number of Google searches globally related to the topic of "vitamin K2" has grown strongly, accelerating after 2013. Currently, the LTM y/y growth run-rate is 11%, having slowed slightly during 2018. If we compare the number of Google searches for "vitamin K2" to searches for other vitamins (C, D and B) and omega 3, we note that the number of searches for vitamin K2 and vitamin K are generally only a small fraction of the searches for others. Geographically, Norway has the highest concentration of searches for vitamin K2 per capita in the world, as indicated in the charts below.

GLOBAL GOOGLE SEARCH INDEX FOR VITAMIN K2

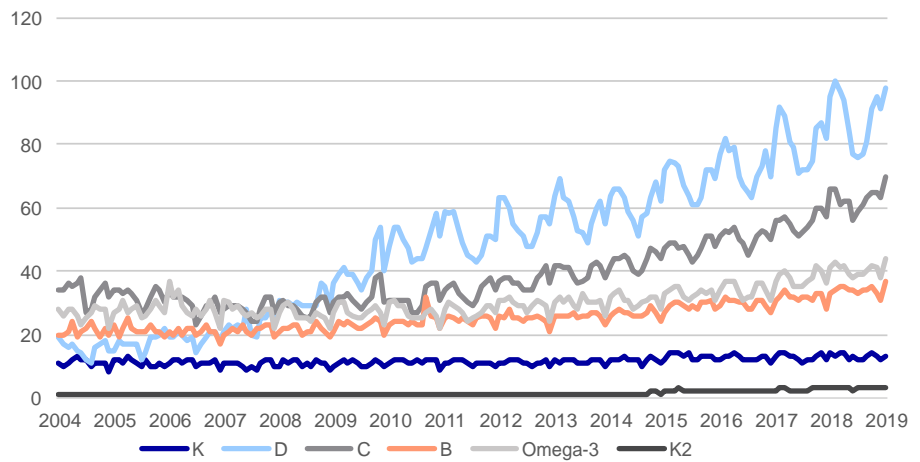
The number of Google searches for "vitamin K2" has grown sharply in recent years



Source: Google and Nordea

GLOBAL GOOGLE SEARCH INDICES FOR VITAMIN K2, OTHER VITAMINS AND OMEGA 3

The Google search popularity of "vitamin K2" is still only a fraction of other vitamins and omega 3



Source: Google and Nordea

VITAMIN K2 GOOGLE SEARCH CONCENTRATION PER INHABITANT BY COUNTRY

Per search capita, Norway has the highest concentration of Google searches for vitamin K2



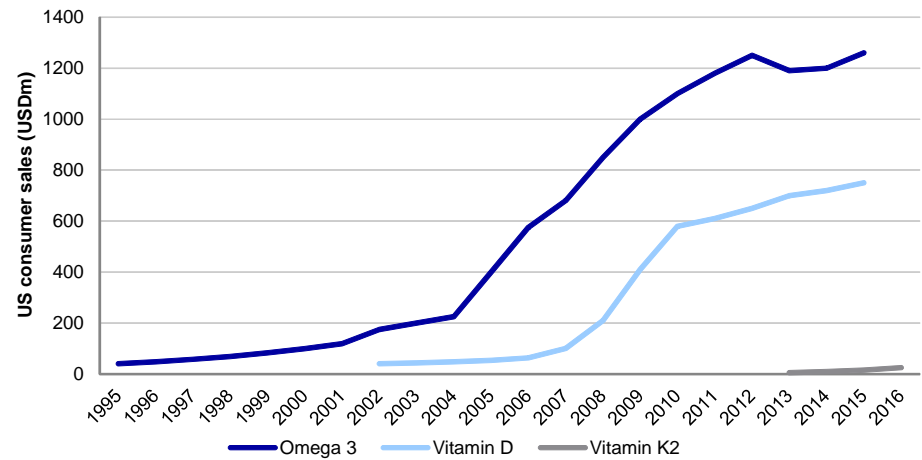
Source: Google and Nordea

Based on data provided at NattoPharma's investor presentation in 2017, we note that supplement sales to consumers of vitamin K2 are also only a fraction of that generated from vitamin D and omega 3. Interestingly, omega 3 and vitamin D supplements saw rather sudden pickups in popularity, leading to exponential growth a few years after the market take-offs. In our view, the sudden uptick arguably followed sufficient clinical validation of these vitamins' health benefits. While this does not guarantee that the same will be the case for vitamin K2 too, we note that vitamin K2 potentially shares health benefits with both omega-3 and vitamin D (cardiovascular and bone health).

Continued research efforts and acceptance of key health claims thus have the potential to boost sales of vitamin K2 significantly, in our view.

Omega 3 and vitamin D supplements sales rose sharply once health benefits became widely known

US CONSUMER SALES BY SUPPLEMENT CATEGORY, USDm

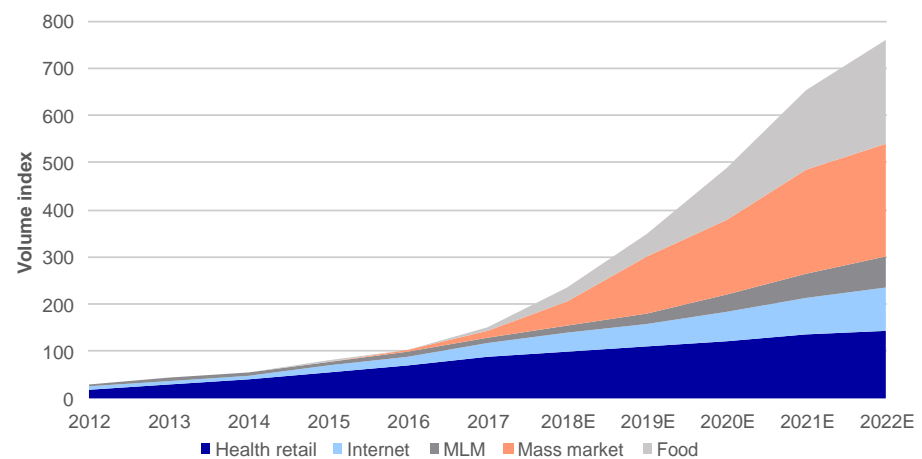


Source: Company investor presentation 2017

According to NattoPharma, vitamin K2 market growth should be driven by adoption from new customer segments. Notably, the company highlights supplements for the mass market and vitamin K2 additions in food (eg dairy products) as two keys to growth. Multivitamin, vitamin D and calcium are for example among the most used supplement in the US, according to the previously mentioned CRN survey. We believe a vitamin K2 addition could be a natural enhancement to all three supplements in the future, which in turn could provide a significant boost to volumes. Similarly, we have for example noted some dairy products (eg Tine Styrk in Norway) that include vitamin K2 additions and believe that the food market could support significant volume growth if these products are adopted by consumers. In the chart below, we show how the company envisions the market development in the coming years, as presented at its CMD in 2017.

The mass market and food segments are essential to volume growth ahead

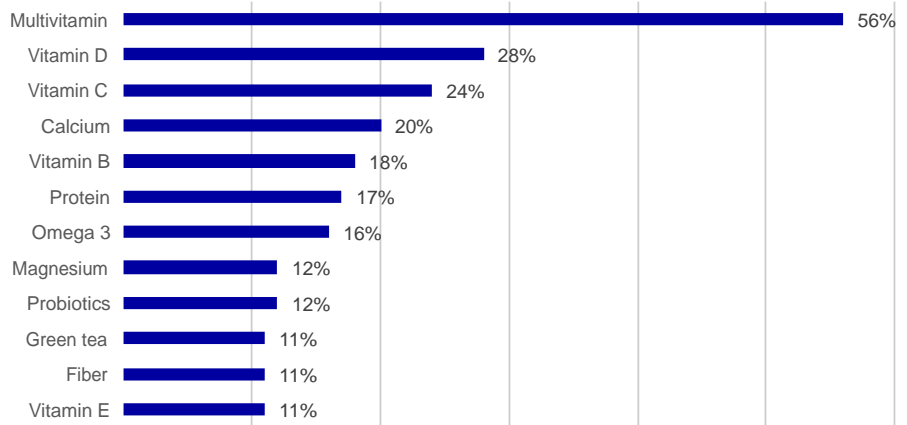
WHOLESALE VOLUME INDEX BY SEGMENT 2012-22E (ILLUSTRATIVE)



Source: Company data and Nordea estimates *Note: the volume index has been calculated manually by Nordea based on a chart provided by the company

Vitamin K2 could be combined with multivitamins, vitamin D and calcium supplements in the future, which are among the most used supplements in the US, according to an Ipsos survey

US SURVEY: TOP SUPPLEMENTS IN THE US 2017 (N = 2,001)

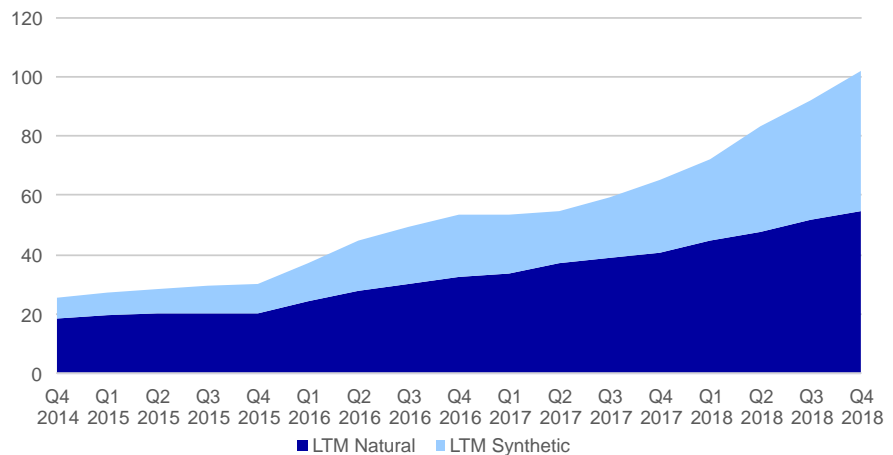


Source: CRN Consumer Survey 2017 conducted by Ipsos

We note that NattoPharma's strong growth of cheaper synthetic vitamin K2 concentrate sales could illustrate that the market growth is driven by low-price, high-volume segments such as the mass market.

Synthetic vitamin K2 concentrate sales have outgrown NattoPharma's natural products

SYNTHETIC AND NATURAL LTM SHARE OF NATTOPHARMA SALES, NOKm



Source: Company data and Nordea estimates

Vitamin K2 market size

The transparency in the vitamin K2 wholesale (B2B) market is limited, with few global market estimates existing. However, NattoPharma is one of the largest players in the space and its management has provided us with the following rough market estimates for the B2B market, based on observed volumes for itself and its competitors:

- 150,000 kg in annual global production volume in 2018 (can be +/- 20%)
- Average price of USD 300 per kg 1000 PPM equivalents

We estimate the global B2B market at USD 45m, based on figures provided by management

Based on these figures, we estimate that the global market size in 2018 could be worth USD 45m (NOK 369m). With a 2018 revenue of ~100m, this would give NattoPharma a ~28% market share. Given NattoPharma's leading position in the market, we believe its strong 53% revenue growth is indicative of the strong underlying market growth as well. To our understanding, it is the US market in particular that is seeing strong demand growth currently.

We cross-check the calculations by assessing the estimated size of the retail market

The retail (B2C) market is significantly larger, as we believe that the retail selling price could be ~10x the wholesale price (a very rough estimate), suggesting a current retail market of USD~450m. According to NattoPharma's competitor, Kappa Bioscience, volume estimates of the five main K2 MK-7 manufacturers would place the 2015 retail market size at about USD 220m. The competitor also estimates that that market size had been doubling each year up until 2015. As such, we believe that a global retail

market of USD 450m in 2018 appears to be a reasonable estimate. According to Spins (an association representing brands in the US natural, organic and speciality foods product industry), 2017 sales of vitamin K2 were strong in the bone health category, growing 18.7% to USD 2.67m in 2017. In the multi-outlet channel, vitamin K sales in 2017 amounted to USD 0.90m in sales for bone health, corresponding to 19.3% growth y/y.

Market forecast and sensitivity analysis

Based on the current price and volume estimates provided by the company, we can make some market approximations on which to base our forecast and scenario analysis. To our understanding, lower prices are key to the commercialisation of vitamin K2 supplements and a launch into the mass market and food market. This is partly because food suppliers will have to be able to include in its food products without substantial differences to the prices of the end products, as the general consumer is unlikely to be willing to pay a significant premium for a product with vitamin K2.

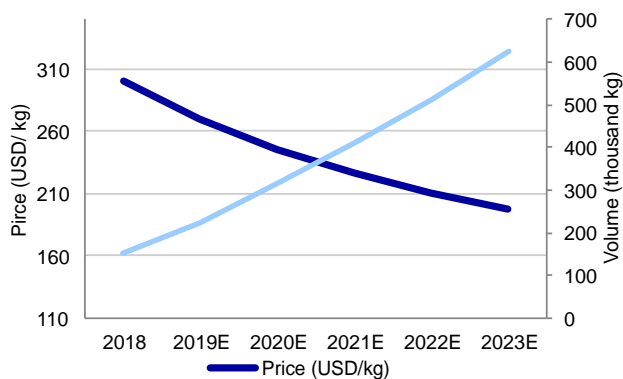
With a departure in the current market estimates provided by management, we forecast a market CAGR of 22% for 2018-23E, driven by a 33% volume CAGR and a -8% price CAGR in the period. Given our sales estimates for MK-7 products for NattoPharma we expect the company to be able to outgrow the market thanks to product line extensions such as Full Spectrum. Our forecasts imply that the company will increase its market share of from 28% to 33%. The result is presented below.

BACK-OF-THE-ENVELOPE B2B MARKET ESTIMATES

	2018	2019E	2020E	2021E	2022E	2023E	CAGR 18E-23E
Volume (th kg)	150	225	315	410	512	624	33.0%
Growth y/y		50.0%	40.0%	30.0%	25.0%	22.0%	
Price (USD/kg)	300	270	246	226	210	198	-8.0%
Inflation y/y		-10.0%	-9.0%	-8.0%	-7.0%	-6.0%	
Market size (USDm)	45	61	77	93	108	123	22.4%
Growth y/y		35.0%	27.4%	19.6%	16.3%	14.7%	
Market size (NOKm)	369	498	635	759	882	1,012	22.4%
Sales Nattopharma, MK-7	102	138	179	226	280	338	27.1%
Growth y/y	53.2%	35.4%	29.9%	26.6%	23.8%	20.4%	
Market share	27.6%	27.6%	28.2%	29.8%	31.8%	33.4%	

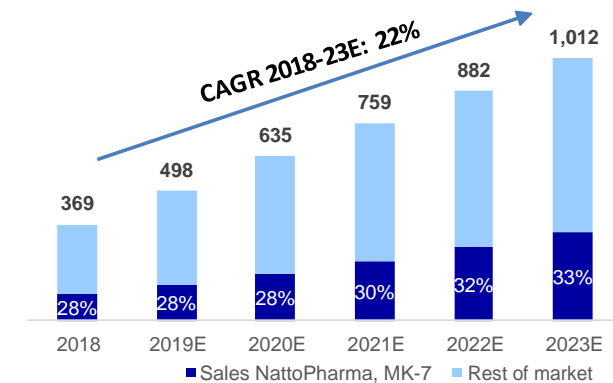
Source: Company data and Nordea estimates

MARKET PRICE AND VOLUME TRENDS 2018-23E



Source: Nordea estimates

MARKET SIZE AND NATTOPHARMA MARKET SHARE 2018-23E



Source: Company data and Nordea estimates

Finally, there is material uncertainty in these figures and they should hence only be viewed as rough estimates. The current market figures are based only on management estimates and we do not have any significant historical figures for the volumes and price trends. Kappa Bioscience claims that it led the market (for synthetic vitamin K2) with a 45% price reduction, "marking a significant step on the path to mass-market commercialisation of K2". However, we believe price declines for natural products may have been less pronounced. Below, we provide a sensitivity table showing the implied 2023E global B2B market size, given varying assumptions for price and volume CAGR developments.

There is significant uncertainty to our market calculations; therefore, illustrate a sensitivity table for the 2023 market size, given varying price and volume assumptions

SENSITIVITY: MARKET SIZE 2023 VS PRICE AND VOLUME CAGR FOR 2018-23

		Volume CAGR 2018-23E						
		5.0%	15.0%	20.0%	33.0%	35.0%	40.0%	45.0%
Price CAGR 2018-23E	0.0%	471	742	918	1,536	1,655	1,985	2,365
	-4.0%	384	605	749	1,253	1,349	1,618	1,929
	-8.0%	310	489	605	1,012	1,090	1,307	1,558
	-12.0%	249	392	485	811	873	1,047	1,248
	-16.0%	197	310	384	642	692	830	989
	-20.0%	154	243	301	503	542	650	775
	-24.0%	119	188	233	390	420	503	600
	-28.0%	91	144	178	297	320	384	458
	-32.0%	68	108	133	223	241	289	344
	-36.0%	51	80	99	165	178	213	254

Source: Company data and Nordea estimates

Governance aspects

NattoPharma's management team is diverse, with managers having experience in the accounting, medicine, nutraceuticals and general business administration. The board of directors has five members, all of whom are independent. In addition to salary, the company has a bonus-based, short-term incentive programme and an options-based, long-term incentive programme in place. 46% of the shares are owned by strategic entities.

