

## Initiating coverage with HOLD

We estimate net sales to grow at a CAGR of 4.1% in 2018E-2020E, driven by Industrial Measurements and growth areas in Weather and Environment. Meanwhile, we estimate that improving sales mix and economies of scale raise Vaisala's EBIT margin to 13.7% in 2020E. We initiate coverage with a HOLD rating and a target price of EUR 21 per share.

### Industrial Measurements - Strong growth and profitability

In 2010-2017, Industrial Measurements (IM, 33% of sales) net sales grew at a CAGR of 8.2%. In the past five years, IM's operating margin has improved from 12 to 20 percent, driven by scale economies. The business area follows a product leadership strategy and the current focus is on the power transmission and life sciences markets.

### Weather and Environment - Focusing on growth areas

In 2010-2017, Weather and Environment (W&E, 67% of sales) net sales grew at a CAGR of 2.3%. Operating margin was 8.2% in 2017E. W&E is currently focusing on meteorological projects in developing countries, digital solutions, and air quality related solutions. Meanwhile, growth is relatively slow for traditional meteorological equipment in the developed countries.

### Estimating EUR 376m sales, 13.7% EBIT margin in 2020E

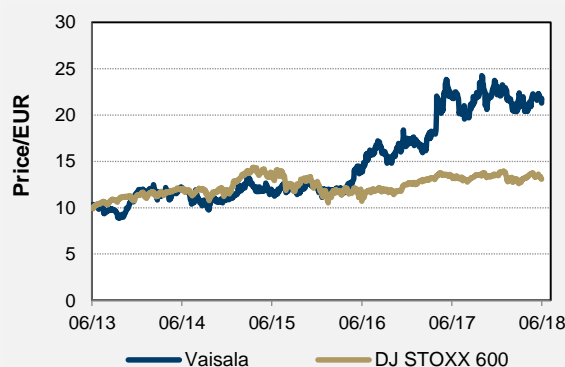
Vaisala targets 5% CAGR sales growth (4.0% CAGR in 2010-2017) and 15% EBIT margin (12.3% in 2017) in the long term. We estimate 4.1% CAGR sales growth for 18E-20E, driven by IM sales and growth areas in W&E. We estimate that Vaisala's EBIT margin improves to 13.7% in 2020E, driven by economies of scale and the increasing share of IM sales.

### Initiating coverage with a HOLD rating and TP of EUR 21

Our 2019E estimates and peer EV/EBIT multiples imply a value of 20.4 EUR per share. Meanwhile, our DCF model implies a value of EUR 21.3 per share. We see that Vaisala's current share price already reflects our expectations of continued growth and gradual profitability improvements. We initiate coverage with a HOLD rating and a target price of EUR 21 per share.

## Rating

■ HOLD



Share price, EUR (Last trading day's closing price) 21.30

Target price, EUR 21.0

Latest change in recommendation 28-Jun-18

Latest report on company -

Research paid by issuer: YES

No. of shares outstanding, '000's 36,437

No. of shares fully diluted, '000's 36,437

Market cap, EURm 632

Free float, % -

Exchange rate EUR/USD 1.155

Reuters code VAIAS.HE

Bloomberg code VAIAS FH

Average daily volume, EURm 0.3

Next interim report 20-Jul-18

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■ BUY ■ HOLD ■ SELL

## KEY FIGURES

	Sales EURm	EBIT EURm	EBIT %	Ptx profit EURm	EPS EUR	P/E (x)	EV/Sales (x)	P/CF (x)	EV/EBIT (x)	DPS EUR
2016	319	22	7.0%	22	0.52	32.2	1.7	14.3	23.8	0.50
2017	333	41	12.3%	38	0.76	29.3	2.1	15.5	17.2	1.05
2018E	345	43	12.6%	43	0.88	24.2	1.6	19.4	12.8	0.55
2019E	365	49	13.3%	49	1.02	20.9	1.5	17.3	11.5	0.60
2020E	376	51	13.7%	51	1.06	20.1	1.5	16.1	10.9	0.65

Market cap, EURm 632 BV per share 2018E, EUR 4.9 CAGR EPS 2017-20, % 11.7

Net debt 2018E, EURm -76 Price/book 2018E 3.5 CAGR sales 2017-20, % 4.2

Enterprise value, EURm 556 Dividend yield 2018E, % 2.6 ROE 2018E, % 17.6

Total assets 2018E, EURm 272 Tax rate 2018E, % 26.0 ROCE 2018E, % 23.7

Goodwill 2018E, EURm 16 Equity ratio 2018E, % 66.3 PEG, P/E 18/CAGR 2.6

All the important disclosures can be found on the last pages of this report.

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**1. Investment summary**

Measurement products and services for weather, environment and industrial applications

Vaisala offers a wide range of observation and measurement products and services for weather, environment and industrial applications. The company manufactures the sensors in its own cleanroom in Vantaa, Finland. The production of subassemblies is outsourced while final assembly takes place in Vaisala's two factories, in Vantaa, Finland and in Boulder, Colorado. The company has a global network of sales offices. In 2017, services generated 14% of net sales.

Weather and Environment serves mostly public clients while Industrial Measurements focuses on private clients.

Vaisala has two business areas: Weather and Environment (W&E) and Industrial Measurements (IM). The two areas have synergies in the usage of cleanroom facilities. W&E serves mostly large public-sector clients. Some of the projects are very long, lasting years. In contrast, IM's products are used broadly across industries, the average transaction is just 2000€ and delivery times are often just a few days.

W&E generates most of sales but IM has a higher growth rate and profitability.

In 2017, W&E generated 67% of Vaisala's net sales and 44% of operating profit. In 2010-2017, W&E net sales grew at a CAGR of 2.3% while IM net sales grew at a CAGR of 8.2%. In 2012-2017, W&E's annual EBIT margin varied between 6-10 percent, excluding the 10.5m EUR write-down in 2016. In the same period, IM's EBIT margin improved from 12 to 20 percent. Scale economies have driven IM's profitability growth.

Several megatrends driving growth

Several megatrends support growth in Vaisala's target markets: increasingly common extreme weather events, growing usage of renewable energy, increasing health awareness, efforts to increase power efficiency as well as digitalization.

High R&D efforts and technology driven acquisitions support competitive edge

Technological leadership is important for Vaisala since the company aims for product leadership in its target markets. In 2017, R&D expenses amounted to 12% of net sales. In addition, Vaisala's recent acquisitions have been technology driven and the company's strong balance sheet leaves room for further acquisitions.

Our estimates are near the upper end of 2018 guidance.

Vaisala estimates its full-year 2018 net sales to be in the range of EUR 330-350 million (-0.8% - 5.2% y/y) and its operating result (EBIT) to be in the range of EUR 35-45 million (10.0-13.6% margin). We estimate net sales of EUR 345m (+3.7% y/y) and EBIT of EUR 43.2m (12.5% margin) for 2018E.

Target: 5% CAGR growth and 15% EBIT margin

In the long run, Vaisala targets 5% net sales growth (4.0% in 2010-2017) and 15% EBIT margin (12.3% in 2017).

We estimate 4.1% CAGR growth for 2018-2020E, driven by IM sales and growth pockets in W&E.

We estimate that Vaisala's net sales grow at a CAGR of 4.1% in 2018-2020E. Meanwhile, W&E net sales grow at a CAGR of 3.1% while IM net sales grow at a CAGR of 6.5%. Within W&E, we expect that growth is driven by solutions in renewable energy, digital services and ambient air quality. We expect that growth in the field of meteorology and transportation will be slow although large projects can generate some volatility. We expect IM sales to witness solid growth across the board.

We estimate that the EBIT margin improves to 13.7% in 2020E through scale economies and increasing share of IM sales.

In 2018-2020E, we estimate that Vaisala's EBIT margin improves from 12.3% in 2017 to 13.7% in 2020E while W&E EBIT margin improves from 8.2% to 9.3% and IM EBIT margin improves from 20.7% to 21.7%. Within each business area, profitability is supported by improving sales mix and economies of scale. At the group level, profitability is driven mainly by the increasing share of IM sales and economies of scale.

We initiate coverage with HOLD rating and a TP of EUR 21 per share.

We initiate coverage with HOLD rating and a target price of EUR 21 per share. Due to Vaisala's significant presence in the weather measurement market, we rely both on DCF and peer multiples. Our DCF model implies a per share value of 21.3 EUR. Meanwhile, our 2019E estimates and peer EV/EBIT multiples imply a value of EUR 20.4 per share. We see that Vaisala's current share price already reflects our expectations of continued growth and gradual profitability improvements. Meanwhile, Vaisala's estimated dividend yield stands out positively in its peer group.

## 2. Vaisala

### 2.1. Overview

Vaisala develops, manufactures and sells measurement equipment and systems. The company also provides installation, testing, training as well as maintenance and calibration services for its equipment. Vaisala serves both public and private clients in the weather and environmental measurement markets as well as the industrial measurement market.

Vaisala was founded in 1936 in Finland when Professor Vilho Väisälä started developing and manufacturing radiosondes for atmospheric measuring. The company was listed on the Helsinki OTC-list in 1988 and has been listed on the Helsinki primary stock exchange since 1994. Vaisala's CEO, Kjell Forsén, has held his position since 2006.

Vaisala has over 30 offices in 17 countries and the company sells its products to over 150 countries. At the end of 2017, the company had 11 offices in Americas, 11 in EMEA and 10 in APAC. Vaisala also has a sales force in 17 countries as well as distributors and agents in 100+ countries. In total, Vaisala has about 1600 employees.

Vaisala focuses on R&D, product leadership and a high-mix low volume strategy. The company manufactures the critical components as well as assembles, calibrates and tests the measuring equipment. Meanwhile, the production of standardized components is outsourced.

Vaisala has two factories, one in Vantaa, Finland and one in Boulder, Colorado, USA. The primary factory, located in Vantaa, includes a cleanroom and produces the full product range, while the Colorado factory is smaller and produces a limited product range.

### Vaisala – Offices and factories



Source: Vaisala, Evli Research

## Vaisala – SWOT Analysis

### Strengths

- Technological leader in selected niche markets
- Large market share and strong reputation in the field of weather measurement
- Diversified customer base, particularly in IM
- Active product tailoring limits competitive pressures
- Heavy R&D supports technological leadership
- Asset light due to partial outsourcing of production
- Strong balance sheet

### Opportunities

- Strong expected growth in many niche markets
- Entering new niche markets through acquisitions or R&D
- Growth in digital services could improve scalability
- Fragmented market and strong balance sheet allow acquisitions
- Increasing health awareness
- Growing use of renewable energy sources
- Increasingly common extreme weather events
- Digitalization and big data
- Miniaturization of sensors limits costs and fuels demand

### Weaknesses

- Order book offers limited visibility, particularly in IM
- Sensitivity of W&E sales to public budgets and individual projects
- In developed countries, weather equipment are already up-to-date
- Weather equipment are mostly maintenance free and have a long service-life
- Sensitivity to currency fluctuations

### Threats

- Component price inflation
- Weakened technological leadership and a loss of price premium position
- Unsuccessful R&D projects
- Disruptions in the company's only clean room

## 2.2. Main business areas

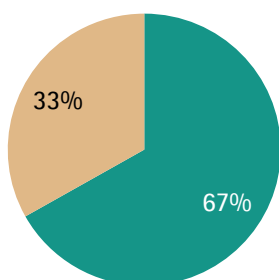
Vaisala has two business areas:

- **Weather and Environment (W&E)** provides weather-dependent markets with products and services to monitor real-time weather and environmental data. W&E serves the following customer segments: meteorology, transportation, renewable energy and ambient air quality.
- **Industrial Measurements (IM)** offers solutions to monitor operational conditions in various industries including electronics, automotive, building automation, agriculture and food industries. In addition, Vaisala has identified power transmission and life sciences as particularly attractive niche markets.

The synergies between IM and W&E are mostly linked to the usage of the company's only cleanroom in Vantaa, Finland, where Vaisala's sensors are manufactured. In addition, there are technological synergies between IM and W&E. In contrast, the two business areas are clearly different in terms of customer base. W&E serves mostly large public-sector clients directly. In contrast, IM serves mostly private sector clients, and many of them through distributors.

Net sales by business area,  
2017

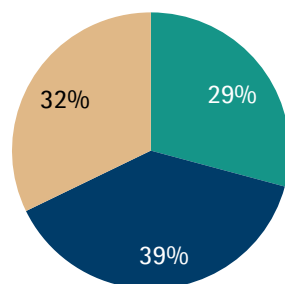
■ Weather & Environment  
■ Industrial Measurements



Source: Vaisala

Net sales by geography,  
2017

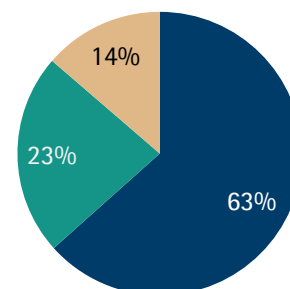
■ EMEA ■ Americas ■ APAC



Source: Vaisala

Net sales by type,  
2017

■ Products ■ Projects ■ Services



Source: Vaisala

- **Product sales** include the sale of products and spare parts.
- **Services sales** include maintenance, repairs, calibrations and digital services, such as consulting and weather subscription services.
- **Project sales** consist of system deliveries, larger high-complexity products or large shipments in the W&E business.

### 2.3. Manufacturing

Vaisala's business model is based on a strong R&D focus and high-value add processes. Sensors, the most critical parts of Vaisala's equipment, are manufactured in the company's own cleanroom in Vantaa, Finland. Meanwhile, the manufacturing of subassemblies are outsourced to partners such as Enics. Final assembly, calibration and testing is conducted in Vaisala's two factories, in Vantaa, Finland and in Boulder, Colorado.

Vaisala has a high-mix low-volume offering, consisting of over 6000 products. Due to variations in customers' needs, Vaisala makes around 900 engineering changes in its products annually. The products are made on demand according to customer specifications, which results in minimal inventories. In 2017, Vaisala produced some 1.5m sensors. According to Vaisala, production volumes can be doubled with the current capacity.

Vaisala has reduced the number of subcontractors from 900 to 400 over the past few years, which allows more efficient procurement. Still, transferring component price inflation to product prices is challenging in some segments since Vaisala already prices its products at a premium relative to competitors.

## 2.4. Research and development

Vaisala's development scope ranges from silicon chips to complete systems, software and digital solutions. A third of Vaisala's R&D expenditures relate to the development of new products and technologies. Meanwhile, a third relates to modernization while maintenance R&D accounts for a quarter of R&D expenditures. Vaisala applies for patents selectively since the application process reveals valuable information to competitors.