Management and board of directors

The CEO and CFO of NattoPharma is Kjetil Ramsøy, who joined the company in 2016 and is a certified public accountant. The recently hired VP of finance, Martin Lycke, is however, the person responsible for financial reporting today. Hogne Vik is chief medical officer and Daniel Rosebaum is the CEO of Kaydence Pharma. Other key personnel are detailed in the table below. The board of directors has five members, all of whom are considered independent, according to Deloitte.

MANAGEMENT AND KEY PERSONNEL

<p>Kjetil Ramsøy</p>  <ul style="list-style-type: none"> • CEO / CFO • Certified Public Accountant • Joined in 2016 	<p>Hogne Vik</p>  <ul style="list-style-type: none"> • Chief Medical Officer • Medical Doctor, PhD, MBA 	<p>Peter Stahl</p>  <ul style="list-style-type: none"> • COO • Experience from multiple industries
<p>Eric Anderson</p>  <ul style="list-style-type: none"> • SVP Global Marketing & BD • 20 years' experience in natural products industry 	<p>Chris Speed</p>  <ul style="list-style-type: none"> • SVP Global Sales / Marketing • Nutritional scientist and dietician 	<p>William Sommer</p>  <ul style="list-style-type: none"> • VP Global Development & Regulatory • 20+ years' experience from product and application development in chemical industries
<p>Daniel Rosebaum</p>  <ul style="list-style-type: none"> • CEO Kaydence Pharma • Extensive business experience 	<p>Martin Lycke</p>  <ul style="list-style-type: none"> • VP Finance • Ex CFO of Sorlandschips 	<p>Rudi De Man</p>  <ul style="list-style-type: none"> • VP Sales & Business Development • Experience from food ingredients and pharmaceutical industry

COMPOSITION OF BOARD OF DIRECTORS

Board of Directors		
Name	Role	Information
Frode Marc Bohan	Chairman of the board	Founder of NattoPharma and serial entrepreneur
Sjur Thorsheim	Member of the board	Investor and entrepreneur
Katarzyna Maresz	Member of the board	PhD in Biological Sciences, Scientific staff Jagiellonian University
Annette Elmqvist	Member of the board	VP Quality Assurance at Scandinavian Biopharma
Stefan Hallden	Member of the board	Chairman of Life Sciences AB and investor
Nomination Committee		
Fredrik Reikstad Bjordal	Chairman	
Kim Øien	Member	CEO of TG Montgomery and main shareholder

Source: Company data and Nordea

Management has a short-term bonus scheme and a long-term options incentive programme in place

Management's incentive structure

NattoPharma's executives have long-term and short-term incentive programmes in addition to their fixed salary. The long-term incentives are option-based, while the short-term incentive programme is based on an annual bonus scheme that is linked to the achievement of operational and financial goals as well as personal development goals. On 13 February 2019, the company announced that it had granted an additional 292,500 options to the executive management with a strike price of NOK 9.0 per share, whereof 100,000 options were granted to the CEO. During the quarterly presentation, management also stated that the board of directors generally preferred to reduce options as a share of the total management compensation and therefore were granted fewer options y/y.

OWNERSHIP OF OPTIONS

Name	Role	Options	Information date
Frode M Bohan	Chairman	200,000	31/12/2017
Stefan Hallden	Board member	50,000	31/12/2017
Daniel Rosebaum	CEO of Kaydence Pharma	163,000	31/12/2017
Kjetil Ramsøy	CEO / CFO	225,000	13/02/2019
Katarzyna Maresz	Board member	100,000	31/12/2017
Stefan Halldén	Board Member	50,000	31/12/2017
Annette Elmqvist	Board Member	50,000	31/12/2017

Source: Company data and Nordea

A significant share of the shares in NattoPharma are controlled by strategic owners

Ownership structure

Below, we present the ownership structure of NattoPharma. Data from Thomson Reuters, indicates that a total of 46% of shares are held by strategic owners, implying a free float of 54%. Below, we show a list of the 20 largest shareholders with accompanying comments regarding certain entities.

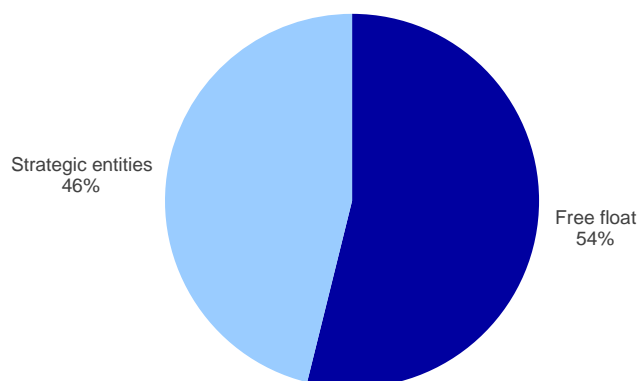
TOP 20 SHAREHOLDERS

Investor	Number of shares	% of top 20	% of total	Country	Comment
SVENSKA HANDELSBANKEN AB	2,561,170	18.75%	14.09%	SWE	Nominee for Life Science Sweden AB (Stefan Halldén)
PRO AS	1,966,310	14.40%	10.82%	NOR	Sjur Thorsheim
TG MONTGOMERY AS	1,735,122	12.70%	9.54%	NOR	Frode Marc Bohan
AVANZA BANK AB	1,382,747	10.12%	7.61%	SWE	
BOHAN & CO AS	1,033,455	7.57%	5.68%	NOR	Frode Marc Bohan and Kim Øien (CEO of TG Montgomery)
NOVEL NUTRITION NETWORK SP. Z O.O.	673,927	4.93%	3.71%	CYP	Piotr Jandziak
EUROCLEAR BANK S.A./N.V.	560,000	4.10%	3.08%	BEL	
ENG AS	554,508	4.06%	3.05%	NOR	CMO Hogne Vik
UBS SWITZERLAND AG	490,455	3.59%	2.70%	CHE	
BJERKENES HOLDING JAN FREDRIK	409,323	3.00%	2.25%	NOR	
RATUSINSKA PATRYCJA KAROLINA	350,000	2.56%	1.93%	POL	
NIELSEN TRYGVE	325,000	2.38%	1.79%	NOR	
CINCO INVEST AS	290,476	2.13%	1.60%	NOR	CEO Kjetil Ramsøy
NORDNET BANK AB	238,502	1.75%	1.31%	SWE	
NICOLINE INVEST AS	200,000	1.46%	1.10%	NOR	Kim Øien (CEO of TG Montgomery)
NXT CAPITAL LTD	200,000	1.46%	1.10%	CYP	Frode Marc Bohan
SIX SIS AG	194,261	1.42%	1.07%	CHE	
TSAMBIKO HOLDING AS	190,476	1.39%	1.05%	NOR	
VRENNE STEIN OLE	166,000	1.22%	0.91%	NOR	
NORDNET LIVSFORSIKRING AS	135,776	0.99%	0.75%	NOR	
Total number owned by top 20	13,657,508	100%	75.12%		
Total number of shares	18,179,933		100%		

Source: Company data and VPS (as of 21 January 2019)

FREE FLOAT AS OF 21 JANUARY 2019

The free float is ~54%



Source: Thomson Reuters

Insider buying and selling in 2018-19

Below, we specify the trades made by insiders during 2018-19. In general, insiders have been buying the share.

INSIDER BUYING AND SELLING DURING 2018-19

Date	Entity	Primary insider	Trade	Number of Shares	Share price
14/02/2019	Stefan Halldén	Stefan Halldén	Buy	3,000	9.80
13/02/2019	Pro AS	Sjur Thorsheim	Buy	10,000	10.19
31/12/2018	Bohan & Co	Frode Marc Bohan	Buy from Katarzyna M	75,000	8.00
31/12/2018	Katarzyna Maresz	Katarzyna Maresz	Sell to Bohan & Co	75000	8.00
21/11/2018	Pro AS	Sjur Thorsheim	Buy	10,182	8.44
19/11/2018	Pro AS	Sjur Thorsheim	Buy	5,513	8.50
16/10/2018	-	Martin Lycke	Buy	22,993	8.81
22/08/2018	Pro AS	Sjur Thorsheim	Buy	28,726	9.15
27/06/2018	TG Montgomery	Frode Marc Bohan	Buy from KG Inv Comp	2,152,317	10.50
27/06/2018	Pro AS	Sjur Thorsheim	Buy from TG Mont.	571,429	10.50
27/06/2018	Cinco Invest	Kjetil Ramsøy	Buy from TG Mont.	190,476	10.50
05/03/2018	Bohan & Co	Frode Marc Bohan	Buy	750,000	9.60
05/03/2018	TG Montgomery	Kim Oien	Buy from Bohan & Co	150,000	9.60
05/03/2018	Patrycja Karolina Ratusin	Frode Marc Bohan	Buy from Bohan & Co	100,000	9.60
05/03/2018	Novel Nutrition Network	Piotr Jandizak	Sell	750,000	9.60

Source: Company data and Oslo Stock Exchange

Kaydence Pharma

Kaydence Pharma is a phase 1b ready pharmaceutical company spun off from NattoPharma in 2017 to focus exclusively on bringing MQ-7 through clinical trials and into the pharmaceutical market. This is in contrast with NattoPharma's focus on the food and dietary supplements market. Although NattoPharma currently owns a 46% equity stake in Kaydence Pharma, we do not assign a value to the company in our valuation as it is still early days, but we believe potential progress with and supportive data from more and more clinical trials and indications could drive positive news flow and crystallise value over time. We would also consider potential future partnerships deals as a significant value driver, de-risking the sales outlook and validating MQ-7's potential in the pharmaceutical market, for which the sales may be large, depending on the clinical data and market approvals. Until then, we opt to view Kaydence Pharma as upside to our valuation.

Aiming to bring MQ-7 through clinical trials and to gain market approval across cardiovascular indications

Pharmaceutical business spin-off

Kaydence Pharma is an independent, privately-owned, company previously integrated in NattoPharma but now spun off to focus exclusively on launching MQ-7 (vitamin K2 subtype menaquinone-7) as a novel pharmaceutical product treating cardiovascular diseases as well as other tissue calcification-related diseases. The purpose of the spin-off was to increase transparency and separate the two businesses into a "stable business" (NattoPharma) focused on Vitamin K2 within functional food and dietary supplements and an "early-stage business" (Kaydence Pharma) focused entirely on launching the product on the pharmaceutical market, each business entity having its own dedicated management and employees, thereby creating the most value for customers, patients and investors alike. The latter is an important point in relation to Kaydence Pharma as additional investments from investors or partners are required to finance the clinical development programme.

The company is arguably still in an early phase, but engages with partners and leading experts to ensure necessary expertise and know-how

The company employs CEO, Daniel Rosenbaum, and a project team, based on consultants engaged through Stage Gate Partners and PharmaLex. As the company is newly established and the product (MQ-7) has already been chosen, it collaborates with consultants with expertise in drug development, clinical and regulatory strategy as well as the US Food and Drug Administration (FDA) agency, including IND/NDA/BLA preparation and submissions, FDA correspondence and meetings in order to launch MQ-7 on the pharmaceutical market in the best possible manner while ensuring efficient operations and costs.

The project team has more than 12 decades of combined experience in clinical development and FDA drug registrations, bringing valuable insights and know-how to Kaydence Pharma, alongside collaborations with external experts and key opinion leaders within the cardiovascular field.

We note that Kaydence Pharma could bring further experts on board once the development programme and the company mature and the product is advanced into later-stage trials with more (potentially larger) cardiovascular indications over time.

Five-year strategy plan

Kaydence Pharma has a five-year strategy plan with several milestones along the way. Its main vision is to bring MQ-7 through clinical trials and to gain market approval across cardiovascular indications. This will crystallise value as the product develops through more and more clinical stages and indications, generating a valuable safety and efficacy data package to support market approval and reimbursement, and sharpen partner interest in the development programme. In our view, potential partnerships deals will be key and will drive value for the programme, de-risking the sales outlook and validating MQ-7's potential. We see the following potential milestones:

- Initiate clinical trials in the US and report phase I, II, and III clinical data. There may, however, be potential for more rapid approvals based on pivotal phase II trials followed by post-marketing approval trials.
- FDA submission and approval decision.
- Broaden the indication range across several cardiovascular diseases and indications, considering costs, timelines and complexity.
- Broaden the geographic focus into Europe, Asia and other non-US regions and countries. The company's overall development and commercialisation plan covers both the US and European markets, but has the strongest emphasis on the US.
- Talk to and sign deals with pharmaceutical partners with a sizeable market position and established market access teams in the cardiovascular field regarding development and commercialisation collaborations.

Kaydence Pharma currently aims to bring MQ-7 to the market during 2024, beginning with a smaller indication (arterial stiffness in stable renal transplant patients with subclinical vitamin K deficiency). We will explain this concept and its relationship to cardiovascular diseases later in this section.

We illustrate potential development timelines in the table below. These are obviously subject to board decisions, financial planning and partnership/investor negotiations, and may change over time, depending on clinical trial outcomes and how smooth the process goes with regards to enrolment in clinical trials, discussions with regulators, unforeseen complications along the way, etc, especially considering that it is still early days for the company.

POTENTIAL TIMELINES

Timeline	Project	Event	Indication	Description
Q1 2020	MQ-7	Ph 1b study initiated	CV	We expect the company to start a ph 1b clinical trial in Q1 2020
H1 2021	MQ-7	Ph 1b results	CV	We expect ph 1b results to be ready within a year
H1 2021	MQ-7	Ph 2 study initiated	CV	Following FDA discussions, MQ-7 could be ph 2 ready by 2021
H1 2022	MQ-7	Ph 2 results	CV	We expect ph 2 results to be ready within a year
H2 2022	MQ-7	Ph 3 study initiation	CV	Following FDA discussions, MQ-7 could be ph 3 ready by 2022
H2 2023	MQ-7	Ph 3 results	CV	Depending on enrollment timing, ph 3 results could be out by 2023
H2 2024	MQ-7	Approval decision	CV	Assumes filing within 3 months and an approval decision within 6-10 months
2021/22	MQ-7	Deal	CV	Potential for partnership deals on MQ-7
2021/22	MQ-7	Ph 2 study initiations	CV	Potential for new studies in additional CV indications

Source: Company data and Nordea estimates

We expect Kaydence Pharma to start the first clinical trial (ph 1b) in Q1 2020...

We expect Kaydence Pharma to start the first clinical ph 1b trial in Q1 2020, testing MQ-7's benefit on arterial stiffness in stable renal transplant recipients with subclinical vitamin K deficiency, with potential results a year later (depending on patient enrolment); ie in around two years' time.

...which may enable results in H1 2021 – an important event

This will obviously be an important event, potentially de-risking the outlook and validating MQ-7's potential in the pharmaceutical market. However, late-stage clinical trials will still be needed to substantiate the ph 1b findings, given that it is not uncommon to see companies succeed in early-stage trials but later fail ph II and ph III studies.

Commercial pharmaceutical partnerships will be important

The company expects to engage with commercial pharmaceutical partners to drive the late-stage development programme in larger indications and commercialise MQ-7 across cardiovascular indications. This is necessary owing to market size, the bigger clinical trials versus smaller indications, and market dynamics and infrastructure that require relatively large investments in R&D, SG&A to establish sufficient sales and back office functions to drive sales and maintain competitiveness.

These partners will book product sales and incur all costs related to R&D and marketing, while Kaydence Pharma will be entitled to (under usual deal terms) an upfront payment, royalty income on future product sales as well as potential commercial and development milestones.

The ambition and strategy at the current stage is to broaden the development programme into more cardiovascular indications at a later stage once efficacy and safety has been established in a phase II clinical trial, thereby taking one step at a time considering costs and timelines between each milestone (phase I, phase II trials, etc).

The FDA has agreed to further discussions about potential subsequent phase II and phase III development programmes

Pre-IND meeting concluded – ready to initiate clinical trials

The company concluded a pre-IND (Investigational New Drug) meeting with the US Food and Drug Administration (FDA) – the US regulatory agency – in November 2018 to discuss its plans to launch its vitamin K2 product on the pharma market in the US. The meeting gave insights into:

- The clinical and regulatory development pathway for Kaydence Pharma's novel drug candidate MQ-7-
- The non-clinical requirements for the IND for MQ-7 supporting the planned first-in-human study.
- The design for the first-in-human study, including the ability to conduct the study in the target patient population.