Vaisala conducts R&D in two locations: Vantaa, Finland and Boulder, Colorado. At the end of 2017, Vaisala had 321 employees working in the field of R&D. Some 150 worked in the field of software. The share of software development has increased significantly during recent years.

Current R&D efforts include the refinement of computer vision and AI platforms which were acquired along with Vionice at the end of 2017. Vaisala aims to offer the related products, services and solutions to road and rail customers at first. Vaisala is particularly interested in computer vision which could determine weather conditions.

## 2.5. Financial targets

In the long term, Vaisala aims to achieve an average annual net sales growth of 5 percent. In selected growth businesses such as renewable energy, life science and power transmission, the target is to exceed 10% annual growth. Vaisala also targets a 15% operating profit margin in the long term.

## 2.6. Strategy

In May 2017, Vaisala's Board of Directors confirmed the strategy for 2017–2021:

Weather and Environment aims to grow through meteorological infrastructure improvement projects in developing countries. The company aims to win one large project every year. In addition, W&E will expand digital solutions, which support decision-making in weather critical operations. In environmental measurements, W&E seeks to build new business with air quality as a spearhead. W&E aims to grow both organically and inorganically.

Industrial Measurements business area follows a product leadership strategy in which Vaisala aims to achieve leading position in selected markets. The business area aims to achieve strong market position in power transmission and life science. In addition, IM seeks new business opportunities in industrial applications.

Vaisala aims to achieve the targeted 15% EBIT margin the following way:

**Improved sales mix** through growth in

- life science
- power transmission
- new instruments

**Higher gross margin** through growth in digital solutions

**Economies of scale** through growth in

- weather instruments and solutions
- high-end humidity and co2 business, supported by expansion to new markets and solution areas

Meanwhile, Vaisala expects R&D and sales&marketing costs to grow.



## 2.7. Market opportunities

Vaisala's business is supported by several megatrends, which create more demand for existing and new products.

- **Climate change and extreme weather conditions** increase the demand for weather equipment and instruments.
- **Urbanization** increases the demand for monitoring systems for weather sensitive infrastructure like airports. In addition, urbanization increases the need for monitoring air quality.
- **Increasing demand for energy efficiency:** Vaisala's measurement technologies support the optimization of many industrial processes, which improves energy efficiency.
- **Digitalization and big data** create new opportunities for the data distributed by Vaisala. The increased connectivity of transportation supports demand for weather related data as it can be delivered directly to vehicles to increase safety.
- **The increasing use of renewable energy sources** like solar and wind increase the need to predict local weather to estimate energy output from production sites. These predictions are also beneficial when deciding on future energy production sites.
- **Growing health awareness** increases the monitoring of working and living conditions.

## 2.8. Competition

Overall, Vaisala's competitive position is supported by product tailoring, which raises entry barriers for competitors. In addition, Vaisala's heavy R&D efforts help to maintain its technological leadership.

In W&E, clients are mostly public organizations for which price is a key determinant. As a result, Vaisala often participates in the early stages of public projects to ensure that the procurement criteria bring out the superior quality of Vaisala's products. In this respect, we see that Vaisala's close relationship with public sector entities such as universities and meteorological institutes is a source of competitive advantage.

In W&E, Vaisala's competitive position is likely supported by its relatively large size among weather focused instrument manufacturers. For example, the global environment monitoring market is highly fragmented and regional companies are increasingly under pressure in terms of quality, functionalities, and services (Technavio, 2017).

In IM, Vaisala's products often have a critical role in the client's business. For example, incorrect storage conditions of pharmaceuticals can cause significant financial losses. By comparison, the price of high quality measurement equipment is small. In these markets, Vaisala has good prerequisites to protect its price premium position.

In IM, the range of end user markets is very wide, likely containing numerous niche markets. We see that Vaisala can, thanks to its strong financial position, selectively enter niche markets where it can achieve product leadership, either through acquisitions or R&D.

## 2.9. Acquisitions and divestments

Vaisala's past acquisitions have been rather small. The reported deal values have not exceeded 20 MEUR and often amounted to less than 10 MEUR. Vaisala has also conducted some divestments, particularly within Transportation during 2013 and 2016.

Most of Vaisala's past acquisitions relate to the W&E business segment. One of the largest acquisitions took place in 2013 when Vaisala acquired 3TIER Inc and Second Wind Systems Inc. The acquisitions increased Vaisala's presence in the renewable energy market but the market conditions turned out to be more challenging than expected. In 2016, Vaisala wrote down 10.5 MEUR worth of related intangible assets.

The most recent acquisitions have been technology driven. In 2016, Vaisala acquired technology and products for air quality monitoring from Envitem, which increased Vaisala's offering on the air quality monitoring market. The acquired technology and products measure pollution gases, like carbon monoxide, nitrous oxides, sulfur dioxide, hydrogen sulfide and ozone, as well as particles in the air. Vaisala introduced related products in 2017 and the product portfolio is ready for sales ramp-up in 2018.

In 2017, Vaisala's technology driven acquisitions continued when the company acquired Vionice, a Finnish IT company which specializes in computer vision and artificial intelligence. The acquisition price was EUR 3.1 million.

Selected acquisitions, divestments and related write-downs							
Year	Type	Target name	Revenue, millions	Deal/charge value, millions	Curr.	Related business area (current structure)	Details
2001	Acquisition	Meteorological Systems Unit of <b>Radian International LLC</b> of USA	5		EUR	W&E	The acquired unit was a global market leader in wind profilers.
2002	Acquisition	<b>Global Atmospheric Corporation</b>		14	USD	W&E	
2005	Acquisition	<b>Sigmat Corporation</b>	11		USD	W&E	Weather radar signal processor and application software company
2005	Acquisition	<b>CLH Inc.</b>	3.7		USD	W&E - Transportation	Automated weather observing systems and related services for the US airports
2008	Acquisition	<b>Aviation Systems Maintenance, Inc (ASMI)</b>	1.8	2.3	EUR	W&E - Transportation	An airport service company
2009	Acquisition	<b>Quixote Transportation Technologies, Inc. (QTT)</b>	16.2	20	USD	W&E - Transportation	Road weather and information technology company
2010	Divestment	Oxygen measurement technology and business				IM	
2010	Acquisition	<b>Veriteq Instruments Inc.</b>	5	8.5	EUR	IM - Life science	Continuous monitoring systems and data loggers for life science market
2012	Divestment	Wind profiler business				W&E - Renewable energy	
2013	Impairment charge	Goodwill and intangible assets related to <b>Veriteq Instruments Inc.</b>		4.3	EUR	IM - Life science	
2013	Acquisition	<b>3TIER Inc.</b>	6.3	11.5	EUR	W&E - Renewable energy	A US-based renewable energy assessment and forecasting services company
2013	Acquisition	<b>Second Wind Systems Inc</b>	7	1.4	EUR	W&E - Renewable energy	Remote sensing technology and data services for the wind energy industry
2013	Divestment	Three non-weather road transportation product lines				W&E - Transportation	
2016	Acquisition	Technology and air quality monitoring products from <b>Envitem Oy</b>				W&E - Ambient air quality	
2016	Divestment	Certain Transportation products and field services				W&E- Transportation	
2016	Write-down	Related to <b>Second Wind Systems Inc. and 3TIER Inc</b> intangible assets		10.5	EUR	W&E - Renewable energy	
2017	Acquisition	<b>Vionice</b>	0.2	3.1	EUR	W&E	Computer vision and artificial intelligence

Source: Vaisala

### 3. Weather and Environment (W&E)

#### 3.1. Customers

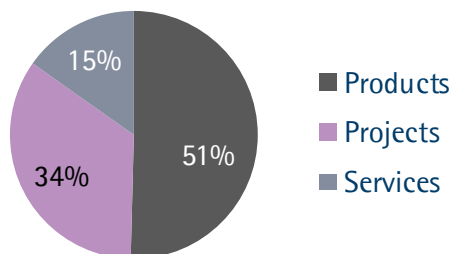
Approximately 90% of W&E's net sales is generated by the public sector. According to Vaisala, the company is a market leader in serving meteorological institutions around the world. Other public clients include transportation authorities and the military. Overall, W&E's growth is sensitive to public sector budgets. In the private sector, W&E serves customers from the maritime- and energy industries.

Vaisala sees that, in developed countries, the coverage of weather measuring equipment is already extensive. Meanwhile, the demand for upgrades is limited by the long-life cycle of Vaisala's products.

W&E is currently focusing on weather-related capacity building in developing countries. In line with this strategy, Vaisala opened a new W&E office in Nairobi, Kenya during 2017. W&E is currently engaged in two large weather infrastructure capacity building projects, in the Bahamas and Vietnam.

W&E is also expanding in the field of environmental measurements. The company entered air quality measurement markets in 2016 with the acquisition of technology and products from Envitem Oy.

**Weather and Environment  
Net sales by type, 2017**



*Source: Vaisala*

#### 3.2. Products

- **Sounding products** are used for measuring upper-air atmosphere. Vaisala's offering mainly consists of dropsondes, radiosondes and semi-automatic/automatic sounding stations.
- **Weather radar products** include radars, transmitters, receivers and signal processors.
- **Weather stations and sensors** measure wind speed and direction, lightning, cloud height, visibility, air quality, surface temperature, water depth, precipitation and rain.

### 3.3. Services

W&E service sales are mainly attributable to

- **Renewable energy consulting:** Vaisala provides renewable energy assessment services. In practice, Vaisala certifies renewable energy projects by verifying that a given location is suitable for a wind or solar energy farm. After the certification, the client can work directly with financiers making active investments in the renewable energy market. According to Vaisala, large US investment banks recognize Vaisala's certificates.
- **Weather data subscription services:** Vaisala sells subscription based access to lightning, wind and solar data. The data is used particularly for estimating road conditions and the need for de-icing at airports. The subscription services are offered mainly in the UK and USA. In most cases, the data is owned by Vaisala's clients<sup>1</sup>.
- **Maintenance:** The sale of maintenance services is relatively low since weather equipment are mostly maintenance free.

### 3.4. Projects

Projects typically consist of system deliveries, which include products, software and service sales. The delivery of larger high-complexity products is also classified as projects.

At any given time, Vaisala typically has over a hundred ongoing projects. The length of projects varies greatly but is typically between 2-6 months. Sometimes, preparation and implementation spans across several years. Vaisala's role varies from an integrator to a subcontractor. In some projects, Vaisala's subcontractors include the Finnish Meteorological Institute which provides software and training.

Vaisala's target is to close one large infrastructure project every year. Currently, Vaisala has two such projects ongoing, in the Bahamas and Vietnam:

- **Bahamas**  
In 2016, Vaisala signed a USD 18 million contract with the Ministry for Transport and Aviation of the Commonwealth of the Bahamas. The contract includes weather radars, other products as well as software and training.
- **Vietnam**  
In 2016, Vaisala announced a EUR 20 million contract with National Hydro-Meteorological Service of Vietnam. In 2017, the project contributed EUR 10.8 million to orders received.

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<sup>1</sup> In some cases, the data is gathered by Vaisala's own sensors. A prime example of this is Vaisala's US lightning data and the somewhat less accurate global lightning data.

## 3.5. Markets

Weather forecasting and environmental monitoring markets				
Market name	Market size, billion USD	Market growth p.a.	Year	Source
Weather forecasting systems	2.7	7.2%	2017	Markets and markets (2017c)
Environmental monitoring	~13.5-16	5-7.7%	2016	Markets and markets (2017a), Technavio (2017)
-Air quality	~4.2-6.4	5-8%	2016	Technavio (2017), Zion Market Research (2018)

Weather and Environment - Addressable markets					
Market name	Market size, MEUR	Market growth p.a.	Vaisala market share	Vaisala revenue in 2017, MEUR (Evli est.)	Share of W&E revenue, 2017 (Evli est.)
Meteorology	450-500	0	>25%	>112.5	>51%
Transportation	300	0-5%	>25%	>75	>34%
Renewable energy	325-375	>10%	<10%	<37.5	<17%
Ambient air quality	150-200	>5%	<10%	<20	<9%
Total	1300		20%		

*All figures are Vaisala's estimates unless otherwise stated.*

*Vaisala estimate of the size of market that is addressable currently or with organic development in the roadmap.*

**Weather**

The weather forecasting systems and solutions market amounted to 2.7b USD in 2017 and was expected to grow at a CAGR of 7% (Markets and Markets, 2017c). Vaisala is already engaged in a large part of this market. According to Vaisala's estimates, the addressable weather-related market amounts to some EUR 1.3b, of which Vaisala holds a market share of 20%. Vaisala's target markets include:

- Meteorology**  
 Vaisala's solutions are used in climatology, weather prediction and flood early warning. Other use cases include lightning detection and weather services at sport events. Vaisala estimates that the addressable market amounts to EUR 450-500m while market growth is flat. According to Vaisala, its market share is over 25%.
- Transportation**  
 Vaisala offers weather stations for monitoring road, aviation and maritime conditions. Vaisala serves airlines, airports as well as the maritime industry and road based transportation. In 2016, Vaisala partly divested its Transportation business in the United States and increased its focus on information services to improve profitability. Transportation market is set to be the first to benefit from Vionice's technology since the related products will be initially offered to Transportation's road and rail clients. Vaisala estimates that the addressable Transportation market amounts to EUR 300m while market growth is 0-5% per annum. According to Vaisala, its market share is over 25%.
- Renewable energy**  
 Vaisala serves the wind energy and solar energy industries which are highly dependent on weather conditions. Consulting represents a significant share of the segment's net sales. Vaisala's entry to the market was more challenging than expected and lead to a write-down of EUR 10.5 million of intangible

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assets in 2016. According to Vaisala, the market has suffered from some commoditization of and deterioration of market prices. Vaisala estimates that the addressable market amounts to EUR 325-375m while market growth is over 10% per annum. According to Vaisala, its market share is below 10%.

#### Environmental monitoring

The global environmental monitoring market amounted to 13.5-16b USD in 2016. Meanwhile, the market is expected to grow at a CAGR of 5-7.7% (Markets and Markets, 2017a) (Technavio, 2017). The air quality subsegment amounted to 6.4b USD in 2016 and was expected to grow at a CAGR of 5%<sup>2</sup> (Zion Market Research, 2018) (Technavio, 2017). The air quality monitoring market is supported by governmental initiatives to maintain better air quality (Technavio, 2017).

- **Ambient air quality**

Vaisala entered the air quality market in 2016 with the acquisition of technology from Envitem. In 2017, Vaisala focused mostly on design for production and achieved little sales. However, the new product family is ready for sales ramp-up in 2018.

Vaisala estimates that the addressable market amounts to EUR 150-200m while market growth is over 5% per annum. According to Vaisala, its market share is below 10%. The company sees opportunities particularly in markets like China, India and the Middle East, where air quality is a considerable issue.

Vaisala sees that the accuracy of air quality predictions benefits greatly from weather forecasting capabilities. Vaisala's air quality measurement products are very small, the size of a thermos can, and they can be easily combined with Vaisala's weather stations. Meanwhile, competing solutions are significantly larger and more expensive.

## 4. Industrial Measurement (IM)

### 4.1. Customers

IM provides measuring systems which help clients to improve product quality, productivity, energy efficiency, maintenance activities and regulatory compliance. Practically all of IM's net sales is generated by the private sector. IM's customers include system integrators, OEM's and end users. Approximately half of IM sales comes from the United States. Other important markets include Japan and China. IM is also increasing its presence in Latin America. Most recently, IM opened a sales office in Mexico City.

Most of IM sales is direct sales, particularly in the United States. Due to the large customer base, IM also relies on distributors. Online sales represent a small part of sales. The average IM transaction is low, approximately 2000€. Meanwhile, the delivery time of IM products is very short, often just two days, which leads to a very small inventory of finished products.

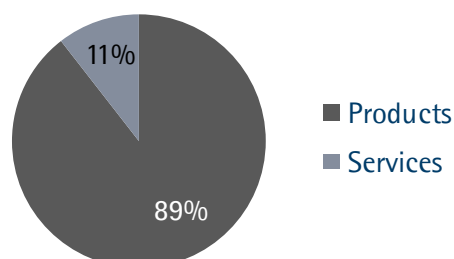
Vaisala sees that their products often represent only a small part of the clients' capital expenditures. Therefore, the demand is not very sensitive to economic cycles. Meanwhile, customer risk is minimal.

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<sup>2</sup> The indoor subsegment of air quality monitoring is estimated to grow even faster, at a CAGR of 8%.

#### 4.2. Products and services

##### Industrial Measurements Net sales by type, 2017



*Source: Vaisala*

Vaisala's IM product offering consists of transmitters, handheld devices, OEM modules and continuous monitoring systems, including wireless solutions. The measured parameters include:

- Humidity
- Vaporized hydrogen peroxide
- Temperature
- CO<sub>2</sub>
- Dew point
- Air intake
- Moisture in oil
- Air pressure

Service sales consists mostly of calibration. A large share of the sold equipment is not yet calibrated by Vaisala. According to the company, IM equipment should be calibrated once a year.

#### 4.3. Markets

The global market for sensors is estimated to amount 114b-124b USD and is expected to grow at a CAGR of 9.2-14%. The growth is driven by IoT and big data. Growth is also supported by usage of sensors in consumer electronics, the decreasing manufacturing costs and power consumption of wireless sensors as well as the increasing need for automation in various industries. (Allied Market Research, 2016) (BCC Research, 2017) (Research and Markets, 2017)



Sensor markets				
Market name	Market size, billion USD	Market growth p.a.	Year	Source
Sensors, overall	~114-124	9.2-14%	2015-2017	BCC Research (2017), Allied Market Research (2016), Research and Markets (2017)
Selected sensor markets				
-Humidity	~1.0	12.0%	2017	Technavio (2018)
-Imaging	~12.8	9.8%	2016	Markets and Markets (2018)
-Gas	0.8-1.8	6.8-7.5%	2016	Markets and Markets (2017b), Grand View Research (2018)
-Pressure	7.9	5.3%	2016	Markets and Markets (2017e)
-Temperature	5.3	5.9%	2017	Markets and Markets (2017d)

IM operates in various niche markets across the broad sensor markets. Vaisala estimates that the addressable market amounts to some 1000 MEUR. Most of IM sales is generated in the broadly defined Instruments segment. Vaisala estimates that the addressable market for Instruments amounts to some 420-470 MEUR and that the market is growing at a CAGR of 5%. In Power Transmission and Life Science, Vaisala's market share is low but the addressable markets are growing fast at a CAGR of 10-15%.

Industrial Measurements - Addressable markets					
Market name	Market size, MEUR	Market growth p.a.	Vaisala market share	Vaisala revenue in 2017, MEUR (Evli est.)	Share of IM revenue, 2017 (Evli est.)
Instruments	420-470	5%	10-25%	42-118	38-100%
Power transmission	170-230	15%	<10%	<23	<21%
Life science	275-330	10%	<10%	<33	<30%
Total	1000				

All figures are Vaisala's estimates unless otherwise stated.

Vaisala estimate of the size of market that is addressable currently or with organic development in the roadmap.

- **Instruments**

Vaisala estimates that the addressable market amounts to EUR 420-470m while market growth is 5% per annum. According to Vaisala, its market share is between 10-25%.

The end user markets include:

- industrial drying (e.g. paper)
- electronics
- building automation (particularly ventilation)
- automotive industry
- agriculture and food industry

Vaisala focuses on offering high-end humidity and carbon dioxide measurement solutions, in which Vaisala sees itself as a market leader. The overall markets for humidity and gas sensors are expected to grow at a CAGR of 12% and 7%, respectively (Technavio, 2018) (Markets and Markets, 2017b) (Grand View Research, 2018).

- **Life science**

Within Life Science, Vaisala offers solutions for monitoring pharmaceutical, medical, biotech and warehouse environments. Vaisala sees that the market

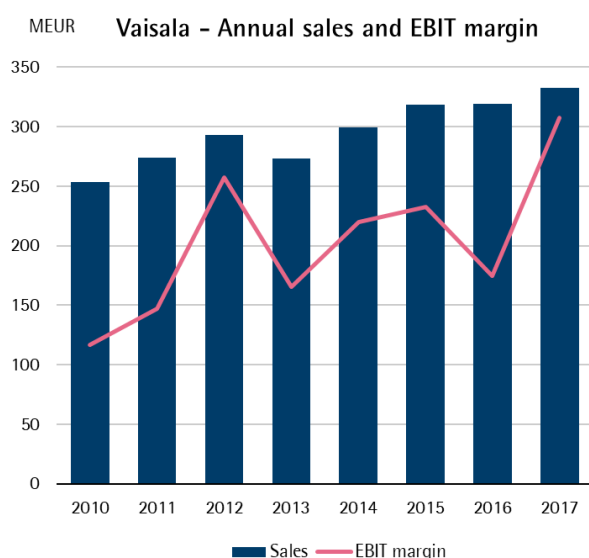
growth is driven by tightening requirements for monitoring and reporting of environmental conditions. Vaisala estimates that the addressable market amounts to EUR 275-330m while market growth is 10% per annum. According to Vaisala, its market share is below 10%.

- **Power Transmission**

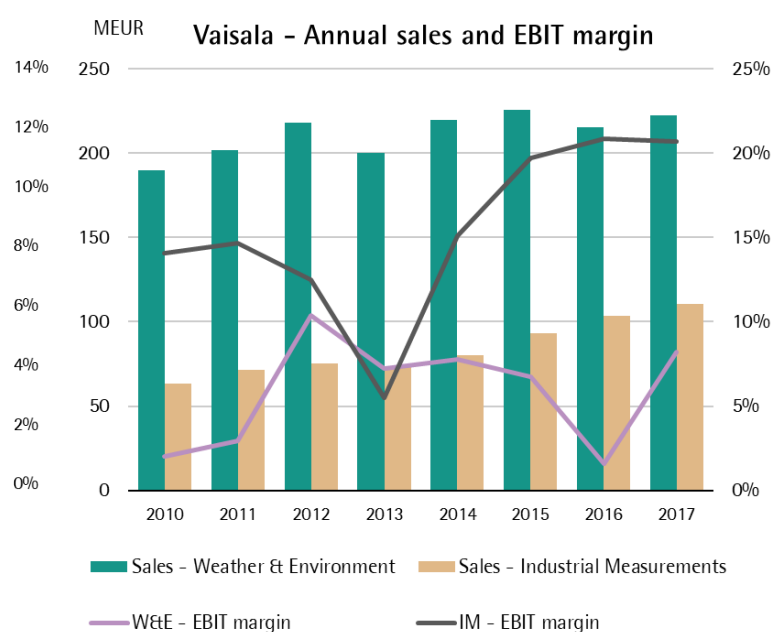
Within Power Transmission, Vaisala's products ensure that utilities can ensure safety and prepare timely maintenance. Vaisala sees that utility companies are increasingly adopting transformer online condition monitoring. In 2017, Vaisala made the first commercial deliveries of equipment which serve this purpose. Vaisala estimates that the addressable market amounts to EUR 170-230m while market growth is 15% per annum. According to Vaisala, its market share is below 10%.

## 5. Group financials

### 5.1. Net sales and operating profit



Source: Vaisala

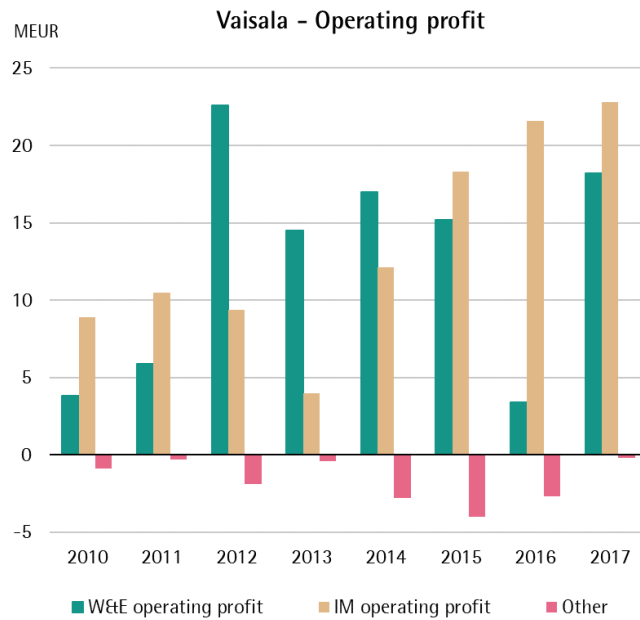


Source: Vaisala

In 2010-2017, Vaisala's net sales grew at a CAGR of 4.0%. In the same period, W&E's net sales grew at a CAGR of 2.3% while IM's net sales grew at a CAGR of 8.2%. Vaisala's net sales and operating margin developed positively during the 2010s. The improvement was mainly driven by the increased share of more profitable IM sales.

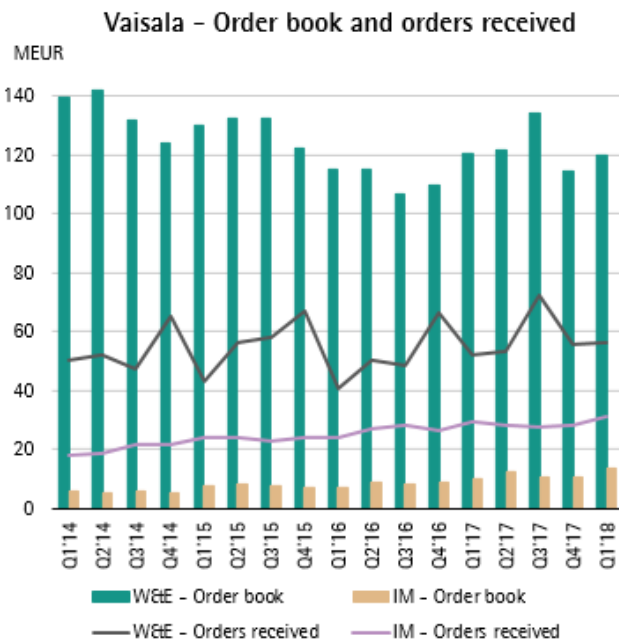
W&E's profitability has fluctuated from year to year but IM has improved significantly. In 2012-2017, W&E's annual EBIT margin varied mostly between 6-10 percent, excluding 2016 when W&E's EBIT was strained by a 10.5 MEUR write-down in intangible assets. In 2012-2017, IM's EBIT margin improved from 12 to 20 percent. According to Vaisala, the improved profitability in IM is largely based on scale economies. In 2013, IM's operating profit was strained by EUR 4.3m impairment charge, which was due to lower than expected growth in the Life Science business.

Other costs mainly relate to group level financing (foreign exchange valuation and hedging), taxation and one-off restructuring costs. They also include the wages of Vaisala's M&A and strategy teams.

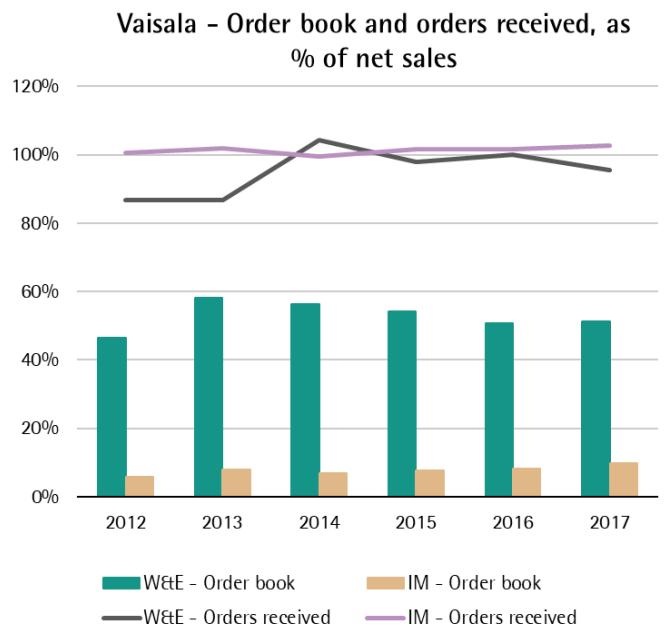


Source: Vaisala

5.1. Order book



Source: Vaisala



Source: Vaisala

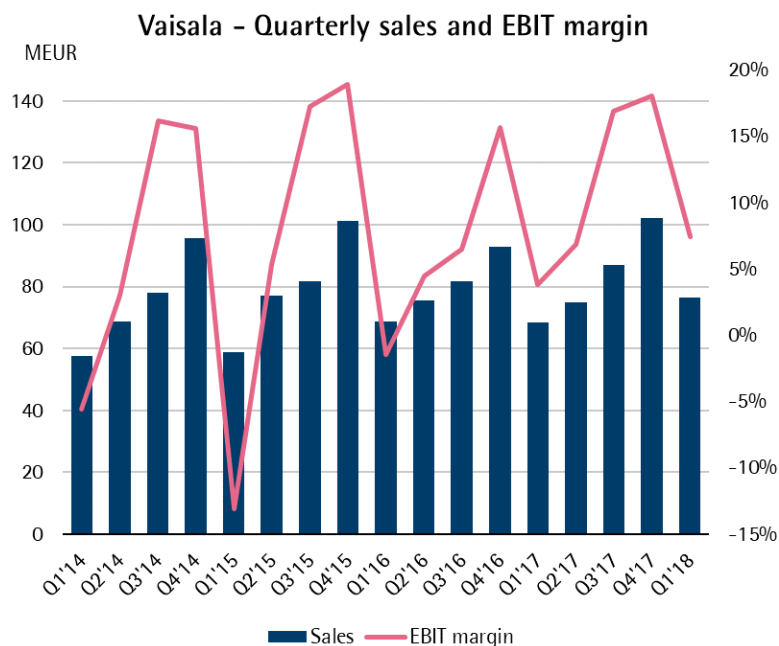
IM's order book offers limited guidance since most of the segment's orders are delivered within the same quarter they are received. Meanwhile, W&E's order book is larger and has more predictive value. At the end of 2017, around 80 percent of W&E's order book was scheduled to be delivered during 2018. In 2017, W&E's order intake increased 13% y/y, indicating a positive outlook for 2018.