The FDA agreed to continue discussions regarding potential subsequent phase II and phase III development programmes once the first-in-human study has been successfully completed.

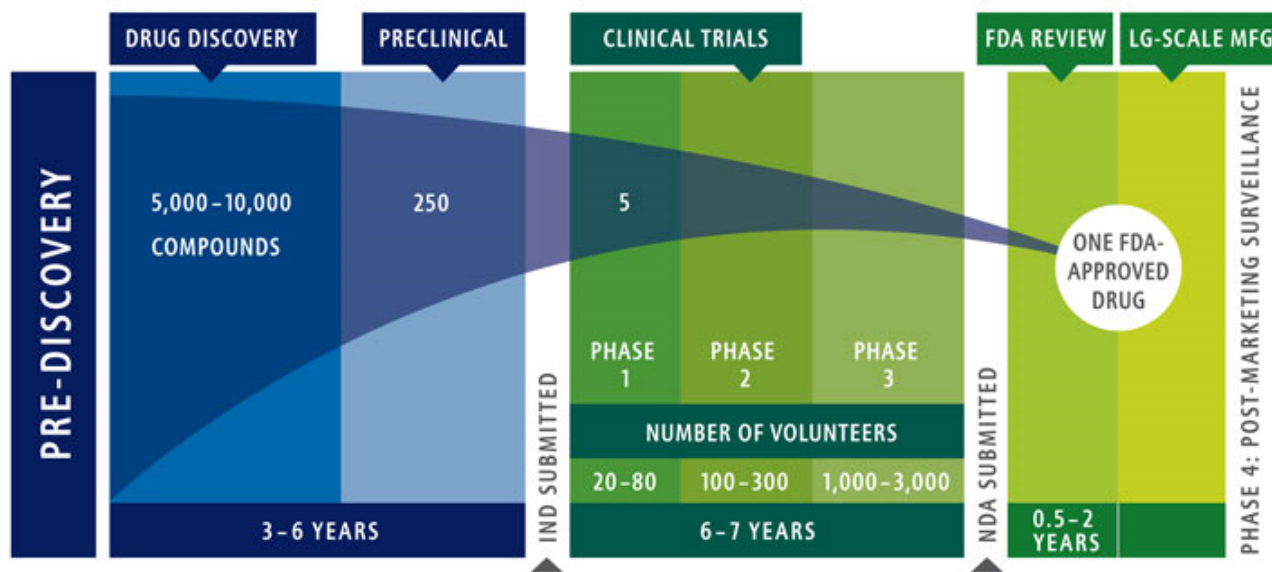
MQ-7's position and scientific rationale in pharma

We discuss the scientific rationale, position and sales potential for NattoPharma's MQ-7 with regards to the general food and vitamin supplements market throughout this report. Now we look at its potential position in the pharmaceutical market where it may be used to treat patients with various cardiovascular diseases.

Pharmaceutical drug development is a lengthy, expensive and risky road

Compared to commercialising a product in the food and dietary supplement market, bringing a new therapy to the pharmaceutical market can be a long, expensive and risky road. The illustration below shows the stages a drug typically undergoes before it reaches the commercial stage. Development starts with pre-clinical discovery, research and development; then it moves into clinical trials (ph I, II, and III) for subsequent review with the regulatory authorities. Development cost and timelines may, however, differ depending on the disease area and indication in question.

DRUG DISCOVERY AND DEVELOPMENT: A LONG AND RISKY ROAD



Source: Regulatory Affairs Professionals Society

Fewer than one in ten drugs that enter phase I clinical trials are approved by FDA

Historically, fewer than one in ten drugs that enter phase I clinical trials are actually approved by FDA. For some indications, such as diseases within the central nervous system (Alzheimer's in particular) or cancer, success rates can be even lower (<5%).

Kaydence Pharma's MQ-7 has already "completed" the preclinical stage and is now ready to start clinical trials in patients with cardiovascular diseases. At this stage, Kaydence Pharma has to show that MQ-7 provides a statistically significant improvement in patients measured by pre-specified clinical efficacy endpoints, while at the same taking safety into account.

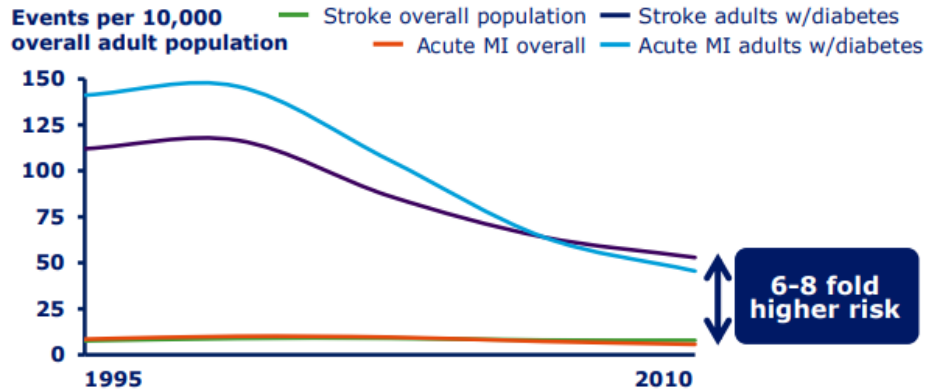
Cardiovascular diseases in short

Cardiovascular (CV) disease is a therapeutic area relating to the heart and blood vessels, with typical indications including coronary heart disease, stroke, and peripheral arterial disease. Heart attacks and stroke are mainly caused by a blockage that stops blood flowing to the heart or brain or by something causing bleeding in the brain. While the exact causes may be uncertain, we list some of the typical factors that can trigger CV diseases:

High blood pressure, tobacco use, high cholesterol, diabetes and unhealthy living are typical risk factors for CV disease

- **High blood pressure.** Too high blood pressure (also called hypertension) can damage the blood vessels and lead to heart attacks, heart failure, and strokes, among others.
- **Smoking.** The harmful substances in tobacco can damage and narrow the blood vessels.
- **High cholesterol.** Cholesterol is a fatty substance found in the blood. Patients with high cholesterol may risk developing a blood clot, as it can cause the blood vessels to narrow.
- **Diabetes and obesity.** Patients with type 2 diabetes have a far higher risk of CV disease and associated mortality than those without diabetes, as it causes the blood sugar level to become too high. This can damage the blood vessels and narrow them. Many patients with type 2 diabetes are also overweight or obese, which is a risk factor for CV disease too.
- **Physical inactivity and unhealthy diet.** While somewhat overlapping with diabetes and obesity (patients who do little to no exercise and have unhealthy eating habits tend to become obese, which can lead to high blood pressure, diabetes, etc – all independent risk factors for CV disease), regular physical activity and a healthy diet can help prevent diabetes, maintain weight, and reduce blood pressure.

DIABETES PATIENTS EXPERIENCE SIGNIFICANTLY MORE CV EVENTS



Source: Novo Nordisk 2018 Capital Markets Day presentation

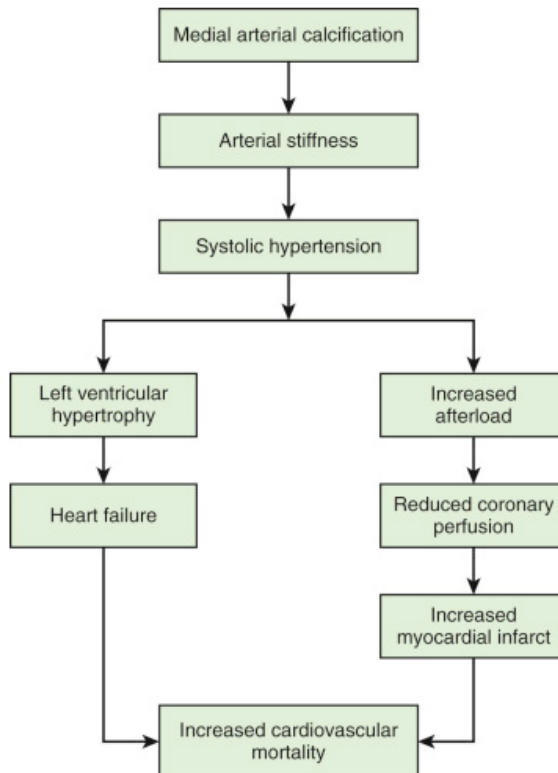
Scant data but some validation from studies

The association between vitamin K2 supplementation and cardiovascular diseases has only begun to be explored in patients and has received limited research focus historically. While the data from patients is scant, studies up to now (referred to later in this section) have suggested that Vitamin K2 may hold the potential to lower cardiovascular risks by reducing cardiovascular calcification and arterial stiffness.

Cardiovascular calcification may lead to cardiovascular mortality

The term "cardiovascular calcification" is a common complication in patients with chronic kidney disease with a prevalence of around 70-80% and multiple studies have demonstrated cardiovascular calcification as a risk factor for cardiovascular morbidity (sickness) and mortality (death). The calcification process and potential implications are illustrated below.

CALCIFICATION PROCESS AND POTENTIAL IMPLICATIONS



Source: Wei Chen, Handbook of Dialysis Therapy (Fifth Edition), 2017

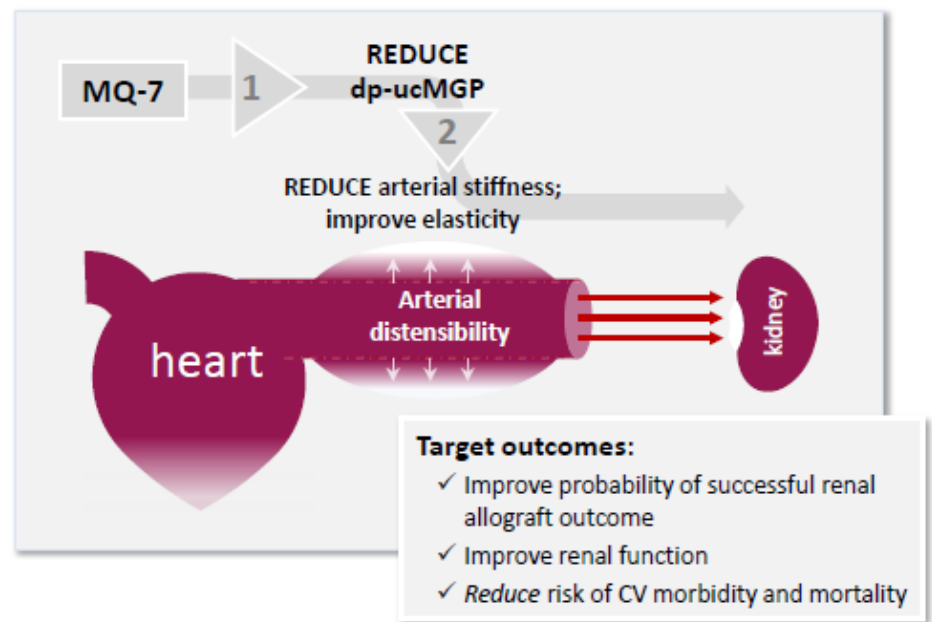
Calcification causes the arteries to become calcified and stiff – a state called arterial stiffness. This lost arterial flexibility/elasticity/cushioning function may lead to raised blood pressure (hypertension), which can result in heart attacks, heart failure, and strokes, among others. Arterial distensibility (flexibility) is critical for normal organ function.

Studies have revealed that the vitamin K-dependent matrix Gla-protein (MGP) may reduce cardiovascular calcification by improving the vascular function. The relationship between MGP and vitamin K lies in the fact that inactive MGP requires vitamin K to carboxylate it before it can be activated. Many patients with cardiovascular disease, however, do not have sufficient vitamin K2 to activate MGP such that vascular calcification can be inhibited.

MQ-7 may slow, halt or reverse arterial stiffness and vascular calcification

This is where Kaydence Pharma's MQ-7 may help, as it activates MGP, thereby inhibiting arterial stiffness by either slowing, halting or, potentially, reversing arterial stiffness. This will in turn improve renal function in patients and reduce cardiovascular morbidity and mortality.

MQ-7'S MECHANISM OF ACTION



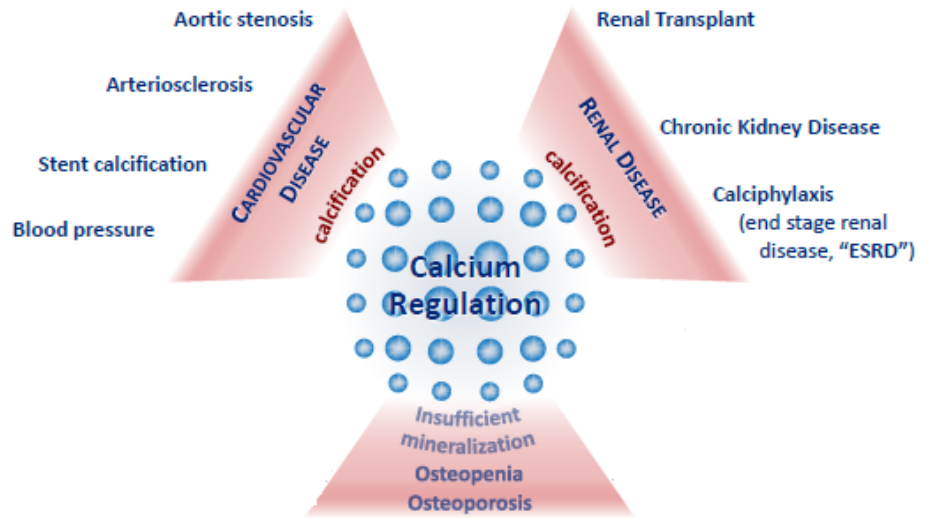
Source: Company data

The KING trial showed that MQ-7 supplementation significantly reduced arterial stiffness in renal transplant patients

The KING trial (vitamin K2 supplementation and arterial stiffness among renal transplant recipients – A single-arm, single-centre clinical trial) evaluated the association between the change in vitamin K status and reduction in arterial stiffness following MQ-7 (vitamin K2) supplementation (360 µg oral once daily) for eight weeks in 60 patients that had undergone a renal (kidney) transplant.

The study showed that MQ-7 supplementation was associated with a 14.2% reduction in arterial stiffness at eight weeks ($P < 0.001$), suggesting that vitamin K2 supplementation may lead to improved arterial stiffness in patients with CV diseases.

CARDIOVASCULAR CALCIFICATION IS IMPLICATED IN SEVERAL DISEASES



Source: Company data

Kaydence Pharma's MQ-7 may thus represent a treatment option across various cardiovascular indications and tissue calcification-related diseases, including renal transplant and chronic kidney disease.

Safety record as dietary supplement already established

MQ-7 is already recognized as safe for human consumption, de-risking its safety profile...

Vitamin K2 has already been established as safe for human consumption through a dietary supplement product for which there have thus far been no known toxicological or safety issues associated with its dietary intake. This is also supported by the fact that it occurs naturally in animal and dairy products (eg milk, cheese and butter).

...but clinical trials are still needed to substantiate the findings and prove its benefit in reducing major adverse cardiovascular events

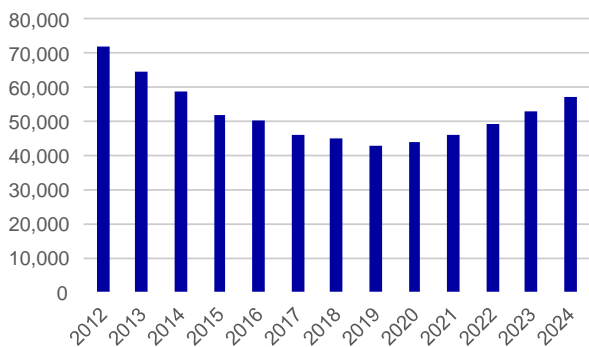
This supports its safety profile in the pharmaceutical space, but clinical trials are still needed to substantiate the findings, in our view.

The key factor for patients, regulators and doctors will be its ability to reduce major adverse cardiovascular events, including heart attack, stroke, and cardiovascular death.

Market size and sales opportunity

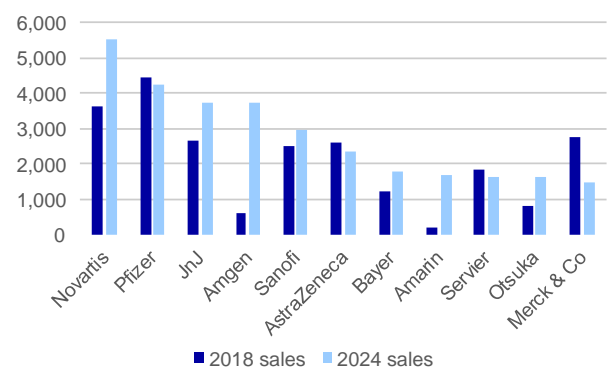
The market size and sales opportunity for Kaydence Pharma's targeted indication areas range from narrowly defined segments to patient groups in the millions. According to EvaluatePharma sell-side consensus estimates, the overall cardiovascular disease market is worth around USD 40bn-plus and is projected to grow to almost USD 60bn by 2024. The market is dominated by Big Pharma companies such as Novartis, Pfizer, Johnson & Johnson, Amgen, among others – companies which may also be potential commercial partner candidates.

TOTAL WW CARDIOVASCULAR SALES, USDm



Source: EvaluatePharma and Nordea

LARGEST COMPANIES BY CARDIOVASCULAR SALES, USDm



Source: EvaluatePharma and Nordea

CV diseases are a large and public health burden...

CV diseases are a large and public health burden, worsening over time. An estimated 17.9 million people died worldwide from CV diseases in 2016, according to WHO (exceeding the number of deaths from all types of cancers combined). This corresponds to three in every ten deaths worldwide. More than 800,000 Americans die from heart disease, stroke or other cardiovascular diseases every year.

...costing the US healthcare system almost USD 200bn a year

CV diseases also take a large economic toll on healthcare systems and society, costing the US healthcare system USD 199bn a year and causing an estimated USD 131bn in lost productivity from premature death alone. Overall costs are projected to rise rapidly in the coming years, according to the US Centers for Disease Control and Prevention (CDC) and the American Heart Association (AHA).

This presents a significant market opportunity for companies developing drugs that show positive effects on patients across clinically relevant endpoints in this field.

Amarin's Vascepa may be an interesting benchmark

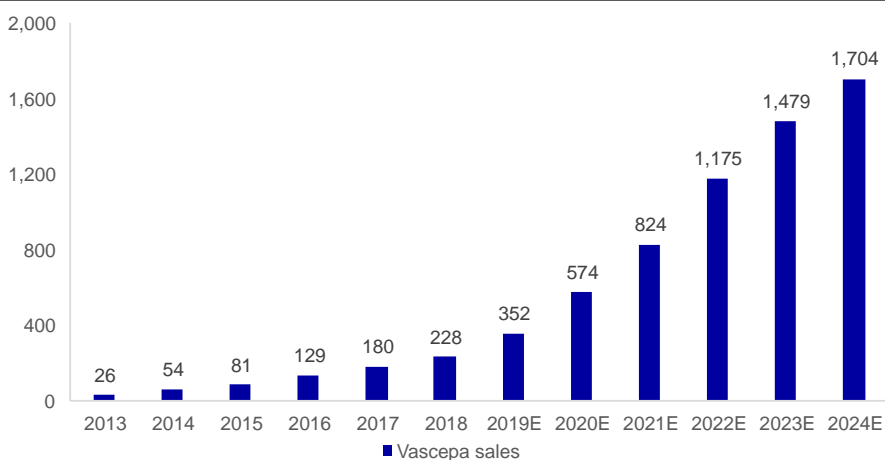
Vascepa may be an interesting benchmark for MQ-7

We view Amarin's Vascepa as an interesting benchmark. This is a single-molecule prescription product based on an omega-3 acid (fish oil) and is FDA-approved in the US to reduce triglyceride levels in adult patients with severe (≥ 500 mg/dL) hypertriglyceridemia. While the drugs are obviously different molecules and drug classes and address different indications, we still deem it an interesting comparison, given that Vascepa is based on a dietary supplement (fish oil) like MQ-7.

Vascepa won FDA approval in March 2012 and sales have grown steadily up to now. However, the drug has never really seen a big sales ramp since its launch, partly because Amarin has not (until recently) been able to clinically prove a benefit on the most relevant endpoint – relative risk reduction in major adverse cardiovascular events (MACE) related to heart attack, stroke, cardiovascular death, or hospitalisation.

VASCEPA GLOBAL SALES FORECASTS, USDm

Vascepa's sales and sales projections followed a muted trajectory, until it reported positive results in a large cardiovascular outcomes trial (CVOT)...



Source: Amarin Corporation, EvaluatePharma and Nordea

Amarin announced in September 2018 that Vascepa met the primary endpoint in its cardiovascular outcomes trial called REDUCE-IT, reaching a ~25% relative risk reduction in MACE (major adverse cardiovascular events) in the intent-to-treat population in mixed dyslipidaemia patients ($p < 0.001$). This opens the door to a much bigger market, broadening the patient scope and boosting future sales, as is also evident in the sales projections above based on EvaluatePharma sell-side consensus forecasts.

...highlighting that positive results in a larger CVOT are needed to reach USD 1bn-plus in sales

We believe Amarin's history with Vascepa highlights that positive results in a larger cardiovascular outcomes trial (CVOT) are needed in order to trigger a material inflection point in sales and reach the sales levels that Vascepa is projected to hit, given that the FDA and (importantly) doctors will require studies that show a clear benefit in patients for them to prescribe the drug over other marketed products.

We do not apply a value for Kaydence Pharma in our model owing to its early-stage nature	<p>We leave Kaydence Pharma as upside to our valuation</p> <p>We do not apply a value for Kaydence Pharma in our model owing to its early-stage nature. This is in line with our general valuation approach across our pharma and biotech coverage universe where we generally only include drugs in our model that have reported positive clinical phase I and II safety and efficacy data in patients across clinically relevant endpoints.</p> <p>We believe potential progress and supportive clinical data will drive positive news flow and crystallise value over time. Nevertheless, we believe it holds very little value for investors at the moment as:</p> <ul style="list-style-type: none"> • Investors will generally have a limited willingness to pay for early-stage pipeline projects and risky assets, given the extremely high attrition rates at this stage. • It is inherently difficult to put a fair value on projects for which limited safety and efficacy data has been reported in humans yet. • Even with considerable potential future revenue and value, the pipeline projects would have to be risk-adjusted so heavily that the NPV effect would end up being only marginally accretive. <p>To mitigate the fact that we do not add any value for Kaydence Pharma, we do not assume increasing R&D spend in our model either.</p> <p>Licence and intellectual property rights</p> <p>Kaydence Pharma has invested in, and will continue to invest in, building its patent portfolio based on issued patents and patent applications in the US and the EU. The patents and IP rights exclude other companies from making, using, and selling the drug until patent expiration, protecting the company from generic competition.</p>
Five-year marketing exclusivity in the US based on NCE status	<p>Kaydence Pharma will be protected by five-year exclusivity in the US as MQ-7 will qualify as a new chemical entity (NCE), which assures market exclusivity for FDA-approved indications, starting from the FDA marketing authorisation date and covering the five years thereafter. During this period, the FDA is barred from approving a generic version of MQ-7.</p> <p>The company also holds "method of use" patents in both the US and the EU which include claims for using menaquinone molecules to address vascular calcification and arterial stiffening.</p>

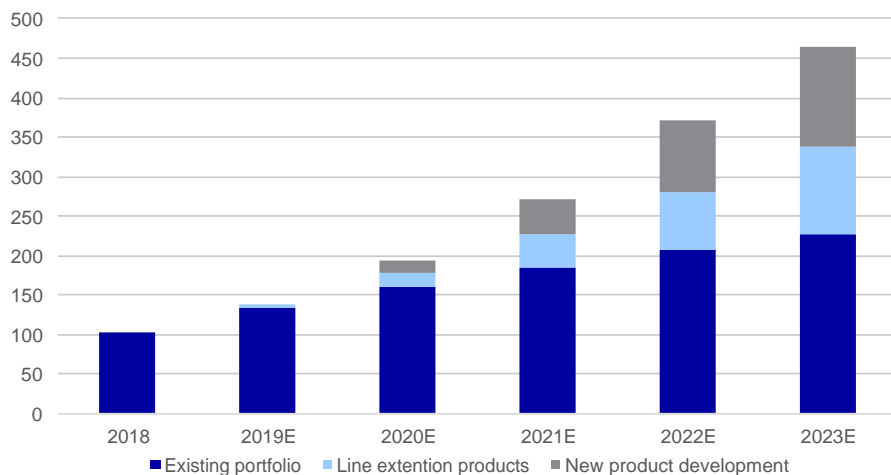
Estimates

In this section, we present our estimates for NattoPharma and discuss a number of key financial metrics. We expect a total revenue CAGR of 27% for 2018-23 and expect the EBITDA margin to expand from 6.5% in 2018 to 11.6% by 2023. We do not include any contribution from new non-K2 products or from Kaydence Pharma.

Revenue

In our base-case estimates, we include sales from the existing product portfolio, as well as line extensions. We do not yet include sales from the new energy and mood improvement products that the company is aiming to launch by 2020, as we do not yet know what these are or their potential. However, according to company data from 2017, sales from these products could amount to as much as NOK ~140m by 2022, if successful. Given that the first sales would only be generated in 2020, we believe this number may be too ambitious. If we were to include new products, we would model around NOK 90m of sales by 2022, as seen below.

SALES SPLIT BY PRODUCT, NOKm



Although we see good potential from new products, we do not include these in our base-case estimates yet

Source: Company data and Nordea estimates

SALES BY PRODUCT, NOK thousand

NOKth	2015	2016	2017	2018	2019E	2020E	2021E	2022E	2023E
Existing portfolio	31,687	51,830	66,418	101,722	134,132	160,929	185,069	207,277	228,004
Growth y/y		63.6%	28.1%	53.2%	31.9%	20.0%	15.0%	12.0%	10.0%
Line extension products	0	0	0	0	3,600	17,999	41,398	73,000	109,500
Growth y/y						400.0%	130.0%	76.3%	50.0%
Total ex new products	31,687	51,830	66,418	101,722	137,732	178,928	226,467	280,277	337,504
Growth y/y		63.6%	28.1%	53.2%	35.4%	29.9%	26.6%	23.8%	20.4%
New product development	0	0	0	0	0	15,000	45,000	90,000	126,000
Growth y/y							200.0%	100.0%	40.0%
Total	31,687	51,830	66,418	101,722	137,732	193,928	271,467	370,277	463,504
Growth y/y		63.6%	28.1%	53.2%	35.4%	40.8%	40.0%	36.4%	25.2%

Source: Company data and Nordea estimates

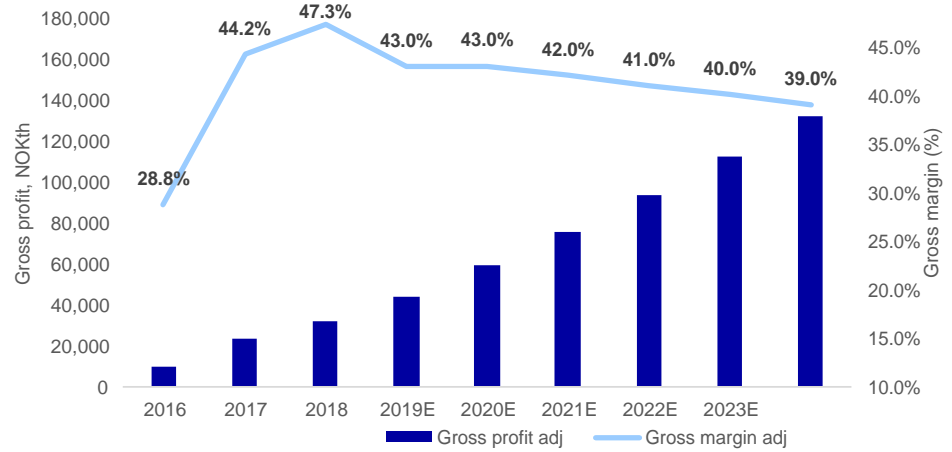
Gross margins

In our base case, we estimate that gross margins will decline gradually over the coming years. We note that NattoPharma is likely to face significant price pressure ahead and is dependent on matching this in order to be able to take its fair share of the market. We believe the company will be able to offset some of this effect by continuous productivity gains and increasing economies of scale. In H2 2018, the company initiated a project to develop the synthetic production process and entered the second stage of the project in 2019. The company expects that this will increase yield and cost efficiencies in 2019 and beyond. We believe that continued work to improve supply chain efficiency is critical to respond to market developments and defend margins. To our understanding, the synthetic product does not have a lower gross margin than the natural product, despite having a lower price, and hence we do not expect the mix to

be a significant element in the gross margin decline. NattoPharma was awarded patents in China and Europe for the synthetic production process in 2018. If the company launches its new energy and mood improvement products by H1 2020, we note that these are likely to have gross margins below the existing portfolio, according to management.

We forecast pressure on the gross margin ahead

GROSS PROFIT ADJUSTED AND ADJUSTED GROSS MARGIN

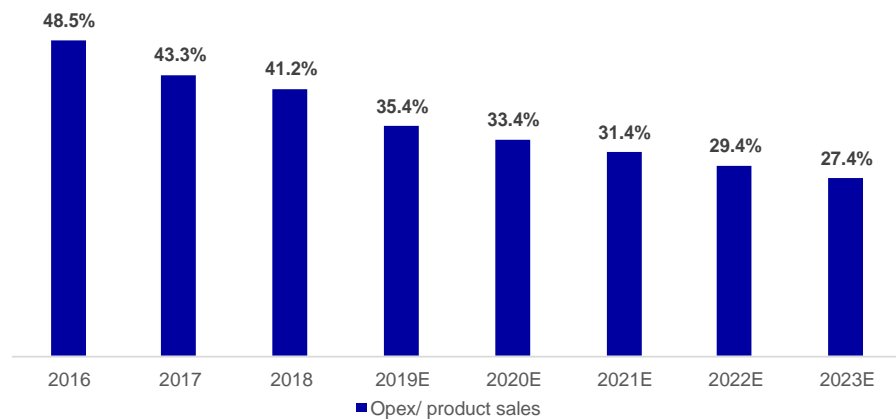


Source: Company data and Nordea estimates

Opex

If NattoPharma can deliver on our revenue growth expectations, we expect opex/sales to decline in the coming years. We expect 'other opex' to outpace growth in salaries, as the company made significant investments in personnel during 2018. We expect opex/product sales of 27% by 2023, compared to 41% in 2018, allowing for EBITDA margin expansion despite a gross margin decline. Not that the relatively sharp y/y opex/sales decline from 2018 to 2019E is partly due to excluding eventual margin dilutive services carried out for Kaydence Pharma in the 2019E estimates, as we consider these to be largely non-recurring by nature.

OPEX/PRODUCT SALES, 2016-23E



Source: Company data and Nordea estimates

Estimates

We present our P&L estimates for 2019-23 in the tables below.