According to Vaisala, the two large projects, in Bahamas (USD 18m) and Vietnam (EUR 20m), were entirely included in orders received during Q4'16-Q1'18. Meanwhile, Vaisala estimates that, so far, less than half of these orders have been recognized as sales. Vaisala expects that both projects will be completed in 2018-2019. However, the timetable is still subject to significant uncertainties.

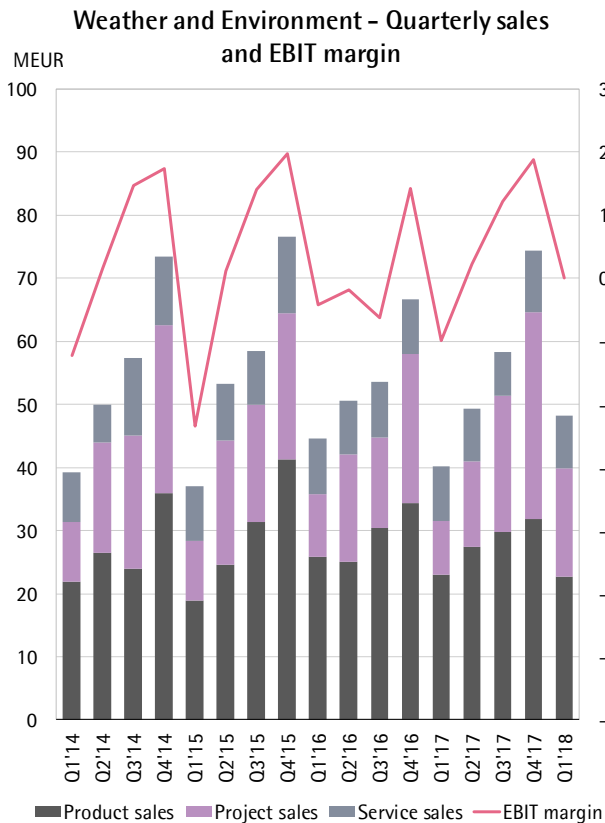
**5.1. Seasonality**

Vaisala's net sales and EBIT margin reflect strong seasonality: Net sales and profitability improve markedly towards the end of the year. The seasonality is driven by W&E's project and product sales.

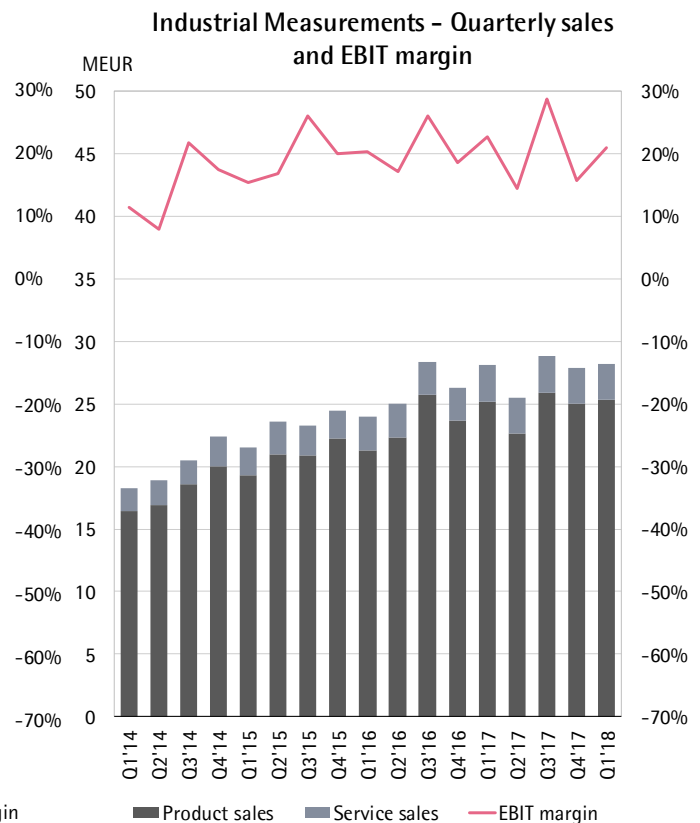
Since the beginning of 2018, Vaisala has reported its net sales in accordance with IFRS 15, which results in a somewhat more gradual recognition of project sales. According to Vaisala, if the current revenue recognition standard had been used in Q1'17, Q1'18 net sales would have increased by 7% y/y, instead of the reported 12% y/y.



Source: Vaisala



Source: Vaisala

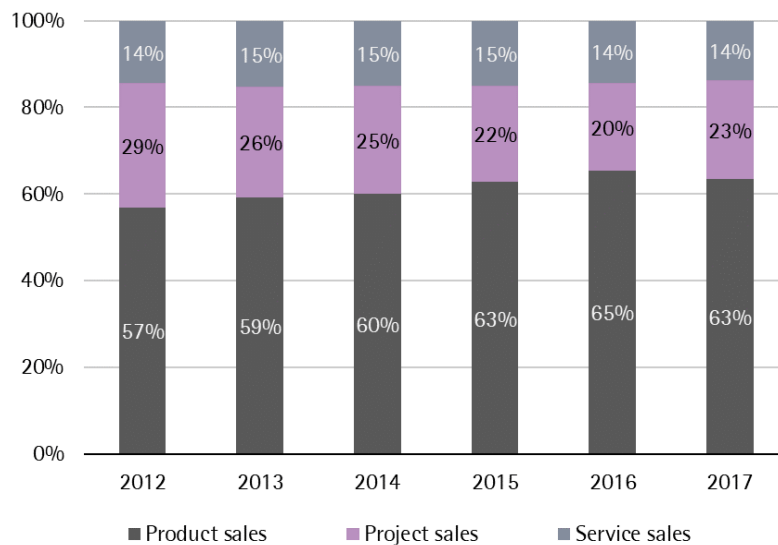


Source: Vaisala

## 5.2. Net sales by type

Excluding the year 2017, the share of product sales has slowly increased at the expense of project sales. This mostly reflects the increasing share of IM sales, which does not contain project sales.

### Vaisala - Net sales by type

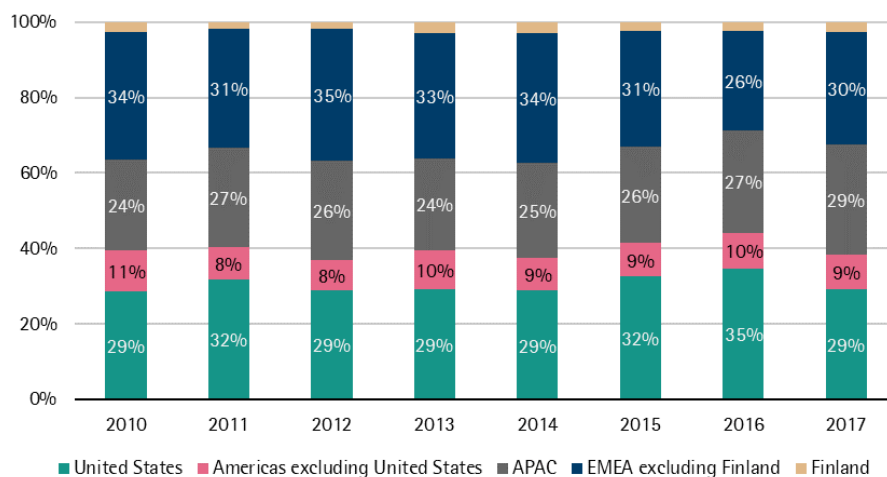


Source: Vaisala

5.3. Sales by geography

Vaisala's geographical sales distribution has remained stable during the 2010s. In 2017, sales to United States, EMEA and APAC each accounted for about a third of net sales. Excluding the United States, the share of Americas amounted to just 9%. Finland's share was insignificant.

Sales by geographical area

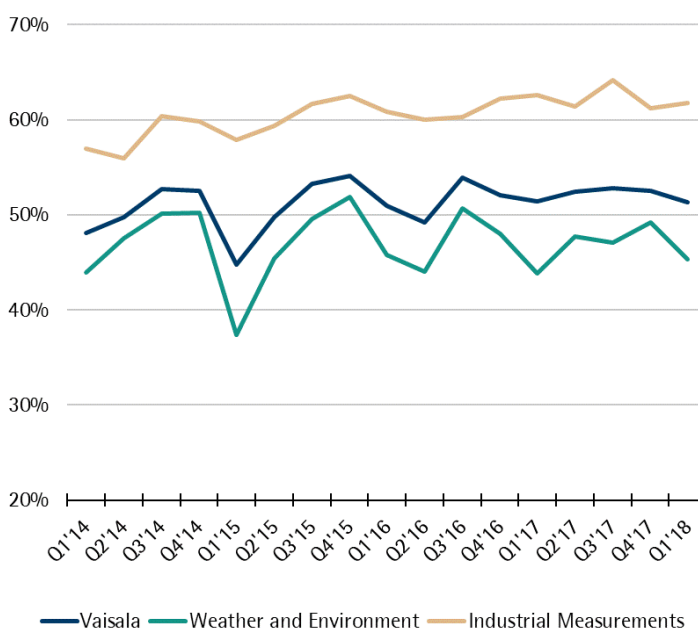


Source: Vaisala

5.4. Gross margin

Vaisala's annual gross margin has amounted to over 50% since 2014. The gross margin is higher in IM than in W&E since W&E projects often contain civil engineering tasks, such as the building of electric lines in Bahamas. Vaisala typically outsources these tasks at very low margins. Vaisala's COGS include depreciations and amortizations.

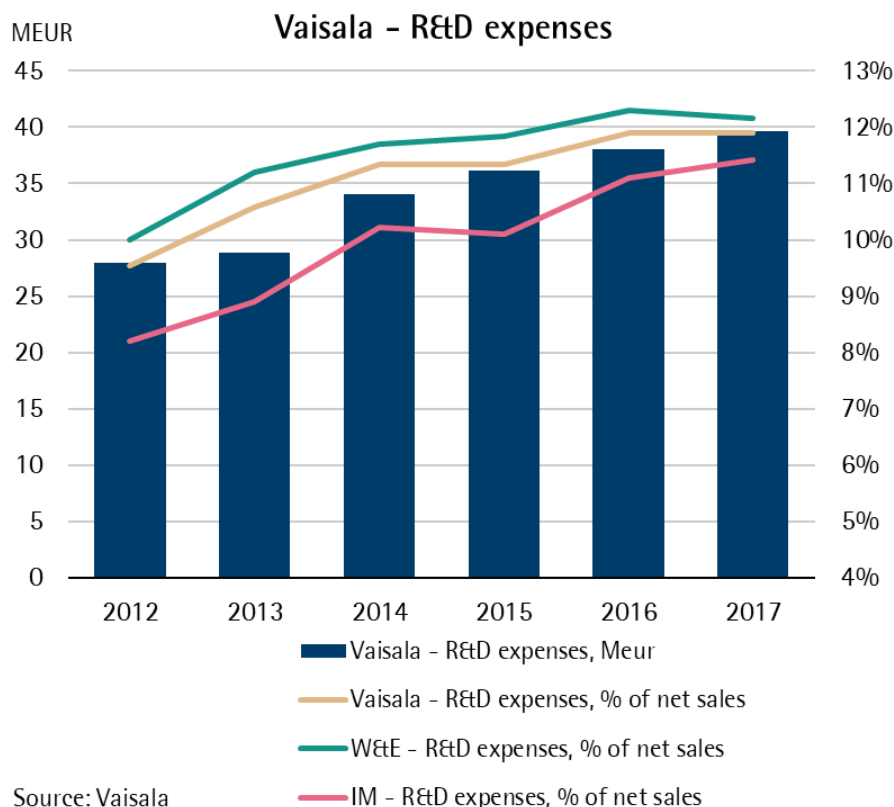
Quarterly gross margin



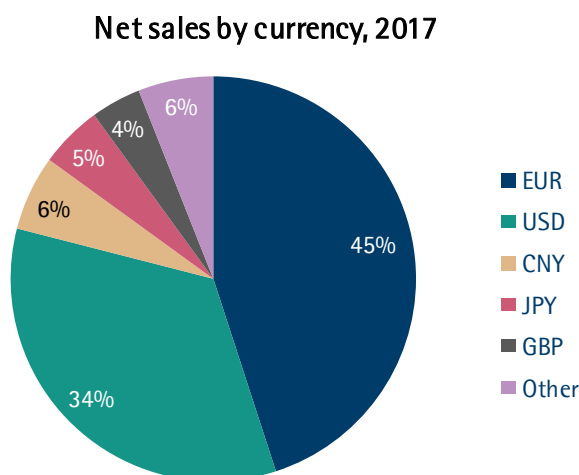
Source: Vaisala

5.1. Research & development

Vaisala's R&D costs have increased steadily over the years. Relative to net sales, R&D expenditures have increased more rapidly in IM than in W&E. In 2017, R&D efforts were almost evenly distributed between the two business areas: 12.1 % of net sales in W&E and 11.4 % in IM. Vaisala aims to keep Group R&D expenditures at over 10 % of net sales. R&D expenses are typically charged as costs.



5.1. Currencies

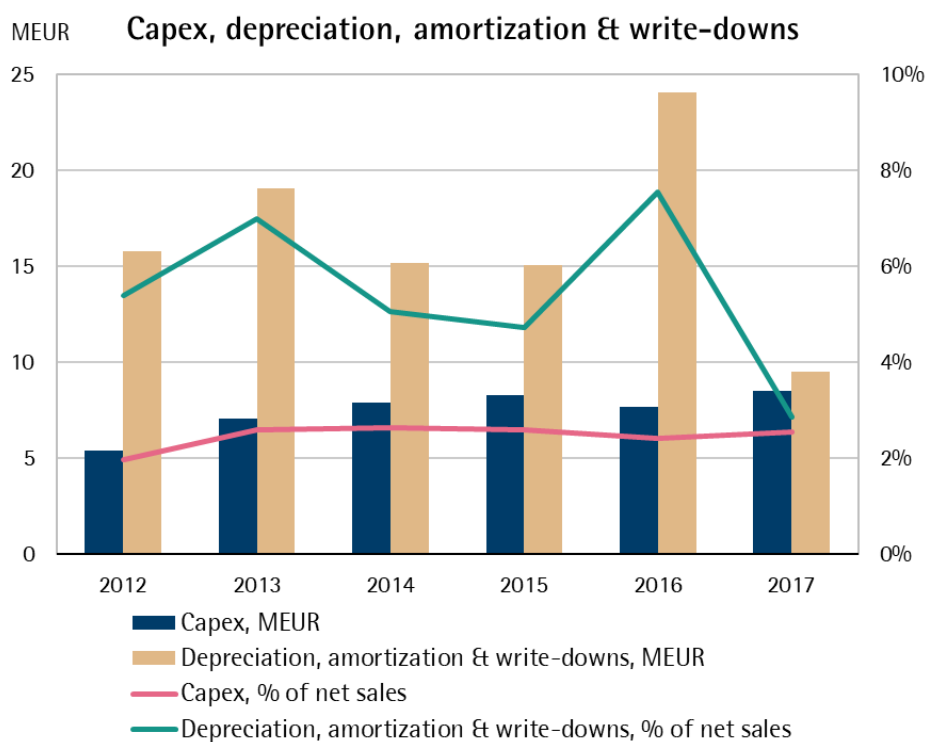


According to Vaisala's 2017 annual report, 45% of the Group's sales are denominated in EUR, 34% in USD, 6% in CNY, 5% in JPY and 4% in GBP. Costs and purchases occur mostly in EUR and USD. Vaisala hedges maximum of position that consists of order book, purchase orders and net receivables with foreign exchange derivatives.

Vaisala does not hedge intra-group loans, deposits or equities of foreign subsidiaries. Vaisala's largest translation risk exposures are in USD. In recent years, net translation adjustments have largely determined Vaisala's net financial items. In 2017, translation of subsidiaries' equities into euros caused translation adjustment of EUR -3.2 (-0.0) million.

## 5.2. Capex

Vaisala sees that a typical level for the annual CAPEX is around 10 MEUR. In 2018-2020, Vaisala's CAPEX is likely inflated by two building projects, in Vantaa and Louisville, US. The project in Vantaa is estimated to cost EUR 30 million while the project in Colorado is estimated to cost 12 MEUR. Vaisala expects the CAPEX to materialize mostly in 2019 and 2020. In contrast, current production capacity requires no immediate investments: Vaisala estimates that it can double its production with the current capacity.



## 5.3. Outlook

- Weather and Environment**

In Q1'18, Vaisala expected the market for traditional weather observation solutions to remain flat. Meanwhile, Vaisala expects digital and air quality related solutions to grow, although their share of W&E sales is still low. Demand for W&E solutions is estimated to improve in Americas, decline in Europe and remain stable elsewhere.



- **Industrial Measurements**

In Q1'18, Vaisala expected the market for IM solutions to remain healthy, while underlying demand grows in all regions. The demand for power transmission products is expected to develop positively. Meanwhile, the release of next generation continuous monitoring system supports sales.

- **Currencies**

In Q1'18, Vaisala estimated that foreign exchange rates would have a negative impact on reported net sales, if they remain at the end of March level.

**5.4. Guidance**

Vaisala estimates its full-year 2018 net sales to be in the range of EUR 330–350 million and its operating result (EBIT) to be in the range of EUR 35–45 million.

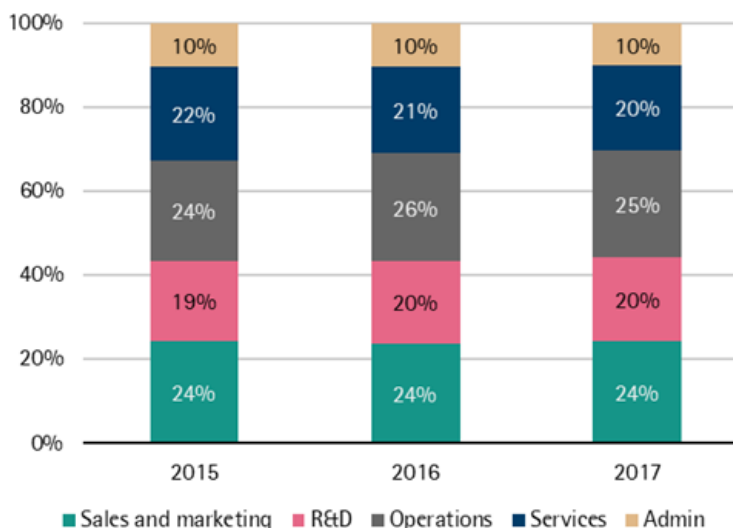
**5.5. Taxation**

Vaisala's tax rate is largely between the levels of US and Finnish corporate tax rates. The tax rates are very close, 20% and 21% respectively. However, Vaisala is also charged a state tax, some 10%, which comes on top of the US corporate tax.

**5.6. Employees**

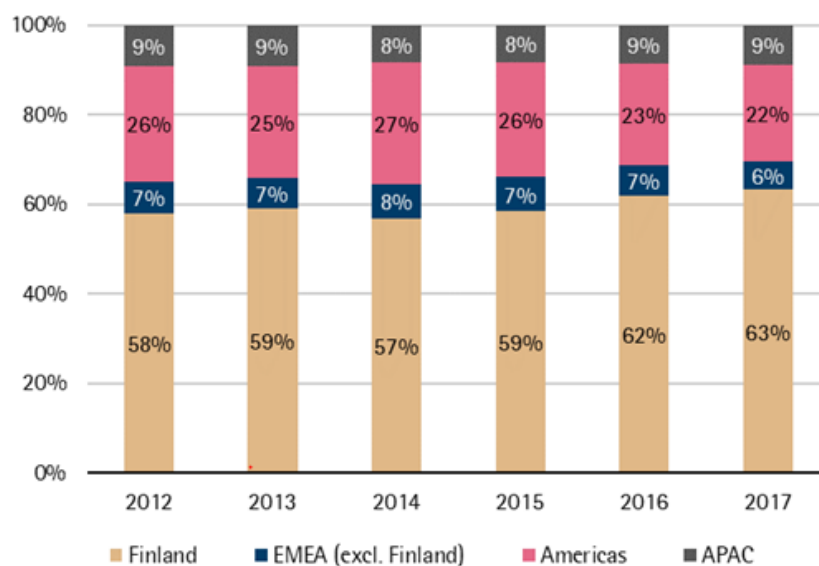
The average number of employees has remained stable at around 1600 since 2014. At the end of 2017, 121 of the employees were temporary. Vaisala aims to increase the share of employees working in sales&marketing and R&D.

**Employees by function**



Source: Vaisala

## Employees by geographical area



Source: Vaisala

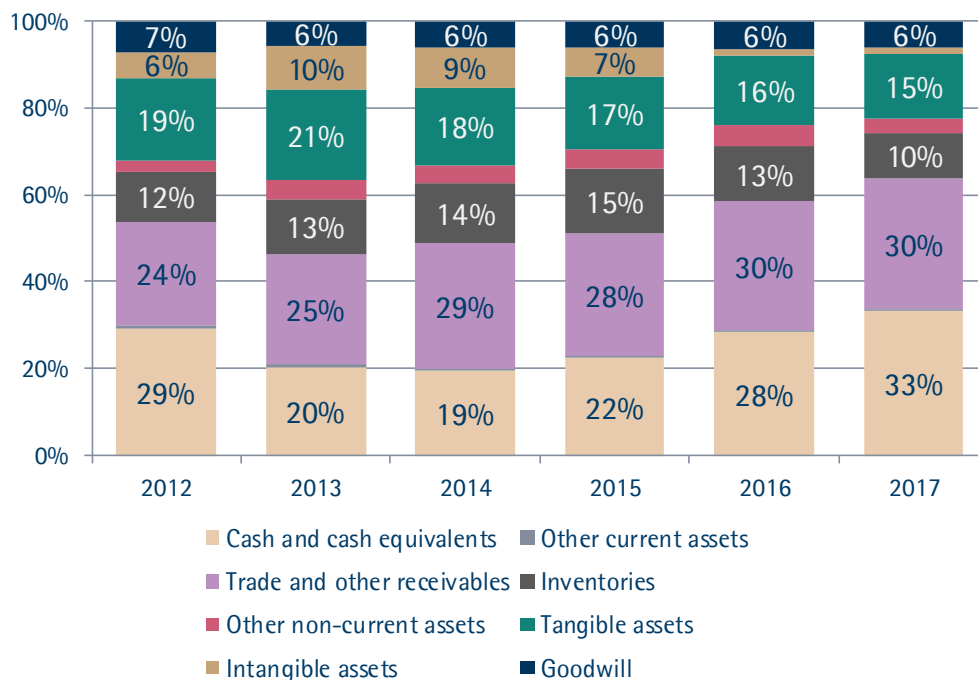
## 5.7. Balance sheet

Vaisala has a strong balance sheet that provides stability and allows growth through acquisitions. The company has maintained a negative gearing and an equity ratio of close to 70% for several years. At the end of 2017, Vaisala did not have any interest-bearing loans or loans that would mature after five years or a longer period.

In 2016, Vaisala's intangible assets declined significantly due to a write-down of 10.5 million euros that resulted from the acquisition of Second Wind System and 3TIER, in 2013.

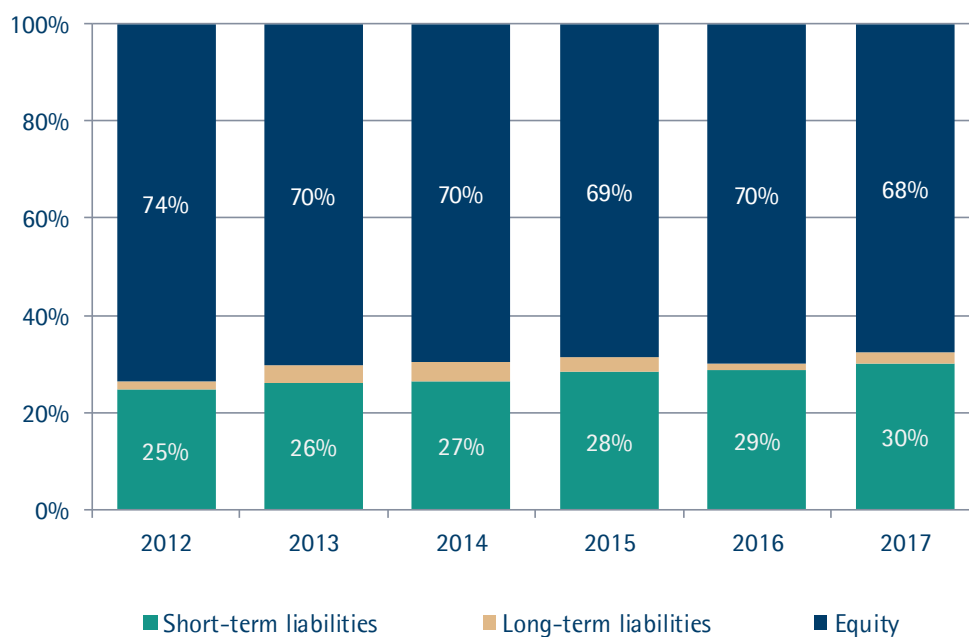
The share of cash of total assets has increased rapidly after 2014. The payment of 2.1 EUR DPS will decrease the cash position by 37.5 MEUR. This should lower the equity ratio close to the level of 60%. Meanwhile, gearing should return close to its longer-term level of -30%.

### Assets

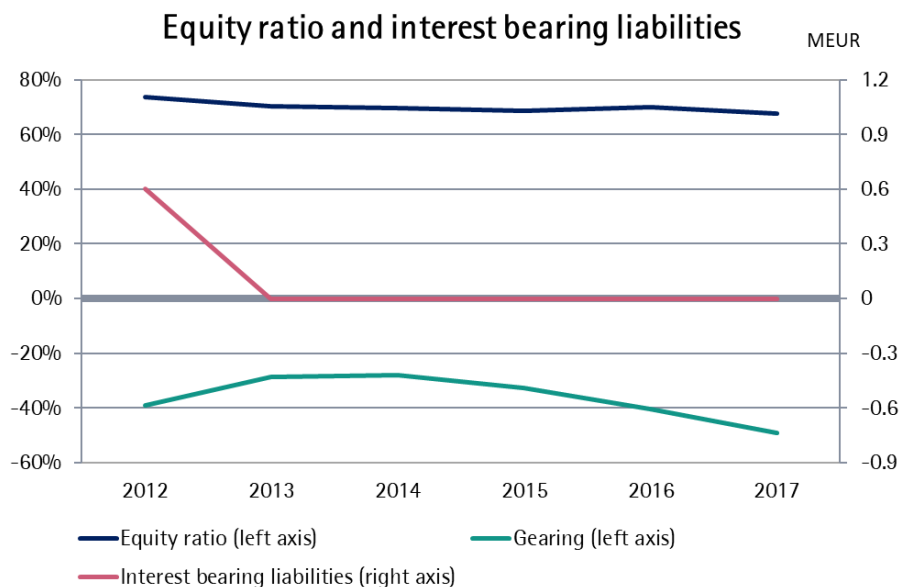


Source: Vaisala, Evli Research

### Liabilities



Source: Vaisala, Evli Research



Source: Vaisala, Evli Research

## 5.8. Goodwill

At the end of 2017, Vaisala's balance sheet contained 16.2 million euros of goodwill which was entirely related to the W&E segment. IM related goodwill was fully written off in 2013. The most recent acquisition, Vionice in 2017, increased the W&E related goodwill on Vaisala's balance sheet by EUR 1.7 million. Vaisala sees that the probability of write-downs is very low since the current goodwill stems largely from acquisitions conducted in the early 2000s and 1990s.