GROUP ANNUAL P&L, 2015-24E

NOKth	2015	2016	2017	2018	2019E	2020E	2021E	2022E	2023E
Sales	31,687	51,830	66,418	101,722	137,732	178,928	226,467	280,277	337,504
Growth y/y	24.2%	63.6%	28.1%	53.2%	35.4%	29.9%	26.6%	23.8%	20.4%
Other	0	1,512	188	5,519	0	0	0	0	0
Total revenue	31,687	53,342	66,606	107,241	137,732	178,928	226,467	280,277	337,504
Growth y/y	24.2%	68.3%	24.9%	61.0%	28.4%	29.9%	26.6%	23.8%	20.4%
COGS	-22,567	-28,923	-35,013	-57,978	-78,442	-103,695	-133,509	-168,035	-205,720
Gross profit adj	9,120	22,907	31,405	43,744	59,289	75,234	92,958	112,242	131,785
Gross margin adj	28.8%	44.2%	47.3%	43.0%	43.0%	42.0%	41.0%	40.0%	39.0%
Gross profit	9,120	24,419	31,593	22,001	59,289	75,234	92,958	112,242	131,785
Gross margin (% of revenue)	28.8%	45.8%	47.4%	20.5%	43.0%	42.0%	41.0%	40.0%	39.0%
Salaries	-14,018	-13,323	-18,534	-28,433	-27,115	-32,542	-37,791	-42,566	-46,195
Other opex	-24,577	-12,560	-10,301	-15,760	-21,640	-27,219	-33,318	-39,833	-46,279
Opex/sales	-121.8%	-48.5%	-43.3%	-41.2%	-35.4%	-33.4%	-31.4%	-29.4%	-27.4%
Non-recurring items	0	-1,948	-2,511	-1,583	0	0	0	0	0
EBITDA adjusted	-29,475	484	5,269	6,652	10,533	15,473	21,849	29,843	39,312
Margin (% of sales)	-93.0%	0.9%	7.9%	6.5%	7.6%	8.6%	9.6%	10.6%	11.6%
EBITDA	-29,475	-1,464	2,758	5,069	10,533	15,473	21,849	29,843	39,312
Margin (% of revenue)	-93.0%	-2.7%	4.1%	4.7%	7.6%	8.6%	9.6%	10.6%	11.6%
D&A	-5,829	-6,897	-7,364	-7,277	-7,508	-7,658	-7,811	-7,967	-8,127
EBIT adjusted	-35,304	-6,413	-2,095	-625	3,026	7,815	14,038	21,876	31,185
Margin (% of sales)	-111.4%	-12.4%	-3.2%	-0.6%	2.2%	4.4%	6.2%	7.8%	9.2%
EBIT	-35,304	-8,361	-4,606	-2,208	3,026	7,815	14,038	21,876	31,185
Margin (% of revenue)	-111.4%	-15.7%	-6.9%	-2.1%	2.2%	4.4%	6.2%	7.8%	9.2%
Interest income	165	159	100	2,837	2,100	2,800	2,800	2,800	2,800
Interest expense	-106	-834	-22	-201	-400	-80	-80	-80	-80
Other finance	4720	0	-95	-133	0	0	0	0	0
Revaluations	0	-2123	-135	754	0	0	0	0	0
Net financials	4,779	-2,798	-152	3,256	1,700	2,720	2,720	2,720	2,720
PTP	-30,525	-11,159	-4,758	1,048	4,726	10,535	16,758	24,596	33,905
Tax	675	656	678	708	1,400	1,400	1,400	1,400	1,400
Tax rate (%)	2.2%	5.9%	14.2%	-67.6%	-29.6%	-13.3%	-8.4%	-5.7%	-4.1%
Net profit from cont. op.	-29,850	-10,503	-4,080	1,756	6,126	11,935	18,158	25,996	35,305
Discontinued operations	0	-6,835	27,071	0	0	0	0	0	0
Net profit to equity	-29,850	-17,338	22,991	1,756	6,126	11,935	18,158	25,996	35,305
Net profit to equity adjusted	-29,850	-15,390	25,502	3,339	6,126	11,935	18,158	25,996	35,305
Wavg diluted no of shares (m)	15,822	17,569	18,594	19,161	19,638	19,638	19,638	19,638	19,638
EPS adj	-1.9	-0.9	1.4	0.2	0.3	0.6	0.9	1.3	1.8
DPS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Company data and Nordea estimates

GROUP INTERIM P&L

NOKth	2018	Q1 2019E	Q2 2019E	Q3 2019E	Q4 2019E	H1 2019E	H2 2019E	9M 2019E	2019E
Sales	101,722	31,569	32,569	32,197	41,397	64,137	73,594	96,334	137,732
Growth y/y	53.2%	0.0%	0.0%	36.3%	34.0%	35.9%	35.0%	36.0%	35.4%
Other	5,519	0	0	0	0	0	0	0	0
Total revenue	107,241	31,569	32,569	32,197	41,397	64,137	73,594	96,334	137,732
Growth y/y	61.0%	0.0%	0.0%	0.0%	0.0%	29.5%	27.5%	0.0%	28.4%
COGS	-57,978	-17,678	-18,401	-18,352	-24,010	-36,080	-42,363	-54,432	-78,442
Gross profit adj	43,744	13,890	14,167	13,845	17,387	28,058	31,232	41,902	59,289
Gross margin adj	43.0%	44.0%	43.5%	43.0%	42.0%	43.7%	42.4%	43.5%	43.0%
Gross profit	22,001	13,890	14,167	13,845	17,387	28,058	31,232	41,902	59,289
Gross margin (% of revenue)	20.5%	44.0%	43.5%	43.0%	42.0%	43.7%	42.4%	43.5%	43.0%
Salaries	-28,433	-6,753	-6,770	-6,787	-6,804	-13,524	-13,592	-20,311	-27,115
Other opex	-15,760	-4,960	-5,117	-5,059	-6,504	-10,077	-11,563	-15,136	-21,640
Opex/sales	-41.2%	-37.1%	-36.5%	-36.8%	-32.1%	-36.8%	-34.2%	-36.8%	-35.4%
Non-recurring items	-1,583	0	0	0	0	0	0	0	0
EBITDA adjusted	6,652	2,177	2,280	1,999	4,078	4,456	6,077	6,455	10,533
Margin (% of sales)	6.5%	6.9%	7.0%	6.2%	9.9%	6.9%	8.3%	6.7%	7.6%
EBITDA	5,069	2,177	2,280	1,999	4,078	4,456	6,077	6,455	10,533
Margin (% of revenue)	4.7%	6.9%	7.0%	6.2%	9.9%	6.9%	8.3%	6.7%	7.6%
D&A	-7,277	-1,856	-1,884	-1,884	-1,884	-3,740	-3,768	-5,624	-7,508
EBIT adjusted	-625	321	396	115	2,194	717	2,309	831	3,026
Margin (% of sales)	-0.6%	1.0%	1.2%	0.4%	5.3%	1.1%	3.1%	0.9%	2.2%
EBIT	-2,208	321	396	115	2,194	717	2,309	831	3,026
Margin (% of revenue)	-2.1%	1.0%	1.2%	0.4%	5.3%	1.1%	3.1%	0.9%	2.2%
Interest income	2,837	525	525	525	525	1,050	1,050	1,575	2,100
Interest expense	-201	-100	-100	-100	-100	-200	-200	-300	-400
Other finance	-133	0	0	0	0	0	0	0	0
Revaluations	754	0	0	0	0	0	0	0	0
Net financials	3,256	425	425	425	425	850	850	1,275	1,700
PTP	1,048	746	821	540	2,619	1,567	3,159	2,106	4,726
Tax	708	350	350	350	350	700	700	1,050	1,400
Tax rate (%)	-67.6%	-46.9%	-42.6%	-64.9%	-13.4%	-44.7%	-22.2%	-49.8%	-29.6%
Net profit from cont. op.	1,756	1,096	1,171	890	2,969	2,267	3,859	3,156	6,126
Discontinued operations	0	0	0	0	0	0	0	0	0
Net profit to equity	1,756	1,096	1,171	890	2,969	2,267	3,859	3,156	6,126
Net profit to equity adjusted	3,339	1,096	1,171	890	2,969	2,267	3,859	3,156	6,126
Wavg diluted no of shares (m)	19,161	19,638	19,638	19,638	19,638	19,638	19,638	19,638	19,638
EPS adj	0.2	0.1	0.1	0.0	0.2	0.1	0.2	0.2	0.3
DPS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Company data and Nordea estimates

Financial details

In this section, we discuss a number of financials details and assumptions that underline NattoPharma's financial situation and our forecasts, including the spinoff of Kaydence Pharma, debt, net working capital, and investments.

NattoPharma holds a 46.41% stake in Kaydence Pharma

Spinoff of Kaydence Pharma

Kaydence Pharma was previously integrated in NattoPharma but has been spun off in order for NattoPharma to focus exclusively on its supplements business. Kaydence Pharma focuses on menaquinone-7 (vitamin K2-MK7) as a pharmaceutical product for cardiovascular diseases as well as other tissue calcification-related diseases. The spinoff of Kaydence was announced on 20 November 2017 and was financed through a NOK 17.6m equity injection in Kaydence and a vendor loan of NOK 57.5m provided by NattoPharma. By the end of 2018, NattoPharma recorded NOK 40m outstanding in the vendor loan, following an equity raise by Kaydence Pharma and the loan partly being converted to equity. It also has an asset of NOK 12m relating to deferred revenue from Kaydence Pharma (a net value, as gross deferred revenue of NOK 30m). Kaydence Pharma has the obligation to perform early repayments in the event of capital injections into the company, whereby NattoPharma will be entitled to 20% of the net proceeds, limited to NOK 10m per event until the whole loan balance is repaid.

NattoPharma holds a 46.41% stake in Kaydence Pharma. In theory, the vendor loan will be repaid gradually over the next six years. However, we understand that a large share of the vendor loan is likely to be converted to equity.

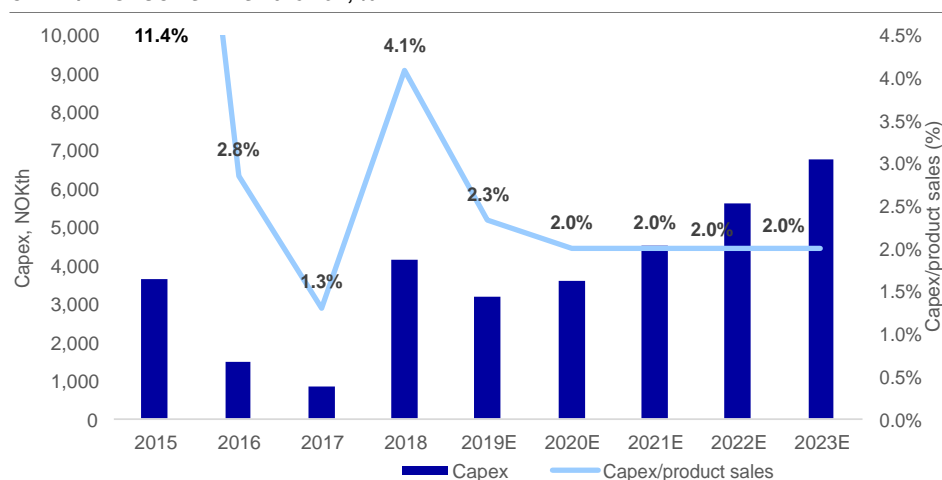
NattoPharma still conducts services for Kaydence Pharma, for which it recognises gains in "other revenues" as well as some additional opex related to this. We expect these items to fall towards zero as Kaydence becomes increasingly independent in the future.

We believe capex spend will shift from R&D to production technology

Capex

To our understanding, the company's capex focus will shift from R&D to investments in production technology. Whereas the company currently outsources production, we believe it may invest in its own production facilities in the future. Although capex is likely to be lumpy and contingent on the attractiveness of investments in production technology, we forecast that NattoPharma will have an annual average capex/sales ratio of about 2.0% for 2018-23E. Particularly large investments in production facilities might come on top of this, which could necessitate the need for external funding.

CAPEX/PRODUCT SALES 2015-23E, %

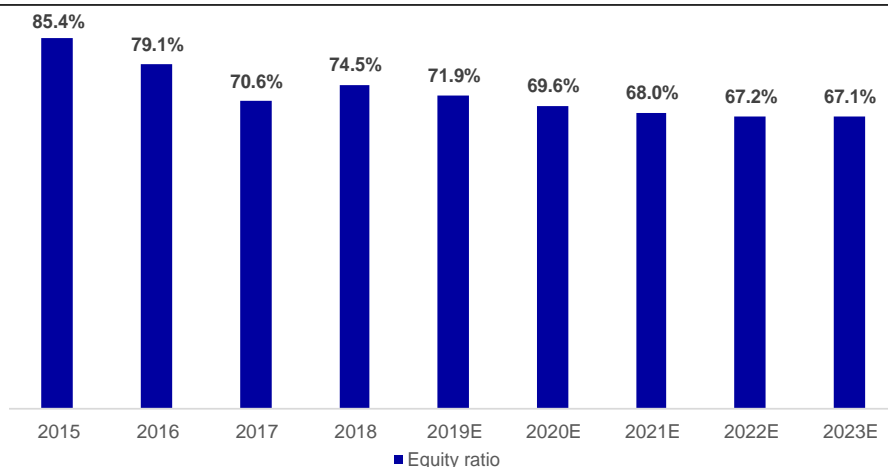


Source: Company data and Nordea estimates

Debt

NattoPharma does not have any financial debt. Its equity ratio was 74.5% by the end of 2018. During the Q4 presentation, the CEO stated that bank funding remained too expensive but could be relevant in the future, given the improving operating results.

EQUITY RATIO 2015-24E, %



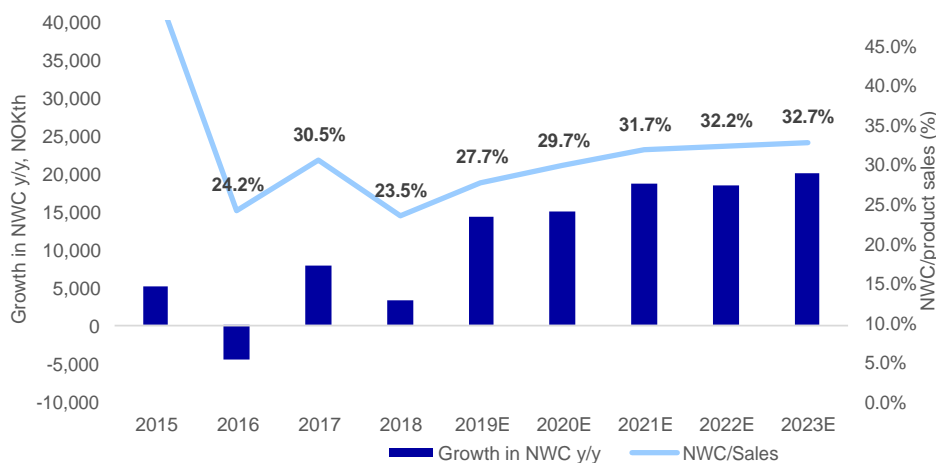
Source: Company data and Nordea estimates

Significant working capital investments could be needed

Net working capital

We believe NattoPharma will require significant investments in its working capital ahead, mainly as a consequence of having to increase inventory to ensure it can fulfil orders satisfactorily and to account for receivables rising more than account payables. NattoPharma will likely increase its NWC/sales ratio in order to deliver on its growth targets.

NWC INCREASES Y/Y AND NWC/PRODUCT SALES, NOKm, %



Source: Company data and Nordea estimates

Tax

According to management, NattoPharma has about NOK 45m in unrecognised tax loss carry-forwards, most of which are in Norway, around NOK 9m in the US, and a couple of million in Cyprus. As such, the company will not be in a taxable position for some time. We expect the company to begin to pay taxes in the US within four years, but expect tax in Norway to remain limited throughout the explicit forecast horizon. NattoPharma recognises around NOK 0.6m per year in annual tax gains relating to Cyprus, which we expect to continue until 2023.

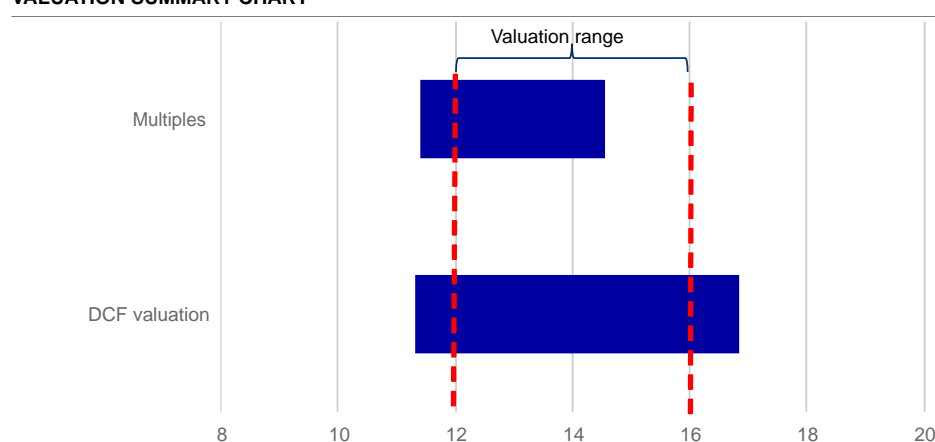
Valuation: NOK 12.0-16.0 per share

Our valuation of NattoPharma is mainly based on a DCF model, although we also cross-check this using a peer group valuation. It is hard to identify a suitable listed peer group for the company, given the business model and the early-phase nature of its operations. We find a fair share price range of NOK 12-16, implying EV/sales multiples of 1.6-2.2x and EV/EBITDA multiples of 21-28x. We also construct a blue-sky DCF scenario, supporting a share price range of NOK 24-35 and a bear-case DCF scenario, supporting a share price range of NOK 3-6.

Valuation summary

Based on our DCF model and a relative valuation focusing on EV/sales and EV/EBITDA, we derive a fair value range of NOK 12.0-16.0 per share. The share has traded at around NOK 8-10 during the past three years but has retrated to around NOK 11-12 since the Q4 2018 report.