## 5.9. Shares

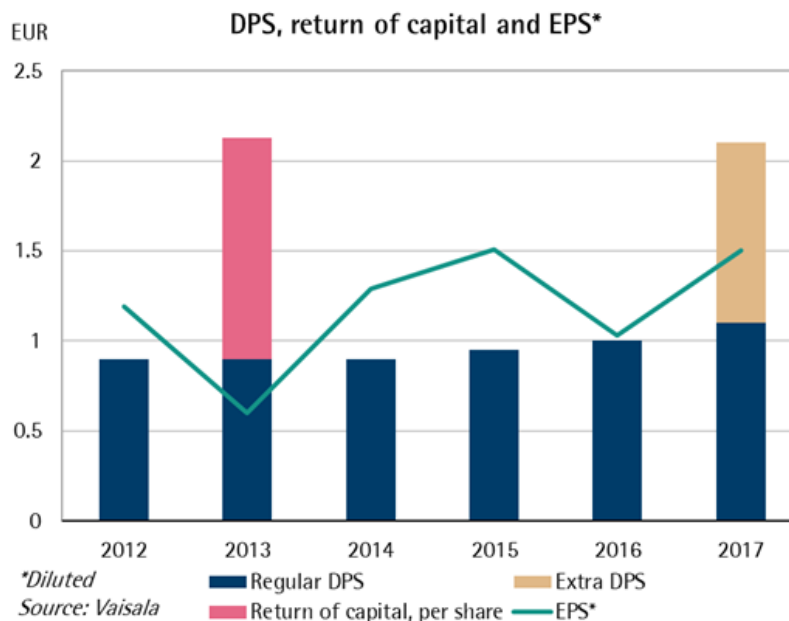
Vaisala has two share series, A and K. Each series K share entitles to 20 votes while each series A share entitles to 1 vote. The series A shares are traded on the Nasdaq Helsinki Ltd while the series K shares are not traded on the stock market. Both A and K shares are entitled to the same amount of dividends per share.

On April 10, 2018, Vaisala issued 3,389,331 new series K shares and 14,829,033 new series A shares in the share issue without payment. The issue brought the total number of Vaisala shares to 36,436,728 of which 6,778,662 are series K shares and 29,658,066 series A shares. The series A shares represent 81.4% of the total number of shares and 17.9% of the total votes. The series K shares represent 18.6% of the total number of shares and 82.1% of the total votes.

The descendants<sup>3</sup> of the founder Professor Vilho Väisälä hold a significant portion of total shares and votes. For example, the descendants control Novameter Oy (10.4% of shares, 13.8% of votes) and the Weisell Foundation (4.0% of shares, 0.9% of votes). They also hold at least 20% of shares and 30% of votes through personal share accounts. The shareholder data was last updated on May 31, 2018.

<sup>3</sup> Including, but not limited to, the Väisälä and Voipio families

## 5.10. Dividend and earnings per share



Vaisala aims to pay a stable dividend which will increase in line with net profit development. Meanwhile, Vaisala's goal is to maintain high solvency and to take future investment plans into account.

In 2017, Vaisala paid an extra dividend of 1 EUR per share. Vaisala's low leverage leaves room for acquisitions, if potential targets arise. Meanwhile, the expected increase in CAPEX for 2018-2020 should reflect in somewhat weaker cash flow relative to previous years.

## 6. Estimates

We estimate that Vaisala's net sales grow at a CAGR of 4.1% in 2018E-2020E. We expect that new products in Power transmission, Life Science and Ambient Air quality as well as growth in digital services support sales growth. The timing of large W&E projects in Vietnam and the Bahamas are likely to significantly impact Vaisala's sales development in the short term.

Our estimates do not reflect the impact of potential acquisitions. Considering Vaisala's strong financial position and the fragmented market, acquisitions are likely to take place. If they are technology focused, like the most recent acquisitions, we expect to see a gradual impact on sales, after a period of in-house R&D.

We estimate that Vaisala's net sales amount to 345 MEUR in 2018E while EBIT amounts to 43 MEUR. These estimates are above the midpoint of Vaisala's guidance for 2018 (net sales of EUR 330-350 million and EBIT of EUR 35-45 million).

We estimate that scale advantages and the growing share of more profitable IM sales support Vaisala's operating margin. Meanwhile, we estimate that sales&marketing costs and R&D expenditures increase in absolute terms but grow only moderately relative to net sales.

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Within business areas, we estimate that the majority of margin improvement stems from scale advantages in production. Meanwhile, sales mix also improves. The construction of new buildings in Vantaa and Louisville should increase depreciations moderately in 2019E-2020E.

The results of Other operations are driven by one-off restructuring expenses and they are challenging to predict. We estimate that the result of Other operations is close to zero in 2018 and thereafter.

### 6.1. Weather and Environment

We estimate that W&E net sales grow at a CAGR of 3.1% in 2018E-2021E. In 2018E, we expect that the sales ramp up of ambient air quality products supports growth. Meanwhile, we estimate that digital service sales and renewable energy consulting grow at a solid rate. In contrast, we estimate that the meteorological customer segment remains flat while sales in the transportation market grow moderately. We expect that the two projects in the Bahamas and Vietnam end during 2019E, which leads to weak y/y growth in 2020E.

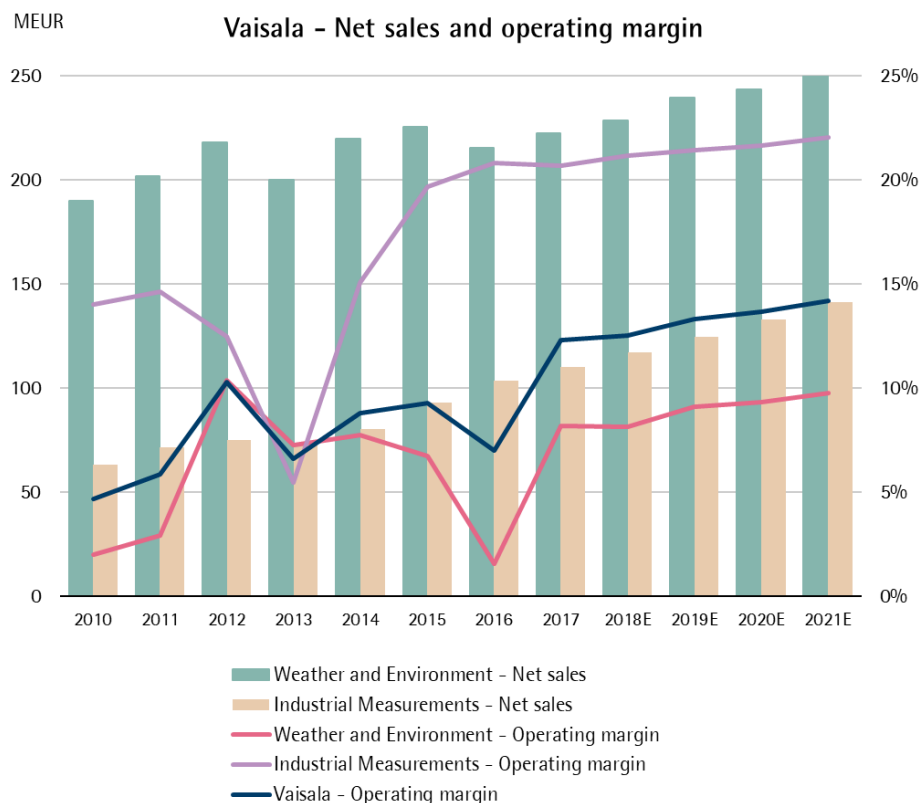
We estimate that W&E's operating margin improves from 8.2% in 2017 to 9.8% in 2020E. The improvement is mostly driven by scale advantages in production. In addition, the growing share of digital service sales support profitability. In 2019E-2020E, we expect depreciations to increase moderately.

### 6.2. Industrial Measurements

We estimate that IM net sales grow at a CAGR of 6.5% in 2018E-2021E. We expect that net sales in the Life Sciences and Power Transmission segments grow faster than net sales in the Instruments segment. Meanwhile, we estimate that the operating margin improves from 20.7% in 2017 to 22.1% in 2020, mostly due to scale advantages in production. In addition, we expect that the growing share of Power Transmission and Life Sciences segments supports profitability. In those markets, Vaisala's products are in a particularly critical role, which should reflect in a high price premium and profitability. In 2019-2020E, we expect depreciations to increase moderately.

Group	2016	Q1'17	Q2'17	Q3'17	Q4'17	2017	Q1'18	Q2'18E	Q3'18E	Q4'18E	2018E	2019E	2020E	2021E
Net sales	319	68	75	87	102	333	76	83	87	99	345	365	376	392
Growth, y/y	0.2%	-0.4%	-1.1%	6.5%	10.0%	4.2%	11.7%	10.8%	-0.1%	-3.5%	3.7%	5.9%	3.0%	4.2%
Operating profit	22.3	2.6	5.1	14.7	18.5	40.9	5.7	8.6	13.2	15.7	43.2	48.7	51.5	55.8
Operating margin	7.0%	3.8%	6.8%	16.9%	18.1%	12.3%	7.5%	10.2%	15.2%	16.0%	12.5%	13.3%	13.7%	14.2%
<b>Weather &amp; Environment</b>														
Net sales	215	40	49	58	74	222	48	54	57	69	228	240	243	251
Growth, y/y	-4.5%	-9.8%	-2.6%	9.2%	11.5%	3.2%	19.4%	9.5%	-2.0%	-7.6%	2.6%	5.3%	1.4%	2.9%
Operating profit	3.4	-4.0	1.1	7.1	14.0	18.2	0.0	3.4	5.0	10.2	18.6	21.8	22.7	24.5
Operating margin	1.6%	-9.9%	2.2%	12.2%	18.8%	8.2%	0.0%	6.2%	8.7%	14.9%	8.1%	9.1%	9.3%	9.8%
<b>Industrial Measurements</b>														
Net sales	104	28	26	29	28	110	28	29	30	30	117	125	133	141
Growth, y/y	11.5%	17.1%	2.0%	1.4%	5.7%	6.4%	0.4%	13.2%	3.8%	7.6%	6.0%	7.0%	6.1%	6.5%
Operating profit	21.6	6.4	3.7	8.3	4.4	22.8	5.9	5.2	8.2	5.5	24.8	26.9	28.8	31.2
Operating margin	20.8%	22.8%	14.5%	28.8%	15.8%	20.7%	20.9%	18.1%	27.3%	18.4%	21.2%	21.5%	21.7%	22.1%
<b>Other operations</b>														
Operating profit	-2.7	0.2	0.3	-0.8	0.1	-0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0

Source: Evli Research



Sources: Vaisala, Evli Research

## 7. Valuation

Finding close peers for Vaisala is a challenge due to Vaisala's significant involvement in the weather measurement market. Our peer group consists of companies that manufacture measurement instruments, are listed in either Western Europe or North America and have significant R&D expenditures: in 2017, R&D expenditures among peers were 8-18% of net sales (mean: 12%, median: 13%, Vaisala: 11.9%). The level of depreciations and amortizations are largely comparable.

Relative to the peer group, Vaisala's estimated dividend yield is high. We estimate over 2.6% dividend yield for Vaisala, which is the highest level among the peer group. Some of the peers do not pay dividend at all.

Vaisala's ROCE is also significantly above peer group median which likely reflects Vaisala's asset-light operating model. In contrast, Vaisala's EBIT margin is below the peer group, which reflects W&E's relatively low profitability. On our estimates, Vaisala's sales growth is also below peer group median. Only one of Vaisala's peers has negative net debt, which highlights Vaisala's strong financial position.

On our 2018E estimates, Vaisala's EV/EBIT multiple is below peer group median. However, on our 2019E and 2020E estimates, Vaisala trades at an increasing premium. These multiples reflect that, on our estimates, Vaisala's operating profit grows at a slower rate than among its peers.

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VAISALA PEER GROUP		Security identifier	MCAP MEUR	EBIT % 18E	EBIT % 19E	EBIT % 20E	EBITDA % 18E	EBITDA % 19E	EBITDA % 20E	ROCE % 18E	ROCE % 19E	ROCE % 20E
Keysight Technologies	KEYS-US	9415	16.7	19.3	19.2	20.7	23.5	23.8	11.1	12.5	13.0	
National Instruments Corp.	NATI-US	4647	14.4	16.4	13.0	18.5	20.1	16.9				
Spectris	SXS-GB	3585	15.3	16.1	16.6	18.2	19.0	19.3	15.1	16.0	17.1	
Oxford Instruments	OXIG-GB	677	15.4	15.8		18.1	18.5	19.2	18.2	19.1	19.3	
Trimble	TRMB-US	6937	18.7	19.9	21.2	20.4	21.7	23.4	12.8	14.4	15.7	
Hexagon	HEXA.B-SE	17692	24.9	25.6	26.2	31.7	32.4	32.6	12.3	12.9	13.3	
Peer Group Average		<b>7159</b>	<b>17.6</b>	<b>18.9</b>	<b>19.2</b>	<b>21.3</b>	<b>22.5</b>	<b>22.5</b>	<b>13.9</b>	<b>15.0</b>	<b>15.7</b>	
Peer Group Median		<b>5792</b>	<b>16.1</b>	<b>17.9</b>	<b>19.2</b>	<b>19.5</b>	<b>20.9</b>	<b>21.4</b>	<b>12.8</b>	<b>14.4</b>	<b>15.7</b>	
Vaisala (Evli est.)		<b>690</b>	<b>12.6</b>	<b>13.3</b>	<b>13.7</b>	<b>15.2</b>	<b>16.0</b>	<b>16.5</b>	<b>23.7</b>	<b>25.4</b>	<b>24.1</b>	
Premium/discount to peer median			-22%	-25%	-29%	-22%	-23%	-23%	86%	76%	53%	

VAISALA PEER GROUP		Security identifier	MCAP MEUR	ROE % 18E	ROE % 19E	ROE % 20E	DIV % 18E	DIV % 19E	DIV % 20E	P/E 18E	P/E 19E	P/E 20E
Keysight Technologies	KEYS-US	9415	22	22	21	0.0	0.0	0.0	19.5x	16.8x	15.1x	
National Instruments Corp.	NATI-US	4647	12	14	12	2.2	2.4	2.7	39.4x	31.8x	36.0x	
Spectris	SXS-GB	3585	15	16	16	2.3	2.4	2.6	16.8x	15.4x	14.3x	
Oxford Instruments	OXIG-GB	677	19	18	16	1.3	1.4	1.5	17.8x	16.6x	15.0x	
Trimble	TRMB-US	6937	17	16	16	0.0	0.0	0.0	18.4x	16.1x	14.0x	
Hexagon	HEXA.B-SE	17692	15	15	15	1.2	1.3	1.5	24.7x	22.3x	20.5x	
Peer Group Average		<b>7159</b>	<b>16.7</b>	<b>16.9</b>	<b>16.1</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>22.8x</b>	<b>19.8x</b>	<b>19.1x</b>	
Peer Group Median		<b>5792</b>	<b>16.1</b>	<b>16.2</b>	<b>16.0</b>	<b>1.3</b>	<b>1.3</b>	<b>1.5</b>	<b>19.0x</b>	<b>16.7x</b>	<b>15.0x</b>	
Vaisala (Evli est.)		<b>690</b>	<b>16.9</b>	<b>19.2</b>	<b>18.9</b>	<b>2.6</b>	<b>2.8</b>	<b>3.1</b>	<b>25.1x</b>	<b>20.9x</b>	<b>20.1x</b>	
Premium/discount to peer median			6%	22%	18%	105%	109%	110%	33%	25%	34%	