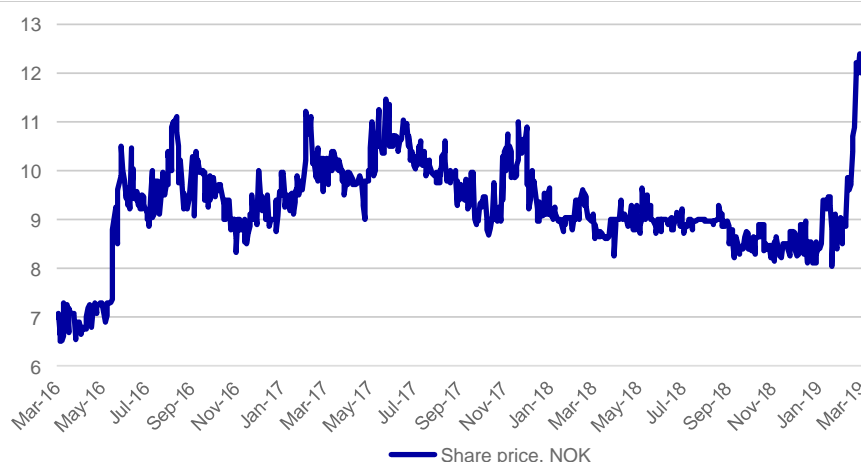
VALUATION SUMMARY CHART



We calculate a valuation range of NOK 12.0-16.0 per share

Source: Company data and Nordea estimates

SHARE PRICE IN 2016-19, NOK

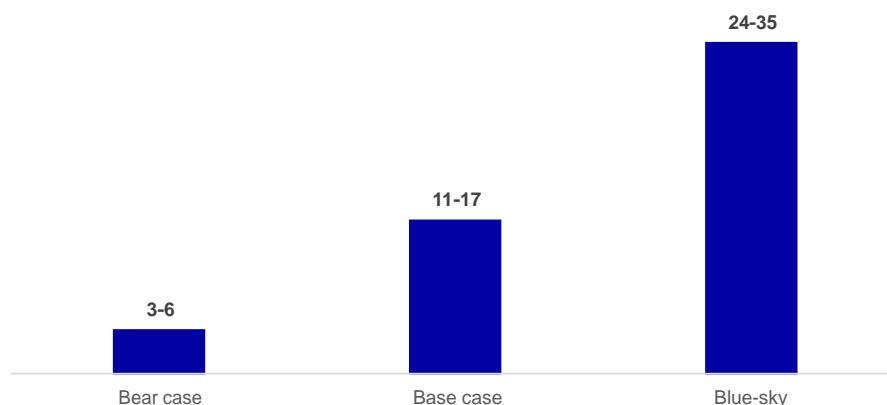


Source: Thomson Reuters and Nordea

DCF valuation

Owing to the early-phase nature of NattoPharma's business and the absence of suitable listed peers with available consensus numbers, we believe a DCF-based valuation is the most appropriate valuation method for the company. We derive a base-case DCF-derived valuation range of NOK 11-17. In addition to this, we include a blue-sky scenario and a bear-case scenario. We calculate a blue-sky DCF-based valuation range of NOK 24-35 and a bear-case DCF-based valuation range of NOK 3-6.

DCF VALUATION BY SCENARIO



Source: Company data and Nordea estimates

Base case

In our base case, we calculate a WACC of 10.9%. We believe the forward-looking asset beta should reflect high operational risk due to uncertain future demand, a limited financial record, and high illiquidity of the stock. As a consequence, we calculate a forward-looking asset beta of 1.7. We present sensitivity tables with varying WACC levels below. The calculations are based on a fully diluted number of shares of 19.6 million.

Our base-case DCF-derived range is based on a ± 1 pp EBIT margin and ± 1 pp sales growth versus our base assumptions. The valuation is sensitive to the number of years with high revenue growth – if NattoPharma extends the number of years with revenue growth above 20%, it would have a significant impact on our valuation. We set ROIC equal to WACC in the terminal period.

LONG-TERM ASSUMPTIONS AND FCFF FORECASTS

Averages and assumptions	2019-24	2025-29	2030-34	2035-39	2040-44	Sust.
Sales growth, CAGR	23.3%	12.0%	8.0%	5.0%	3.0%	
EBIT-margin, excluding associates	7.7%	9.2%	9.2%	9.2%	9.2%	
Capex/depreciation, x	0.7	1.10	1.10	1.10	1.10	
Capex/sales	2.0%	2.0%	2.0%	2.0%	2.0%	
NWC/sales	31.9%	31.9%	31.9%	31.9%	31.9%	
FCFF, CAGR	-228.7%	4.8%	16.1%	10.0%	6.0%	2.5%

Source: Company data and Nordea estimates

WACC CALCULATIONS

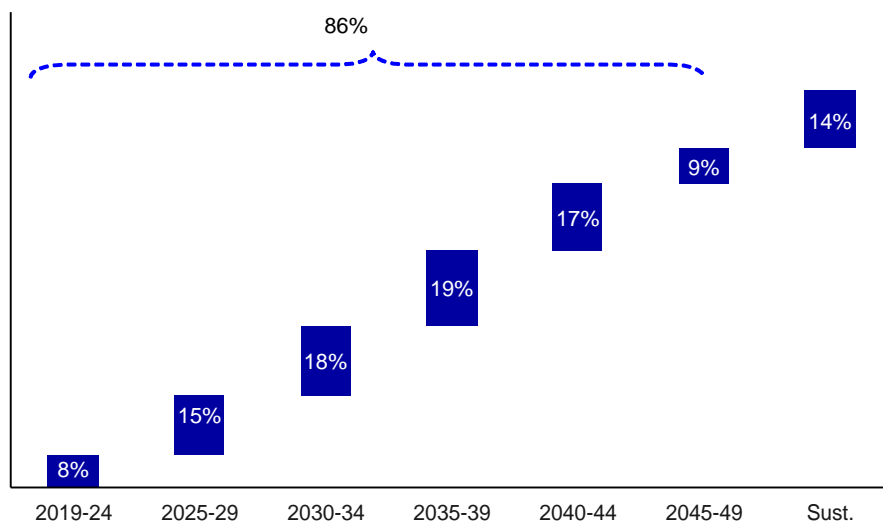
WACC components	
Risk-free interest rate	1.5%
Market risk premium	5.5%
Forward looking asset beta	1.7
Beta debt	0.20
Forward looking equity beta	1.70
Cost of equity	10.9%
Cost of debt	6.0%
Tax-rate used in WACC	30.0%
Equity weight	100.0%
WACC	10.9%

Source: Company data and Nordea estimates

We apply a WACC of 10.9%

DCF VALUE OVER TIME – BASE CASE

Most of the NPV in our DCF is generated beyond our explicit forecast horizon



Source: Company data and Nordea estimates

Our sensitivity analysis suggests that applying a lower WACC could increase our DCF-based value significantly, as seen in the tables below. This also highlights the potential value creation we envisage for NattoPharma when its product grows and becomes more established in the market, thus de-risking the company's outlook.

BASE-CASE VALUATION SENSITIVITY TABLE: WACC VERSUS EBIT MARGIN

		WACC				
		8.9%	9.9%	10.9%	11.9%	12.9%
EBIT marg. change	+2.0pp	27	22	18	15	13
	+1.0pp	23	19	16	13	11
		20	17	14	12	10
	-1.0pp	17	14	12	10	9
	-2.0pp	14	11	10	8	7

Source: Company data and Nordea estimates

BASE-CASE VALUATION SENSITIVITY TABLE: WACC VS SALES GROWTH

		WACC				
		8.9%	9.9%	10.9%	11.9%	12.9%
Sales gr. change	+2.0pp	23	19	15	13	11
	+1.0pp	22	18	15	12	10
		20	17	14	12	10
	-1.0pp	19	16	13	11	10
	-2.0pp	18	15	13	11	9

Source: Company data and Nordea estimates

BASE-CASE VALUATION SENSITIVITY TABLE: SALES GROWTH VS EBIT MARGIN

		Sales growth change				
		-2.0pp	-1.0pp	+1.0pp	+2.0pp	
EBIT margin change	+2.0pp	16	17	18	19	21
	+1.0pp	14	15	16	17	18
		13	13	14	15	15
	-1.0pp	11	11	12	12	13
	-2.0pp	9	9	10	10	10

Source: Company data and Nordea estimates

We derive a base-case DCF valuation range of NOK 11-17

Blue-sky scenario

In our blue sky scenario, we make the following key assumptions:

- Include sales from the successful launch of new ingredients and assume that the company meets its target from the 2017 CMD of NOK 140m sales by 2020.
- Assume a revenue CAGR 2019-23 of 33% instead of 27% in the base case.
- Assume that new products have lower gross margins at 25%, affecting the gross margin mix negatively.
- Assume that the improved scale will allow the company to scale better on opex, implying 7.1 pp EBITDA margin expansion for 2018-23 despite lower gross margins.

Based on this scenario and sensitivities of a ± 1 pp EBIT margin and ± 1 pp sales growth, we derive a blue-sky DCF valuation range of NOK 24-35 per share.

BLUE-SKY ASSUMPTIONS AND FCFF FORECASTS

Averages and assumptions	2019-24	2025-29	2030-34	2035-39	2040-44	Sust.
Sales growth, CAGR	37.9%	12.0%	8.0%	5.0%	3.0%	
EBIT-margin, excluding associates	10.6%	11.0%	11.0%	11.0%	11.0%	
Capex/depreciation, x	1.0	1.1	1.1	1.1	1.1	
Capex/sales	2.0%	2.0%	2.0%	2.0%	2.0%	
NWC/sales	32.1%	32.1%	32.1%	32.1%	32.1%	
FCFF, CAGR	-254.6%	8.6%	14.3%	9.2%	5.6%	2.5%

Source: Company data and Nordea estimates

BLUE-SKY VALUATION TABLE: WACC VERSUS EBIT MARGIN

		WACC				
		8.9%	9.9%	10.9%	11.9%	12.9%
EBIT marg. change	+2.0pp	54	44	36	31	26
	+1.0pp	48	39	33	28	23
		42	35	29	24	21
	-1.0pp	36	30	25	21	18
	-2.0pp	30	25	21	18	16

Source: Company data and Nordea estimates

BLUE-SKY VALUATION TABLE: WACC VERSUS SALES GROWTH

		WACC				
		8.9%	9.9%	10.9%	11.9%	12.9%
Sales gr. change	+2.0pp	50	40	33	27	23
	+1.0pp	46	37	31	26	22
		42	35	29	24	21
	-1.0pp	39	32	27	23	20
	-2.0pp	37	31	26	22	19

Source: Company data and Nordea estimates

BLUE-SKY VALUATION TABLE: SALES GROWTH VERSUS EBIT MARGIN

		Sales growth change				
		-2.0pp	-1.0pp	+1.0pp	+2.0pp	
EBIT margin change	+2.0pp	32	34	36	39	42
	+1.0pp	29	31	33	35	37
		26	27	29	31	33
	-1.0pp	23	24	25	26	28
	-2.0pp	20	21	21	22	23

Source: Company data and Nordea estimates

We derive a blue-sky DCF valuation range of NOK 24-35

Bear case

In our negative case, we make the following assumptions:

- A total 20% revenue CAGR for 2018-23E for existing products and line extensions
- No inclusion of new products
- 1 pp EBITDA margin expansion due to less scale on opex.

Based on this scenario and sensitivities of a ± 1 pp EBIT margin and ± 1 pp sales growth, we derive a blue-sky DCF valuation range of NOK 3-6 per share. As NattoPharma is a small company that needs to ramp up production in order to capture the market opportunity, we recognise that a negative scenario involving failure to do so could mean that the company would not survive and that all equity would be lost.

BEAR-CASE ASSUMPTIONS AND FCFF FORECASTS

Averages and assumptions	2019-24	2025-29	2030-34	2035-39	2040-44	Sust.
Sales growth, CAGR	17.3%	12.0%	8.0%	5.0%	3.0%	
EBIT-margin, excluding associates	3.3%	4.5%	4.5%	4.5%	4.5%	
Capex/depreciation, x	0.5	1.1	1.1	1.1	1.1	
Capex/sales	2.0%	2.0%	2.0%	2.0%	2.0%	
NWC/sales	30.8%	30.8%	30.8%	30.8%	30.8%	
FCFF, CAGR	-192.8%	nm	nm	21.8%	10.2%	2.5%

Source: Company data and Nordea estimates

BEAR-CASE VALUATION TABLE: WACC VS EBIT MARGIN

		WACC				
		8.9%	9.9%	10.9%	11.9%	12.9%
EBIT marg. change	+2.0pp	11	8	7	5	5
	+1.0pp	9	7	5	4	4
		6	5	4	3	3
	-1.0pp	4	3	3	2	2
	-2.0pp	2	2	1	1	1

Source: Company data and Nordea estimates

BEAR-CASE VALUATION TABLE: WACC VS SALES GROWTH

		WACC				
		8.9%	9.9%	10.9%	11.9%	12.9%
Sales gr. change	+2.0pp	8	6	4	3	3
	+1.0pp	7	5	4	3	3
		6	5	4	3	3
	-1.0pp	6	5	4	3	3
	-2.0pp	6	5	4	3	3

Source: Company data and Nordea estimates

BEAR-CASE VALUATION TABLE: SALES GROWTH VS EBIT MARGIN

		Sales growth change				
		-2.0pp	-1.0pp	+1.0pp	+2.0pp	
EBIT margin change	+2.0pp	6	6	7	7	8
	+1.0pp	5	5	5	6	6
		4	4	4	4	4
	-1.0pp	3	3	3	2	2
	-2.0pp	2	1	1	1	1

Source: Company data and Nordea estimates

In our bear case, we find support for a share price of NOK 3-6

Relative valuation

In our view, it is hard to identify a representative peer group for a relative valuation and we thus primarily use relative valuation as a cross-check for our DCF valuation. Given the business model, we believe European food ingredient and personal care products companies are the most natural peers to look at. Although biotech companies could also be relevant to assess, we note that most arguably trade at peak sales multiples, rendering 2019E-21E multiples of limited use.

CHOSEN PEERS

Ticker	Company	Business	Country
BIOGb.ST	Biogaia AB	Personal care	United Kingdom
CHRH.CO	Chr Hansen Holding A/S	Food ingredients / Supplements	Germany
CRDA.L	Croda International PLC	Personal care	United Kingdom
DSMN.AS	Koninklijke DSM NV	Food ingredients / Supplements	Italy
GIVN.S	Givaudan SA	Personal care	Switzerland
NZYMb.CO	Novozymes A/S	Food ingredients / Supplements	Denmark
PROB.ST	Probi AB	Food ingredients / Supplements	Sweden
SY1G.DE	Symrise AG	Food ingredients / Supplements	Denmark

Source: Company data and Nordea estimates

On a relative basis (multiples) for 2019E, NattoPharma trades at EV/sales of ~1.7x, which is a significant discount to the peer group mean of ~6x. It trades at EV/EBITDA of ~22x, which is above the sector mean of ~20x. NattoPharma has a significantly higher sales and EBITDA growth profile than all of the peers, but its EBITDA margins are less than half of the peer mean.