VAISALA PEER GROUP		Security identifier	MCAP MEUR	EV/S 18E	EV/S 19E	EV/S 20E	EV/EBITDA 18E	EV/EBITDA 19E	EV/EBITDA 20E	EV/EBIT 18E	EV/EBIT 19E	EV/EBIT 20E
Keysight Technologies	KEYS-US	9415	3.2x	2.9x	2.5x	15.3x	12.2x	10.5x	19.0x	14.8x	13.1x	
National Instruments Corp.	NATI-US	4647	3.8x	3.5x	3.4x	20.6x	17.4x	19.9x	26.5x	21.3x	25.7x	
Spectris	SXS-GB	3585	2.1x	2.0x	1.9x	11.7x	10.5x	9.6x	14.0x	12.3x	11.2x	
Oxford Instruments	OXIG-GB	677	2.0x	1.9x	1.6x	10.9x	10.0x	8.6x	12.8x	11.7x	10.0x	
Trimble	TRMB-US	6937	2.9x	2.6x	2.3x	14.2x	11.8x	9.7x	15.5x	12.9x	10.7x	
Hexagon	HEXA.B-SE	17692	5.3x	4.8x	4.4x	16.7x	14.9x	13.6x	21.2x	18.8x	16.9x	
Peer Group Average		<b>7159</b>	<b>3.2x</b>	<b>2.9x</b>	<b>2.7x</b>	<b>14.9x</b>	<b>12.8x</b>	<b>12.0x</b>	<b>18.2x</b>	<b>15.3x</b>	<b>14.6x</b>	
Peer Group Median		<b>5792</b>	<b>3.0x</b>	<b>2.7x</b>	<b>2.4x</b>	<b>14.8x</b>	<b>12.0x</b>	<b>10.1x</b>	<b>17.2x</b>	<b>13.8x</b>	<b>12.1x</b>	
Vaisala (Evli est.)		<b>690</b>	<b>2.0x</b>	<b>1.9x</b>	<b>1.9x</b>	<b>13.4x</b>	<b>12.0x</b>	<b>11.4x</b>	<b>16.2x</b>	<b>14.5x</b>	<b>13.7x</b>	
Premium/discount to peer median			-33%	-29%	-22%	-9%	0%	13%	-6%	5%	13%	

VAISALA PEER GROUP		Security identifier	MCAP MEUR	Sales growth 18E	Sales growth 19E	Sales growth 20E	Net debt / EBITDA 18E	Net debt / EBITDA 19E	Net debt / EBITDA 20E	Equity ratio % 18E	Equity ratio % 19E	Equity ratio % 20E
Keysight Technologies	KEYS-US	9415	17.1%	6.7%	8.6%	1.4x	0.6x	0.0x	41.3	45.4	51.7	
National Instruments Corp.	NATI-US	4647	5.1%	8.1%	3.7%	-1.1x	-1.0x	-1.3x				
Spectris	SXS-GB	3585	2.1%	3.9%	3.9%	0.6x	0.2x	-0.1x	65.9	69.9	71.4	
Oxford Instruments	OXIG-GB	677	3.7%	3.7%		0.2x	-0.1x	-0.7x	55.1	61.0	72.2	
Trimble	TRMB-US	6937	15.7%	9.0%	6.4%	1.3x	0.6x	0.0x	49.4	54.9	53.4	
Hexagon	HEXA.B-SE	17692	6.5%	7.2%	6.1%	1.4x	1.0x	0.5x	56.0	57.9	60.0	
Peer Group Average		<b>7159</b>	<b>8.4%</b>	<b>6.4%</b>	<b>5.7%</b>	<b>0.6x</b>	<b>0.2x</b>	<b>-0.3x</b>	<b>53.5</b>	<b>57.8</b>	<b>61.7</b>	
Peer Group Median		<b>5792</b>	<b>5.8%</b>	<b>6.9%</b>	<b>6.1%</b>	<b>0.9x</b>	<b>0.4x</b>	<b>-0.1x</b>	<b>55.1</b>	<b>57.9</b>	<b>60.0</b>	
Vaisala (Evli est.)		<b>690</b>	<b>3.7%</b>	<b>5.9%</b>	<b>3.0%</b>	<b>-1.4x</b>	<b>-1.2x</b>	<b>-1.2x</b>	<b>65.9</b>	<b>65.3</b>	<b>65.9</b>	
Premium/discount to peer median			-36%	-15%	-51%	-252%	-406%	1261%	20%	13%	10%	

VAISALA PEER GROUP		Security identifier	MCAP MEUR	P/B 18E	P/B 19E	P/B 20E
Keysight Technologies	KEYS-US	9415	4.0	3.4	2.9	
National Instruments Corp.	NATI-US	4647	4.6	4.5	4.4	
Spectris	SXS-GB	3585	2.6	2.4	2.2	
Oxford Instruments	OXIG-GB	677	3.1	2.8	2.1	
Trimble	TRMB-US	6937	2.8	2.5	2.1	
Hexagon	HEXA.B-SE	17692	3.5	3.2	2.9	
Peer Group Average		<b>7159</b>	<b>3.4</b>	<b>3.1</b>	<b>2.8</b>	
Peer Group Median		<b>5792</b>	<b>3.3</b>	<b>3.0</b>	<b>2.6</b>	
Vaisala (Evli est.)		<b>690</b>	<b>4.3</b>	<b>4.3</b>	<b>4.3</b>	
Premium/discount to peer median			31%	44%	70%	

Source: Factset, Evli Research

Updated on June 28, 2018



Our 2019E estimates and peer EV/EBIT multiples imply a value of 20.4 EUR per share. Meanwhile, EV/EBITDA multiples imply a value of 21.2 EUR per share. P/E multiples suggest a value of just 17.0 EUR per share but this approach ignores Vaisala's strong financial position.

	P/E		
	18	19	20
Net earnings (Evli est.)	30.9	37.1	38.6
Multiple (peer median)	19.0x	16.7x	15.0x
<b>Per share</b>	<b>16.1</b>	<b>17.0</b>	<b>15.9</b>

Source: Factset, Evli Research

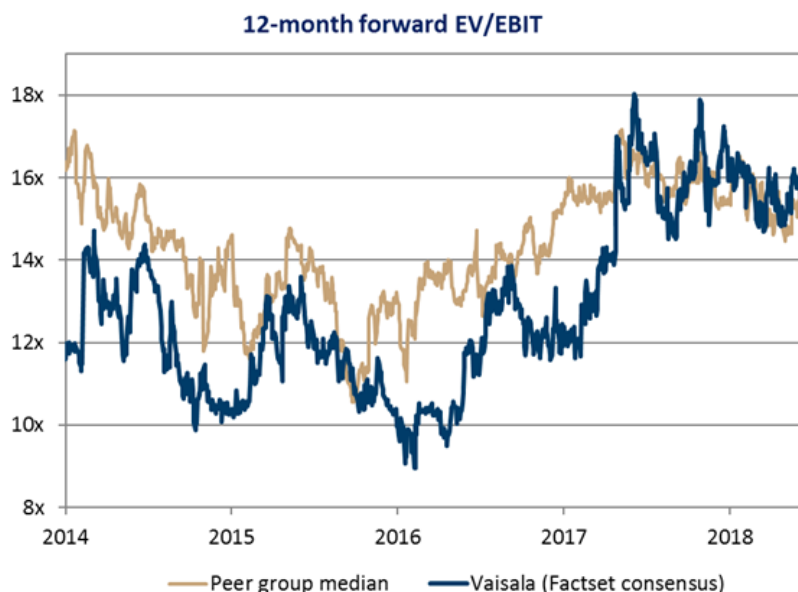
	EV/EBIT		
	18	19	20
EBIT (Evli est.)	43.4	48.7	51.5
Multiple (peer median)	17.2x	13.8x	12.1x
EV	748	672	624
Net debt (Evli est.)	-75	-72	-72
Value of equity	823	745	696
<b>Per share</b>	<b>22.6</b>	<b>20.4</b>	<b>19.1</b>

Source: Factset, Evli Research

	EV/EBITDA		
	18	19	20
EBITDA (Evli est.)	52.5	58.6	62.0
Multiple (peer median)	14.8x	12.0x	10.1x
EV	775	701	626
Net debt (Evli est.)	-75	-72	-72
Value of equity	849	773	697
<b>Per share</b>	<b>23.3</b>	<b>21.2</b>	<b>19.1</b>

Source: Factset, Evli Research

In 2014-2016, Vaisala's 12-month forward EV/EBIT multiple was on average 15% below peer group median. In May 2017, the gap disappeared after Vaisala's Q1'17 results.



Source: Factset

Due to Vaisala's significant involvement in the weather measurement market, we consider DCF valuation alongside peer multiples. Our base case DCF model implies a value of 21.25 EUR per share when we assume a 13% terminal EBIT margin and 2.5% terminal sales growth. Although Vaisala has only recently achieved a 12.3% operating margin, we see that a terminal EBIT margin of 13% is justifiable due to the company's stable track record. A pessimistic terminal EBIT margin of 10% would imply a value of 17.4 EUR per share. Meanwhile, an optimistic 15% EBIT margin would imply a value of 23.8 EUR per share.

Our base case DCF value is in line with our EV/EBIT and EV/EBITDA based valuations. We initiate coverage of Vaisala with a HOLD recommendation and a target price of EUR 21 per share. We see that Vaisala's current share price already reflects our expectations of continued growth and gradual profitability improvements.

<b>Valuation approaches</b>	<b>Implied value</b>
Peer P/E (FY19E)	17.0
Peer EV/EBIT (FY19E)	20.4
Peer EV/EBITDA (FY19E)	21.2
DCF	21.3
<b>Target price (EUR)</b>	<b>21</b>

*Source: Evli Research*

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VALUATION RESULTS	BASE CASE DETAILS	VALUATION ASSUMPTIONS	ASSUMPTIONS FOR WACC	
Current share price	21.30 PV of Free Cash Flow	258 Long-term growth, %	2.5 Risk-free interest rate, %	2.25
DCF share value	21.26 PV of Horizon value	463 WACC, %	7.4 Market risk premium, %	5.8
Share price potential, %	-0.2 Unconsolidated equity	0 Spread, %	0.0 Debt risk premium, %	2.8
Maximum value	21.3 Marketable securities	91 Minimum WACC, %	7.4 Equity beta coefficient	0.80
Minimum value	21.3 Debt - dividend	-37 Maximum WACC, %	7.4 Target debt ratio, %	10
Horizon value, %	64.3 Value of stock	775 Nr of shares, Mn	36.4 Effective tax rate, %	25

DCF valuation, EURm	2017	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	Horizon
Net sales	333	345	365	376	392	408	424	441	456	470	482	494
<i>Sales growth, %</i>	4.2	3.7	5.9	3.0	4.2	4.0	4.0	4.0	3.5	3.0	2.5	2.5
Operating income (EBIT)	41	43	49	51	56	57	59	60	59	61	63	64
<i>EBIT margin, %</i>	12.3	12.6	13.3	13.7	14.2	14.0	14.0	13.5	13.0	13.0	13.0	13.0
+ Depreciation+amort.	10	9	10	11	11	10	10	10	10	9	9	
- Income taxes	-8	-11	-12	-13	-14	-14	-15	-15	-15	-15	-16	
- Change in NWC	7	-1	-2	-1	-1	-1	-2	-2	-1	-1	-1	
<i>NWC/Sales, %</i>	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	
+ Change in other liabs	0	0	0	0	0	0	0	0	0	0	0	
- Capital Expenditure	-10	-18	-27	-27	-3	-5	-9	-8	-8	-7	-11	-11
<i>Investments/Sales, %</i>	3.0	5.2	7.4	7.2	0.8	1.3	2.0	1.9	1.7	1.5	2.3	2.3
- Other items	2	0	0	0	0	0	0	0	0	0	0	
= Unlevered Free CF (FCF)	41	22	18	21	48	46	44	45	45	47	44	917
= Discounted FCF (DFCF)		21	16	18	38	33	30	28	26	26	22	463
= DFCF min WACC		21	16	18	38	33	30	28	26	26	22	463
= DFCF max WACC		21	16	18	38	33	30	28	26	26	22	463

## INTERIM FIGURES

EVLI ESTIMATES, EURm	2017Q1	2017Q2	2017Q3	2017Q4	2017	2018Q1	2018Q2E	2018Q3E	2018Q4E	2018E	2019E	2020E
Net sales	68	75	87	102	333	76	83	87	99	345	365	376
EBITDA	6	8	17	21	50	8	11	15	18	52	58	62
<i>EBITDA margin (%)</i>	<i>8.0</i>	<i>10.0</i>	<i>19.3</i>	<i>20.0</i>	<i>15.1</i>	<i>10.6</i>	<i>13.1</i>	<i>17.8</i>	<i>18.3</i>	<i>15.2</i>	<i>16.0</i>	<i>16.5</i>
EBIT	3	5	15	19	41	6	9	13	16	43	49	51
<i>EBIT margin (%)</i>	<i>3.8</i>	<i>6.8</i>	<i>16.8</i>	<i>18.1</i>	<i>12.3</i>	<i>7.7</i>	<i>10.4</i>	<i>15.1</i>	<i>15.9</i>	<i>12.6</i>	<i>13.3</i>	<i>13.7</i>
Net financial items	0	-1	-1	0	-3	-1	0	0	0	0	0	0
Pre-tax profit	2	4	14	18	38	5	8	13	16	43	49	51
Tax	0	-1	-3	-6	-11	-1	-2	-3	-4	-11	-12	-13
<i>Tax rate (%)</i>	<i>19.0</i>	<i>23.8</i>	<i>23.4</i>	<i>35.0</i>	<i>28.7</i>	<i>21.3</i>	<i>27.2</i>	<i>25.3</i>	<i>27.3</i>	<i>26.0</i>	<i>23.8</i>	<i>25.0</i>
Net profit	2	3	11	12	27	4	6	10	11	32	37	39
EPS	0.05	0.09	0.29	0.33	0.76	0.10	0.16	0.27	0.31	0.88	1.02	1.06
EPS adjusted (diluted no. of shares)	0.05	0.09	0.29	0.33	0.76	0.10	0.16	0.27	0.31	0.88	1.02	1.06
Dividend per share	0.00	0.00	0.00	0.00	1.05	0.00	0.00	0.00	0.00	0.55	0.60	0.65
<b>SALES, EURm</b>												
Weather and Environment	40	49	58	74	222	48	54	57	69	228	240	243
Industrial Measurements	28	26	29	28	110	28	29	30	30	117	125	133
Total	68	75	87	102	333	76	83	87	99	345	365	376
<b>SALES GROWTH, Y/Y %</b>												
Weather and Environment	-9.8	-2.6	9.2	11.5	3.2	19.4	9.5	-2.0	-7.6	2.6	5.3	1.4
Industrial Measurements	17.1	2.0	1.4	5.7	6.3	0.4	13.2	3.8	7.6	6.0	7.0	6.1
Total	-0.4	-1.1	6.5	9.9	4.2	11.5	10.8	-0.1	-3.5	3.7	5.9	3.0
<b>EBIT, EURm</b>												
Weather and Environment	-4	1	7	14	18	0	3	5	10	19	22	23
Industrial Measurements	6	4	8	4	23	6	5	8	6	25	27	29
Other	0	0	-1	0	0	0	0	0	0	0	0	0
Total	3	5	15	19	41	6	9	13	16	43	49	51
<b>EBIT margin, %</b>												
Weather and Environment	-9.9	2.2	12.2	18.8	8.2	0.0	6.2	8.7	14.9	8.2	9.1	9.3
Industrial Measurements	22.8	14.5	28.8	15.8	20.7	20.9	18.1	27.3	18.4	21.2	21.5	21.7
Other												
Total	3.8	6.8	16.8	18.1	12.3	7.7	10.4	15.1	15.9	12.6	13.3	13.7