PEER TABLE 1

Company	Share price (Local)	EV/Sales			EV/EBITDA (adj.)			EV/EBIT (adj.)		
		2019E	2020E	2021E	2019E	2020E	2021E	2019E	2020E	2021E
Biogaia AB	445.5	8.8x	7.5x	6.4x	25.4x	20.3x	17.0x	26.5x	20.8x	14.2x
Chr Hansen Holding A/S	672.2	10.3x	9.5x	-	28.8x	26.1x	-	34.2x	30.7x	-
Croda International PLC	48.2	4.7x	4.5x	4.3x	15.9x	14.7x	13.9x	18.6x	17.0x	16.1x
Koninklijke DSM NV	95.5	2.0x	1.8x	1.7x	11.0x	10.2x	9.4x	15.8x	14.4x	13.1x
Givaudan SA	2,518.0	4.3x	4.1x	3.9x	19.8x	18.3x	17.0x	25.1x	22.8x	20.9x
Novozymes A/S	300.0	5.1x	4.9x	4.7x	14.3x	13.6x	13.2x	18.1x	17.1x	16.3x
Probi AB	360.8	6.7x	6.0x	5.3x	26.2x	21.0x	18.0x	36.8x	27.1x	22.1x
Symrise AG	78.4	3.6x	3.3x	3.1x	17.4x	15.5x	14.7x	24.3x	21.1x	21.0x
Overall mean		5.7x	5.2x	4.2x	19.9x	17.5x	14.7x	24.9x	21.4x	17.7x
Overall median		4.9x	4.7x	4.3x	18.6x	16.9x	14.7x	24.7x	21.0x	16.3x
NattoPharma (Nordea)	12.5	1.7x	1.3x	1.0x	21.9x	14.8x	10.4x	76.3x	29.4x	16.2x
Diff from mean		-71%	-75%	-76%	10%	-15%	-30%	206%	37%	-8%
Diff from median		-66%	-73%	-77%	18%	-12%	-29%	209%	40%	-1%

Source: Company data and Nordea estimates

PEER TABLE 2

Company	Mcap. (EUR)	P/E (adj.)			FCF Yield (adj.)			Dividend yield		
		2019E	2020E	2021E	2019E	2020E	2021E	2019E	2020E	2021E
Biogaia AB	710	35.9x	29.1x	24.7x	3.1%	3.4%	-	2.2%	2.5%	2.7%
Chr Hansen Holding A/S	12,001	43.7x	39.0x	-	1.7%	1.9%	2.5%	1.8%	2.0%	-
Croda International PLC	7,470	24.1x	22.4x	21.1x	4.1%	4.2%	4.2%	2.1%	2.2%	2.1%
Koninklijke DSM NV	17,498	18.7x	16.6x	14.9x	4.2%	4.3%	5.1%	2.4%	2.6%	2.9%
Givaudan SA	20,675	28.1x	26.1x	24.1x	3.1%	3.9%	4.0%	2.5%	2.6%	2.7%
Novozymes A/S	9,882	26.0x	24.2x	22.4x	3.3%	3.7%	4.1%	1.8%	1.9%	2.1%
Probi AB	404	43.5x	30.5x	23.7x	1.7%	3.3%	4.2%	0.5%	0.5%	0.7%
Symrise AG	10,719	31.6x	27.7x	27.7x	2.6%	3.6%	3.8%	1.3%	1.4%	1.6%
Overall mean		31.4x	26.9x	22.6x	3.0%	3.5%	4.0%	1.8%	2.0%	2.1%
Overall median		29.8x	26.9x	23.7x	3.1%	3.7%	4.1%	1.9%	2.1%	2.1%
NattoPharma (Nordea)	23	40.1x	20.6x	13.5x	-1.6%	0.4%	1.1%	0.0%	0.0%	0.0%
Diff from mean		27%	-24%	-40%	-154%	-88%	-72%	-	-	-
Diff from median		34%	-24%	-43%	-151%	-89%	-72%	-	-	-

Source: Company data and Nordea estimates

OPERATIONAL BENCHMARKING

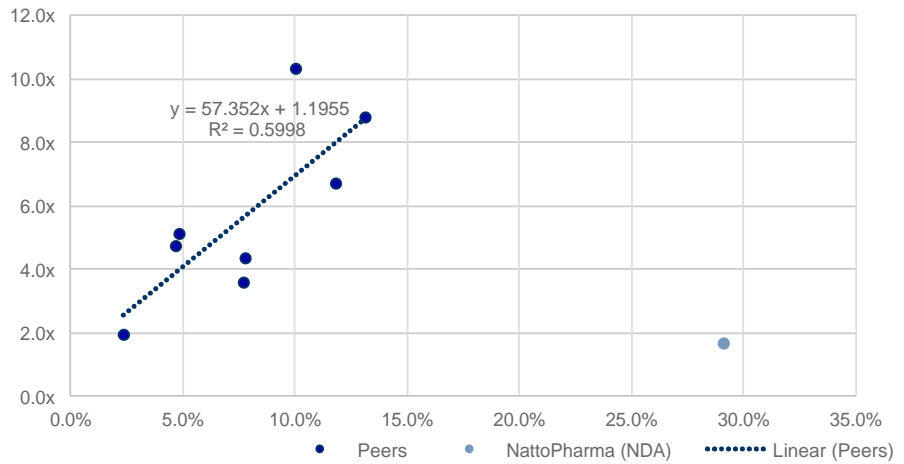
Company	Sales	EBITDA		Opex	Net income		Cash flow		Tax	NIBD/EBITDA	
	CAGR 2018-20E	Margin 2019E	CAGR 2018-20E	% of sales 2019E	Margin 2018E	CAGR 2017-19E	FCF CAGR 2018-20E	Capex/sales	Tax rate 2019E	2019E	2020E
Biogaia AB	13.2%	-	12.2%	37.2%	26.2%	10.0%	24.4%	2.3%	23.7%	-1.2x	-1.1x
Chr Hansen Holding A/S	10.0%	35.7%	12.2%	18.8%	22.2%	12.6%	7.1%	9.9%	23.3%	1.5x	1.3x
Croda International PLC	4.7%	29.3%	7.5%	9.2%	18.2%	7.4%	11.7%	5.2%	25.3%	0.9x	0.6x
Koninklijke DSM NV	2.4%	16.5%	-1.3%	17.7%	8.9%	-7.3%	-1.8%	6.8%	21.8%	0.3x	-0.3x
Givaudan SA	7.8%	21.7%	9.2%	21.6%	13.0%	10.1%	24.5%	4.3%	15.3%	2.1x	1.8x
Novozymes A/S	4.9%	35.8%	4.9%	21.4%	22.2%	5.0%	9.8%	8.3%	20.2%	0.6x	0.5x
Probi AB	11.8%	24.2%	14.7%	20.8%	14.2%	24.1%	30.0%	1.0%	39.9%	1.2x	1.5x
Symrise AG	7.8%	20.7%	10.2%	20.8%	9.3%	-	29.1%	5.5%	28.9%	1.7x	1.2x
Overall mean	7.8%	26.3%	8.7%	20.9%	16.8%	8.8%	16.9%	5.4%	24.8%	0.9x	0.7x
Overall median	7.8%	24.2%	9.7%	20.8%	16.2%	10.0%	18.0%	5.3%	23.5%	1.1x	0.9x
NattoPharma (Nordea)	29.2%	7.6%	52.5%	35.4%	4.4%	89.1%	-	2.3%	-29.6%	-1.4x	-1.0x

Source: Company data and Nordea estimates

We typically look at growth-adjusted and margin-adjusted multiples by regressing EBITDA and sales growth as well as EBITDA margins versus EV multiples. Below, we show the regression of the sales CAGR for 2018-20E versus EV/sales, the EBITDA CAGR for 2018-20E versus EV/EBITDA, and the 2019E EBITDA margin versus EV/EBITDA. These calculations illustrate that NattoPharma's value is low compared with its sales and EBITDA growth. However, it looks to trade above its fair value based solely on the 2019E EBITDA margin profile (not accounting for growth at all).

EV/SALES VERSUS SALES CAGR FOR 2018-20E

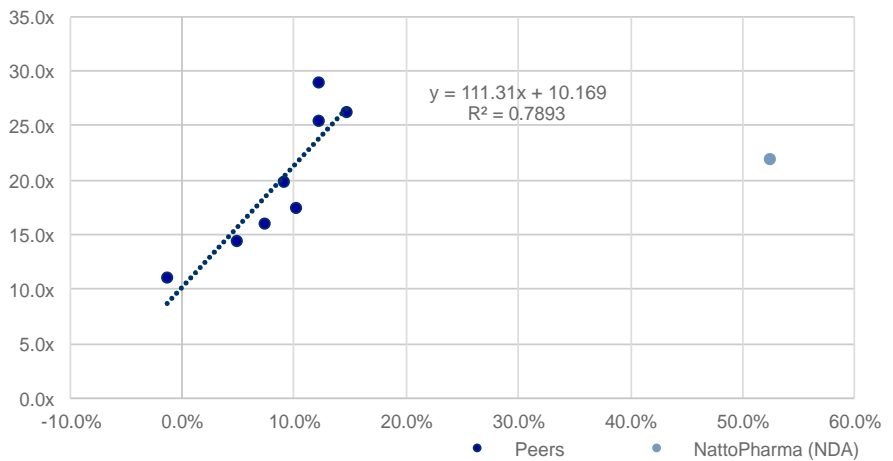
NattoPharma is valued below the level implied by our expected sales CAGR for 2018-20E



Source: Company data and Nordea estimates

EV/EBITDA VERSUS EBITDA CAGR FOR 2018-20E

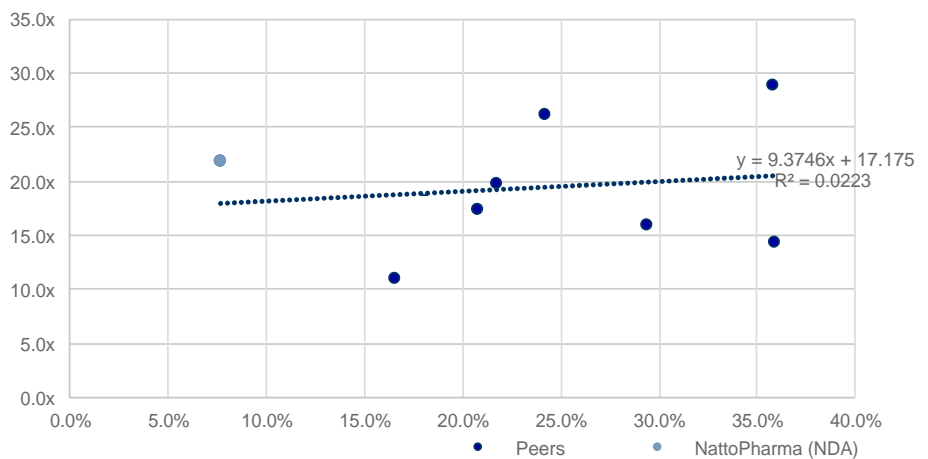
NattoPharma is valued below the level implied by our expected EBITDA CAGR for 2018-20E



Source: Company data and Nordea estimates

2019E EV/EBITDA VERSUS 2019E EBITDA MARGIN

NattoPharma is more or less fairly valued according to the level implied by our 2019 EBITDA margin forecast



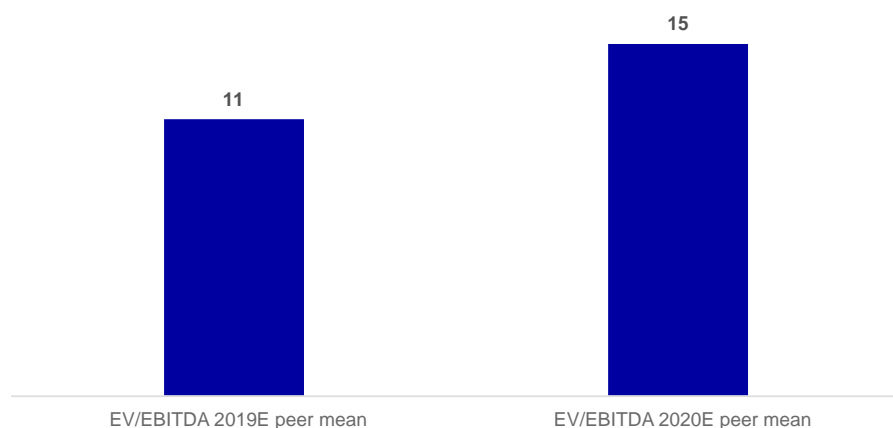
Source: Company data and Nordea estimates

Whereas the share looks cheap relative to its growth profile, we note that a risk adjustment is likely also fair, as NattoPharma is a small company with exposure to a niche market that has yet to take off. The share is also illiquid. We believe that the peer group does not generally share these risk factors. As such, we argue that NattoPharma's multiples should be lower than purely growth-adjusted multiples imply.

It is hard to have a firm view on whether NattoPharma's current 2019E multiple justly reflects its growth, risk and profitability profile compared with peers. If the company

was to trade at mean peer multiples for 2019E or 2020E, we would find support for a share price of NOK 11-15. Of course, multiples may expand significantly if the company manages to de-risk the equity story by delivering on key milestones ahead.

IMPLIED SHARE PRICE BY EV/EBITDA MULTIPLE



Source: Thomson Reuters and Nordea estimates

In the table below, we show the company's implied 2019E EV/sales and EV/EBITDA multiples by the potential share price.

2019E MULTIPLES BY SHARE PRICE, NOKm / x

Share price	Market cap, NOKm	EV, NOKm	EV/Sales, x	EV/EBITDA, x
5	98	83	0.61	7.9
6	118	103	0.75	9.8
7	137	123	0.89	11.7
8	157	142	1.03	13.5
9	177	162	1.18	15.4
10	196	182	1.32	17.2
11	216	201	1.46	19.1
12	236	221	1.60	21.0
13	255	241	1.75	22.8
14	275	260	1.89	24.7
15	295	280	2.03	26.6
16	314	299	2.17	28.4
17	334	319	2.32	30.3
18	353	339	2.46	32.2
19	373	358	2.60	34.0
20	393	378	2.74	35.9
21	412	398	2.89	37.8
22	432	417	3.03	39.6
23	452	437	3.17	41.5
24	471	457	3.32	43.3
25	491	476	3.46	45.2
26	511	496	3.60	47.1
27	530	516	3.74	48.9
28	550	535	3.89	50.8
29	570	555	4.03	52.7
30	589	574	4.17	54.5
31	609	594	4.31	56.4
32	628	614	4.46	58.3
33	648	633	4.60	60.1
34	668	653	4.74	62.0
35	687	673	4.88	63.9

Source: Company data and Nordea estimates *Note based on forward-looking net debt

Risks

Below, we list a number of risk factors that we believe NattoPharma could encounter in its operations and impact its future financial performance. The purpose of this section is not to provide a comprehensive picture of all risks that the company may face, but rather to highlight those which we find most relevant. In general, we note that NattoPharma is a small company operating in an emerging niche market segment; therefore, the uncertainty associated with an investment in the company's share can be considered high, in our view.

Investing in NattoPharma is a bet on the success of vitamin K2	<p>Dependent on the success of vitamin K2</p> <p>NattoPharma's performance is today highly contingent on the development of vitamin K2's popularity as a supplement. While similar supplements have seen sudden exponential growth in sales and popularity, eg vitamin D and omega-3 fatty acids, we note that the eventual timing of such a take-off for vitamin K2 is still highly uncertain, and there is certainly a risk that it may not happen at all.</p> <p>The company announced in H2 2018 that it will diversify into energy and mood products in a technological partnership with Laila Nutraceuticals and Inventia Healthcare. NattoPharma expects sales of these products to begin in H1 2020. From a risk perspective, we find it positive that NattoPharma is diversifying, but the company will still depend on highly vitamin K2 products in the years ahead.</p>
Production issues could arise as the company increases capacity	<p>Production issues during ramp up</p> <p>The vitamin K2 market is set for strong volume growth accompanied by strong price pressure, hence we believe NattoPharma is dependent on its ability to scale up production volumes and capture the market opportunity. Although we do not know whether NattoPharma will continue with outsourced production or invest in in-house production facilities, we note that there is a risk that the company will face additional production issues as it continues to ramp up volumes. This could be related to raw materials supply, new production technology or issues with contract manufacturers. In H1 2018, for example, NattoPharma saw a hit on its gross margin, due to production issues (mainly related to a raw materials bottleneck).</p>
New capacity additions create supply-side risk that could trigger price pressure ahead	<p>Competition and price pressure</p> <p>If the seemingly strong market growth continues, we believe a key risk is that new entrants or existing competitors may expand capacity significantly, thereby driving rapid price decreases with which NattoPharma may not be able to keep pace.</p> <p>For example, we note that a Norwegian competitor within synthetic vitamin K2 concentrate, Kappa Bioscience, claims to have current production capacity already exceeding the total yearly projected global vitamin K2 demand through 2020. In 2017, Kappa claimed to have led the market with a 45% price reduction for the synthetic concentrate. The company also claims that its synthetic product is equivalent to the natural one, which could translate to pricing pressure also for natural products.</p> <p>To our understanding, there are a number of Chinese producers of vitamin K2 today. In China itself, only soy-based vitamin K2 supplements are allowed (explaining NattoPharma's development of such a product). However, Chinese producers also produce for international markets. According to management, the quality (purity) of Chinese products is often significantly lower than that of NattoPharma and other western producers. Increasing Chinese capacity, as well as improving quality of Chinese products, however, could pose a supply-side threat to the vitamin K2 market and NattoPharma.</p> <p>Personnel risk</p> <p>NattoPharma operates with a tight leadership team, making the departure of senior management members an important risk, in our view. As a growing company, NattoPharma also depends on attracting new talent in the future.</p>

Intellectual property protection

NattoPharma relies on intellectual property (IP) rights and patents, in addition to contractual restrictions, to protect important property rights, particularly relating to health claims and production technology. If these rights are not adequately protected, the company's ability to compete may be affected negatively. There is also a risk of intrusion of IP rights from third parties, which could lead to losses for the company and significant legal expenses.

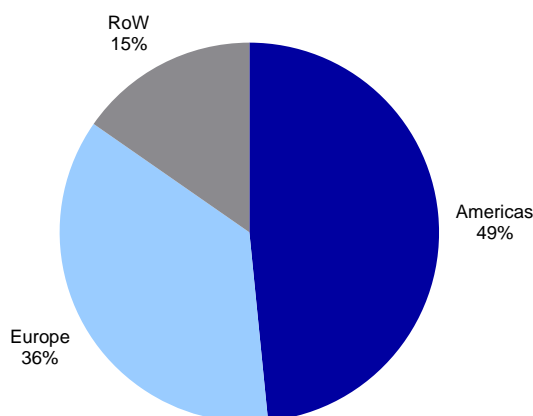
Future financing

In order to support growth, NattoPharma will have to invest in working capital (potentially new production facilities) and fund increasing operating expenses. As a result, we believe the company will likely need new equity and/or debt financing in the coming years. As such, we view NattoPharma as reliant on continuous access to capital markets and potentially bank funding to capitalise on market opportunities.

FX risk

NattoPharma is exposed to risk from FX fluctuations. The company reports in NOK and its FX translation risk is mainly exposed to fluctuations in the USD and EUR. Based on 2017 numbers, the company has 49% revenue exposure to the Americas (mainly US) and 36% revenue exposure to Europe (including Norway). Its cost base is mainly denominated in NOK and USD.

REVENUE MIX BY REGION 2017



The main FX risk related to the USD

Source: Company data and Nordea estimates

Media and regulatory attention to health claims

Sellers of vitamin K2 have previously been in a negative media spotlight

We note that negative media attention has previously been directed towards vitamin K2 sellers (NattoPharma's customers). In Norway and Sweden, attention has been directed towards TG Montgomery (TGM), which was one of NattoPharma's biggest clients previously and is the third-largest shareholder today (9.5%). For example, a number of articles in Norwegian newspaper Verdens Gang (VG) asserted that TGM used illegal claims in commercials that could not be supported by medical research. The company allegedly claimed that taking vitamin K2 supplements could allow people to avert dementia, cardiovascular diseases, diabetes, osteoporosis, high blood pressure, and high cholesterol.

According to VG, TGM received a letter from the Norwegian Food Safety Authority, declaring that its marketing communication was illegal. The only claims that are legal to use for marketing purposes in Norway and the EU are that vitamin K2 "contributes to maintaining normal bone structure" and "contributes to maintaining normal blood clotting". NattoPharma's current chief medical officer, Dr Hogne Vik, was cited in commercials used by TG Montgomery and was also in the spotlight in the articles.

The relevant media articles were published at the end of 2014 and have not garnered any significant negative attention since. However, we highlight that negative attention from the media and regulators to the industry could pose a risk for the demand outlook and is thus at least worth noting.

Reported numbers and forecasts

INCOME STATEMENT

NOKth	2011	2012	2013	2014	2015	2016	2017	2018	2019E	2020E	2021E
Net revenue	8,529	11,090	27,452	25,509	31,687	53,342	66,606	107,241	137,732	178,928	226,467
Revenue growth	-59.5%	30.0%	147.5%	-7.1%	24.2%	68.3%	24.9%	61.0%	28.4%	29.9%	26.6%
of which organic	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which FX	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
EBITDA	-13,885	-13,316	-10,002	-18,500	-29,475	-1,464	2,758	5,069	10,533	15,473	21,849
Depreciation and impairments PPE	-171	-178	-172	-1,096	-1,166	-1,379	-1,473	-1,455	-1,502	-1,532	-1,562
EBITA	-14,056	-13,494	-10,174	-19,596	-30,641	-2,844	1,285	3,614	9,032	13,942	20,287
Amortisation and impairments	-683	-712	-689	-4,386	-4,663	-5,518	-5,891	-5,822	-6,006	-6,126	-6,249
EBIT	-14,739	-14,206	-10,863	-23,982	-35,304	-8,361	-4,606	-2,208	3,026	7,815	14,038
of which associates	0	0	0	0	0	0	0	0	0	0	0
Associates excluded from EBIT	0	0	0	0	0	0	0	0	0	0	0
Net financials	-4,697	-1,139	11,250	2,131	4,779	-675	-17	2,502	1,700	2,720	2,720
Changes in value, net	0	0	0	0	0	-2,123	-135	754	0	0	0
Pre-tax profit	-19,436	-15,345	387	-21,851	-30,525	-11,159	-4,758	1,048	4,726	10,535	16,758
Reported taxes	0	0	53	630	675	656	678	708	1,400	1,400	1,400
Net profit from continued operations	-19,436	-15,345	440	-21,221	-29,850	-10,503	-4,080	1,756	6,126	11,935	18,158
Discontinued operations	0	0	0	0	0	-6,835	27,071	0	0	0	0
Minority interests	0	0	0	0	0	0	0	0	0	0	0
Net profit to equity	-19,436	-15,345	440	-21,221	-29,850	-17,338	22,991	1,756	6,126	11,935	18,158
EPS	-16.17	-4.70	0.05	-1.67	-1.89	-0.98	1.24	0.09	0.31	0.61	0.92
DPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
of which ordinary	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
of which extraordinary	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Profit margin in percent

EBITDA	-162.8%	-120.1%	-36.4%	-72.5%	-93.0%	-2.7%	4.1%	4.7%	7.6%	8.6%	9.6%
EBITA	-164.8%	-121.7%	-37.1%	-76.8%	-96.7%	-5.3%	1.9%	3.4%	6.6%	7.8%	9.0%
EBIT	-172.8%	-128.1%	-39.6%	-94.0%	-111.4%	-15.7%	-6.9%	-2.1%	2.2%	4.4%	6.2%

Adjusted earnings

EBITDA (adj)	-13,885	-13,316	-10,002	-18,500	-29,475	484	5,269	6,652	10,533	15,473	21,849
EBITA (adj)	-14,056	-13,494	-10,174	-19,596	-30,641	-895	3,796	5,197	9,032	13,942	20,287
EBIT (adj)	-14,739	-14,206	-10,863	-23,982	-35,304	-6,413	-2,095	-625	3,026	7,815	14,038
EPS (adj)	-16.17	-4.70	0.05	-1.67	-1.89	-0.87	1.37	0.17	0.31	0.61	0.92

Adjusted profit margins in percent

EBITDA (adj)	-162.8%	-120.1%	-36.4%	-72.5%	-93.0%	0.9%	7.9%	6.2%	7.6%	8.6%	9.6%
EBITA (adj)	-164.8%	-121.7%	-37.1%	-76.8%	-96.7%	-1.7%	5.7%	4.8%	6.6%	7.8%	9.0%
EBIT (adj)	-172.8%	-128.1%	-39.6%	-94.0%	-111.4%	-12.0%	-3.1%	-0.6%	2.2%	4.4%	6.2%

Performance metrics

CAGR last 5 years											
Net revenue	2.6%	-11.6%	6.8%	2.0%	8.5%	44.3%	43.1%	31.3%	40.1%	41.4%	33.5%
EBITDA	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
EBIT	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
EPS	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	12.6%	n.m.	n.m.	n.m.
DPS	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
Average last 5 years											
Average EBIT margin	-72.8%	-90.5%	-70.9%	-79.1%	-95.0%	-62.2%	-40.6%	-26.2%	-12.0%	-0.8%	2.5%
Average EBITDA margin	-68.2%	-84.8%	-66.0%	-69.5%	-81.7%	-48.8%	-27.7%	-14.6%	-3.2%	6.0%	7.8%

VALUATION RATIOS - ADJUSTED EARNINGS

NOKth	2011	2012	2013	2014	2015	2016	2017	2018	2019E	2020E	2021E
P/E (adj)	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	6.6	46.5	40.1	20.6	13.5
EV/EBITDA (adj)	n.m.	n.m.	n.m.	n.m.	n.m.	289.7	29.5	20.5	21.9	14.8	10.4
EV/EBITA (adj)	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	41.0	26.3	25.5	16.5	11.2
EV/EBIT (adj)	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	76.3	29.4	16.2

VALUATION RATIOS - REPORTED EARNINGS

NOKth	2011	2012	2013	2014	2015	2016	2017	2018	2019E	2020E	2021E
P/E	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	7.4	88.4	40.1	20.6	13.5
EV/Sales	2.23	0.52	3.83	4.34	3.19	2.63	2.34	1.27	1.68	1.28	1.00
EV/EBITDA	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	56.4	26.9	21.9	14.8	10.4
EV/EBITA	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	121.1	37.8	25.5	16.5	11.2
EV/EBIT	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	76.3	29.4	16.2
Dividend yield (ord.)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF yield	-203.5%	-29.9%	-13.6%	-20.8%	-22.5%	-4.0%	-8.6%	1.8%	-1.6%	0.4%	1.1%
Payout ratio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Company data and Nordea estimates

BALANCE SHEET

NOKth	2011	2012	2013	2014	2015	2016	2017	2018	2019E	2020E	2021E
Intangible assets	1,519	1,883	57,962	56,482	53,858	46,244	44,185	42,080	36,714	32,735	29,203
of which R&D	0	0	0	0	0	0	0	0	0	0	0
of which other intangibles	1,519	1,883	51,636	49,663	46,599	39,387	36,759	34,573	29,207	25,228	21,696
of which goodwill	0	0	6,326	6,819	7,259	6,857	7,426	7,507	7,507	7,507	7,507
Tangible assets	28	22	659	9	3,195	2,410	1,715	601	1,659	1,559	1,809
Shares associates	0	0	0	0	0	0	57,501	40,275	40,275	40,275	40,275
Interest bearing assets	0	0	0	0	0	0	0	0	0	0	0
Deferred tax assets	0	0	0	0	0	0	0	0	0	0	0
Other non-IB non-current assets	0	0	0	0	0	0	0	0	0	0	0
Other non-current assets	0	0	0	0	0	0	168	0	0	0	0
Total non-current assets	1,547	1,905	58,621	56,491	57,053	48,654	103,569	82,956	78,648	74,569	71,287
Inventory	408	377	619	5,085	6,327	3,767	12,953	11,565	19,674	29,137	41,407
Accounts receivable	3,878	3,063	6,924	13,552	18,546	22,610	26,474	21,943	32,314	43,768	57,662
Other current assets	2,194	0	1,047	524	2,032	1,498	639	12,217	15,690	20,384	25,799
Cash and bank	1,295	22,214	21,918	13,101	24,761	19,818	13,558	18,655	14,729	15,733	18,501
Total current assets	7,775	25,654	30,508	32,262	51,666	47,693	53,624	64,380	82,407	109,022	143,369
Assets held for sale	0	0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total assets	9,322	27,559	89,129	88,753	108,719	96,347	157,193	147,336	161,055	183,591	214,656
Shareholders equity	-9,433	19,173	76,440	75,719	92,802	76,207	111,004	109,753	115,879	127,814	145,972
Of which preferred stocks	0	0	0	0	0	0	0	0	0	0	0
Of which equity part of hybrid debt	0	0	0	0	0	0	0	0	0	0	0
Minority interest	0	0	0	0	0	0	0	0	0	0	0
Total Equity	-9,433	19,173	76,440	75,719	92,802	76,207	111,004	109,753	115,879	127,814	145,972
Deferred tax	0	0	6,273	6,081	5,747	4,787	4,393	3,691	3,691	3,691	3,691
Long term interest bearing debt	0	88	59	29	0	0	0	0	0	0	0
Pension provisions	0	0	0	0	0	0	0	0	0	0	0
Other long-term provisions	0	0	0	0	0	0	0	0	0	0	0
Other long-term liabilities	0	0	0	0	0	0	22,003	12,027	12,027	12,027	12,027
Convertible debt	0	0	0	0	0	0	0	0	0	0	0
Shareholder debt	0	0	0	0	0	0	0	0	0	0	0
Hybrid debt	0	0	0	0	0	0	0	0	0	0	0
Total non-current liabilities	0	88	6,332	6,110	5,747	4,787	26,396	15,718	15,718	15,718	15,718
Short-term provisions	0	0	0	0	0	0	0	0	0	0	0
Accounts payable	4,268	4,235	3,342	5,394	3,509	10,178	14,526	18,579	25,239	34,577	46,029
Other current liabilities	2,803	4,063	1,548	1,530	6,661	5,175	5,267	3,285	4,219	5,482	6,938
Short term interest bearing debt	11,684	0	1,467	0	0	0	0	0	0	0	0
Total current liabilities	18,755	8,298	6,357	6,924	10,170	15,353	19,793	21,865	29,458	40,059	52,967
Liabilities for assets held for sale	0	0	0	0	0	0	0	0	0	0	0
Total liabilities and equity	9,322	27,559	89,129	88,753	108,719	96,347	157,193	147,336	161,055	183,591	214,656
Balance sheet and debt metrics											
Net debt	10,389	-22,126	-20,392	-13,072	-24,761	-19,818	-13,558	-18,655	-14,729	-15,733	-18,501
Working capital	-591	-4,858	3,700	12,237	16,735	12,522	20,273	23,860	38,220	53,230	71,902
Invested capital	956	-2,953	62,321	68,728	73,788	61,176	123,842	106,816	116,868	127,799	143,189
Capital employed	-9,433	19,261	82,772	81,829	98,549	80,994	137,400	125,471	131,597	143,532	161,690
ROE	n.m.	n.m.	0.9%	-27.9%	-35.4%	-20.5%	24.6%	1.6%	5.4%	9.8%	13.3%
ROIC	n.m.	n.m.	-25.6%	-25.6%	-34.7%	-6.7%	-1.6%	-0.4%	1.9%	4.5%	7.3%
ROCE	n.m.	-73.8%	-13.1%	-29.3%	-35.8%	-10.3%	-3.4%	-1.8%	2.3%	5.4%	8.7%
Net debt/EBITDA	-0.7	1.7	2.0	0.7	0.8	13.5	-4.9	-3.7	-1.4	-1.0	-0.8
Interest coverage	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
Equity ratio	-101.2%	69.6%	85.8%	85.3%	85.4%	79.1%	70.6%	74.5%	71.9%	69.6%	68.0%
Net gearing	-110.1%	-115.4%	-26.7%	-17.3%	-26.7%	-26.0%	-12.2%	-17.0%	-12.7%	-12.3%	-12.7%

Source: Company data and Nordea estimates

CASH FLOW STATEMENT

NOKth	2011	2012	2013	2014	2015	2016	2017	2018	2019E	2020E	2021E
EBITDA (adj) for associates	-13,885	-13,316	-10,002	-18,500	-29,475	-1,464	2,758	5,069	10,533	15,473	21,849
Paid taxes	0	0	0	0	0	0	0	389	1,400	1,400	1,400
Net financials	0	0	0	0	0	0	0	2,574	1,700	2,720	2,720
Change in provisions	0	0	0	0	0	0	0	0	0	0	0
Change in other LT non-IB	0	0	0	0	0	0	21,835	-9,808	0	0	0
Cash flow to/from associates	0	0	0	0	0	0	0	0	0	0	0
Dividends paid to minorities	0	0	0	0	0	0	0	0	0	0	0
Other adj to reconcile to cash flow	-5,013	2,217	-2,461	-3,851	9,969	-7,876	-30,416	11,683	0	0	0
Funds from operations (FFO)	-18,898	-11,099	-12,463	-22,351	-19,506	-9,340	-5,823	9,907	13,633	19,593	25,969
Change in NWC	1,411	3,208	-5,073	-2,620	-5,228	4,403	-7,917	-3,419	-14,359	-15,010	-18,672
Cash flow from operations (CFO)	-17,487	-7,891	-17,536	-24,971	-24,734	-4,937	-13,740	6,488	-726	4,583	7,297
Capital expenditure	-32	-437	0	-776	-3,618	-1,477	-864	-4,146	-3,200	-3,579	-4,529
Free cash flow before A&D	-17,519	-8,328	-17,536	-25,747	-28,352	-6,414	-14,604	2,342	-3,926	1,004	2,768
Proceeds from sale of assets	0	0	0	0	0	0	0	489	0	0	0
Acquisitions	0	0	413	0	0	0	0	0	0	0	0
Free cash flow	-17,519	-8,328	-17,123	-25,747	-28,352	-6,414	-14,604	2,831	-3,926	1,004	2,768
Dividends paid	0	0	0	0	0	0	0	0	0	0	0
Equity issues / buybacks	16,059	29,914	21,890	17,376	45,225	1,109	6,939	429	0	0	0
Net change in debt	0	0	0	0	0	0	0	0	0	0	0
Other financing adjustments	0	0	0	0	0	0	0	-379	0	0	0
Other non-cash adjustments	1,570	-667	-5,063	-446	-5,213	362	1,405	2,216	0	0	0
Change in cash	110	20,919	-296	-8,817	11,660	-4,943	-6,260	5,097	-3,926	1,004	2,768

Cash flow metrics

Capex/D&A	3.7%	49.1%	0.0%	14.2%	62.1%	21.4%	11.7%	57.0%	42.6%	46.7%	58.0%
Capex/Sales	-0.4%	-3.9%	0.0%	-3.0%	-11.4%	-2.8%	-1.3%	-3.9%	-2.3%	-2.0%	-2.0%

Key information

Share price year end (/current)	7	9	14	10	8	9	9	8	13	13	13
Market cap.	8,610	27,875	125,465	123,838	125,785	160,102	169,205	155,204	245,478	245,478	245,478
Enterprise value	18,999	5,749	105,073	110,766	101,024	140,284	155,647	136,549	230,749	229,745	226,977
Diluted no. of shares, year-end (th)	1,201.8	3,263.5	8,693.4	12,677.0	15,822.0	17,613.0	18,594.0	19,160.9	19,638.2	19,638.2	19,638.2

Source: Company data and Nordea estimates

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Completion Date

11 Mar 2019, 05:25 CET

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