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Company report

INCOME STATEMENT, EURm	2013	2014	2015	2016	2017	2018E	2019E	2020E
Sales	273	300	319	319	333	345	365	376
Sales growth (%)	-6.9	9.7	6.3	0.2	4.2	3.7	5.9	3.0
Costs	-236	-258	-274	-273	-282	-292	-307	-314
Reported EBITDA	37	42	45	46	50	52	58	62
Extraordinary items in EBITDA	0	0	0	0	0	0	0	0
EBITDA margin (%)	13.6	13.9	14.0	14.5	15.1	15.2	16.0	16.5
Depreciation	-15	-15	-15	-13	-9	-9	-10	-11
EBITA	22	27	30	33	41	43	49	51
Goodwill amortization / writedown	-4	0	0	-11	0	0	0	0
Reported EBIT	18	26	30	22	41	43	49	51
EBIT margin (%)	6.6	8.8	9.3	7.0	12.3	12.6	13.3	13.7
Net financials	-1	3	3	0	-3	0	0	0
Pre-tax profit	17	29	33	22	38	43	49	51
Extraordinary items	0	0	0	0	0	0	0	0
Taxes	-6	-6	-5	-3	-11	-11	-12	-13
Minority shares	0	0	0	0	0	0	0	0
Net profit	11	23	27	19	27	32	37	39
<b>BALANCE SHEET, EURm</b>								
Assets								
Fixed assets	71	68	63	46	46	55	72	89
% of sales	26	23	20	14	14	16	20	24
Goodwill	13	14	16	17	16	16	16	16
% of sales	5	5	5	5	5	5	4	4
Inventory	29	34	39	32	29	30	31	32
% of sales	10	11	12	10	9	9	9	9
Receivables	60	72	77	78	84	87	92	95
% of sales	22	24	24	24	25	25	25	25
Liquid funds	46	48	59	72	91	76	80	83
% of sales	17	16	19	23	27	22	22	22
Total assets	226	245	264	255	274	272	300	323
Liabilities								
Equity	159	170	181	179	186	180	197	214
% of sales	58	57	57	56	56	52	54	57
Deferred taxes	5	5	5	0	1	1	1	1
% of sales	2	2	1	0	0	0	0	0
Interest bearing debt	0	0	0	0	0	0	7	10
% of sales	0	0	0	0	0	0	2	3
Non-interest bearing current liabilities	59	64	75	71	81	84	89	92
% of sales	22	21	23	22	24	24	24	24
Other interest free debt	3	4	3	4	5	5	5	5
% of sales	1	1	1	1	2	2	1	1
Total liabilities	226	245	264	255	274	272	300	323
<b>CASH FLOW, EURm</b>								
+ EBITDA	37	42	45	46	50	52	58	62
- Net financial items	-1	3	3	0	-3	0	0	0
- Taxes	-8	-4	-7	-9	-7	-11	-12	-13
- Increase in Net Working Capital	2	-13	2	2	7	-1	-2	-1
+/- Other	-2	-5	-6	3	4	0	0	0
= Cash flow from operations	29	22	36	42	51	40	45	48
- Capex	-7	-8	-8	-8	-8	-18	-27	-27
- Acquisitions	-12	0	0	0	-2	0	0	0
+ Divestments	3	1	0	1	0	0	0	0
= Net cash flow	12	15	28	36	41	22	18	21
+/- Change in interest-bearing debt	-1	0	0	0	0	0	7	3
+/- New issues/buybacks	-25	4	0	-4	-2	0	0	0
- Paid dividend	-16	-16	-16	-17	-18	-37	-20	-22
+/- Change in loan receivables	0	0	0	0	0	0	0	0
Change in cash	-30	3	12	14	21	-15	4	2

Electronic Equipment & Instruments/Finland, June 28, 2018  
Company report

KEY FIGURES	2014	2015	2016	2017	2018E	2019E	2020E
M-cap	395	431	602	794	632	632	632
Net debt	-48	-59	-72	-91	-76	-74	-73
Enterprise value	348	372	529	703	556	558	559
Sales	300	319	319	333	345	365	376
EBITDA	42	45	46	50	52	58	62
EBIT	26	30	22	41	43	49	51
Pre-tax	29	33	22	38	43	49	51
Earnings	23	27	19	27	32	37	39
Book value	170	181	179	186	180	197	214
<b>Valuation multiples</b>							
EV/sales	1.2	1.2	1.7	2.1	1.6	1.5	1.5
EV/EBITDA	8.4	8.3	11.4	14.0	10.6	9.6	9.0
EV/EBITA	13.1	12.4	16.1	17.2	12.8	11.5	10.9
EV/EBIT	13.2	12.6	23.8	17.2	12.8	11.5	10.9
EV/operating cash flow	16.0	10.4	12.6	13.7	13.9	12.4	11.6
EV/cash earnings	9.2	9.2	14.0	17.4	13.5	11.9	11.4
P/E	17.0	15.8	32.2	29.3	24.2	20.9	20.1
P/E excl. goodwill	16.8	15.5	20.5	29.3	24.2	20.9	20.1
P/B	2.3	2.4	3.4	4.3	3.5	3.2	3.0
P/sales	1.3	1.4	1.9	2.4	2.2	2.1	2.1
P/CF	18.2	12.0	14.3	15.5	19.4	17.3	16.1
Target EV/EBIT	0.0	0.0	0.0	0.0	15.9	14.2	13.5
Target P/E	0.0	0.0	0.0	0.0	23.8	20.6	19.8
Target P/B	0.0	0.0	0.0	0.0	4.2	3.9	3.6
<b>Per share measures</b>							
Number of shares	36,118	36,054	35,703	35,692	36,437	36,437	36,437
Number of shares (diluted)	36,118	36,054	35,703	35,692	36,437	36,437	36,437
EPS	0.65	0.76	0.52	0.76	0.88	1.02	1.06
EPS excl. goodwill	0.65	0.77	0.82	0.76	0.88	1.02	1.06
Cash EPS	1.04	1.12	1.06	1.13	1.13	1.28	1.35
Operating cash flow per share	0.60	1.00	1.18	1.43	1.10	1.23	1.32
Capital employed per share	3.37	3.36	2.95	2.61	2.83	3.36	3.85
Book value per share	4.71	5.03	5.00	5.20	4.94	5.41	5.87
Book value excl. goodwill	4.31	4.58	4.54	4.74	4.50	4.97	5.43
Dividend per share	0.45	0.48	0.50	1.05	0.55	0.60	0.65
Dividend payout ratio, %	69.8	62.5	95.5	138.3	62.4	59.0	61.4
Dividend yield, %	4.1	4.0	3.0	4.7	2.6	2.8	3.1
<b>Efficiency measures</b>							
ROE	14.2	15.6	10.4	14.9	17.6	19.7	18.8
ROCE	16.0	16.7	12.4	22.4	23.7	25.4	24.1
<b>Financial ratios</b>							
Capex/sales, %	2.2	2.5	2.0	3.0	5.2	7.4	7.2
Capex/depreciation excl. goodwill,%	31.3	40.1	-34.1	109.5	198.5	278.6	256.6
Net debt/EBITDA, book-weighted	-1.1	-1.3	-1.6	-1.8	-1.4	-1.3	-1.2
Debt/equity, market-weighted	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equity ratio, book-weighted	69.5	68.6	70.0	67.7	66.3	65.7	66.3
Gearing	-0.28	-0.33	-0.41	-0.49	-0.42	-0.37	-0.34
Number of employees, average	1,617	1,611	1,590	1,592	1,592	1,592	1,592
Sales per employee, EUR	185,281	197,765	200,755	208,920	216,677	229,450	236,350
EBIT per employee, EUR	16,265	18,312	13,962	25,628	27,253	30,580	32,324

## COMPANY DESCRIPTION:

## INVESTMENT CASE:

OWNERSHIP STRUCTURE	SHARES	EURm	%
Novamator Oy	3,774,792	65.445	10.4%
Nordea Bank Ab (publ), Finnish Branch	3,183,214	55.189	8.7%
Skandinaviska Enskilda Banken Ab (publ) Helsinki Branch	2,448,093	42.443	6.7%
Finnish Academy of Science and Letters	2,130,832	36.943	5.8%
Mandatum Life Insurance Company Ltd.	1,533,300	26.583	4.2%
Ilmarinen Mutual Pension Insurance Company	1,470,628	25.497	4.0%
Weisell-Säätiö	1,440,000	24.966	4.0%
Nordea Nordic Small Cap Fund	1,425,832	24.720	3.9%
Voipio Mikko	1,268,312	21.989	3.5%
Caspers Anja	969,496	16.809	2.7%
Ten largest	19,644,499	340.584	54%
Residual	16,792,229	291.133	46%
Total	36,436,728	631.717	100%

## EARNINGS CALENDAR

July 20, 2018

Q2 report

October 23, 2018

Q3 report

## OTHER EVENTS

## COMPANY MISCELLANEOUS

CEO:

CFO:

Tel:

IR:



## DEFINITIONS

P/E	$\frac{\text{Price per share}}{\text{Earnings per share}}$	EPS	$\frac{\text{Profit before extraordinary items and taxes} - \text{income taxes} + \text{minority interest}}{\text{Number of shares}}$
P/Sales	$\frac{\text{Market cap}}{\text{Sales}}$	DPS	Dividend for the financial period per share
P/BV	$\frac{\text{Price per share}}{\text{Shareholders' equity} + \text{taxed provisions per share}}$	CEPS	$\frac{\text{Gross cash flow from operations}}{\text{Number of shares}}$
P/CF	$\frac{\text{Price per share}}{\text{Operating cash flow per share}}$	EV/Share	$\frac{\text{Enterprise value}}{\text{Number of shares}}$
EV (Enterprise value)	Market cap + net debt + minority interest at market value – share of associated companies at market value	Sales/Share	$\frac{\text{Sales}}{\text{Number of shares}}$
Net debt	Interest bearing debt – financial assets	EBITDA/Share	$\frac{\text{Earnings before interest, tax, depreciation and amortisation}}{\text{Number of shares}}$
EV/Sales	$\frac{\text{Enterprise value}}{\text{Sales}}$	EBIT/Share	$\frac{\text{Operating profit}}{\text{Number of shares}}$
EV/EBITDA	$\frac{\text{Enterprise value}}{\text{Earnings before interest, tax, depreciation and amortisation}}$	EAFI/Share	$\frac{\text{Pretax profit}}{\text{Number of shares}}$
EV/EBIT	$\frac{\text{Enterprise value}}{\text{Operating profit}}$	Capital employed/Share	$\frac{\text{Total assets} - \text{non interest bearing debt}}{\text{Number of shares}}$
Div yield, %	$\frac{\text{Dividend per share}}{\text{Price per share}}$	Total assets	Balance sheet total
Payout ratio, %	$\frac{\text{Total dividends}}{\text{Earnings before extraordinary items and taxes} - \text{income taxes} + \text{minority interest}}$	Interest coverage (x)	$\frac{\text{Operating profit}}{\text{Financial items}}$
Net cash/Share	$\frac{\text{Financial assets} - \text{interest bearing debt}}{\text{Number of shares}}$	Asset turnover (x)	$\frac{\text{Turnover}}{\text{Balance sheet total (average)}}$
ROA, %	$\frac{\text{Operating profit} + \text{financial income} + \text{extraordinary items}}{\text{Balance sheet total} - \text{interest free short term debt} - \text{long term advances received and accounts payable (average)}}$	Debt/Equity, %	$\frac{\text{Interest bearing debt}}{\text{Shareholders' equity} + \text{minority interest} + \text{taxed provisions}}$
ROCE, %	$\frac{\text{Profit before extraordinary items} + \text{interest expenses} + \text{other financial costs}}{\text{Balance sheet total} - \text{non interest bearing debt (average)}}$	Equity ratio, %	$\frac{\text{Shareholders' equity} + \text{minority interest} + \text{taxed provisions}}{\text{Total assets} - \text{interest free loans}}$
ROE, %	$\frac{\text{Profit before extraordinary items and taxes} - \text{income taxes}}{\text{Shareholders' equity} + \text{minority interest} + \text{taxed provisions (average)}}$	CAGR, %	Cumulative annual growth rate = Average growth per year

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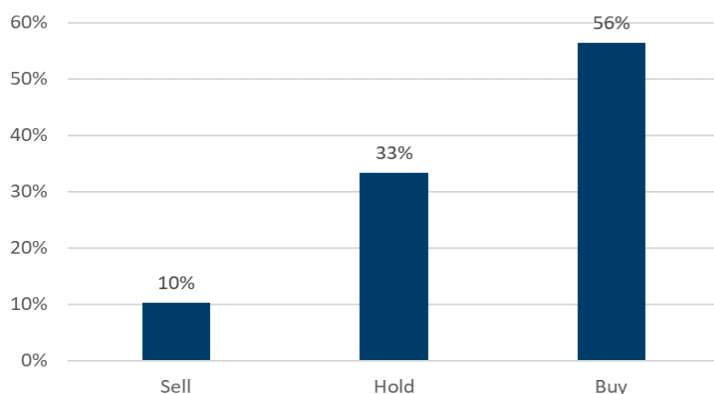
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Investment recommendations are defined as follows:

Target price compared to share price	Recommendation
< -10 %	SELL
-10 – (+10) %	HOLD
> 10 %	BUY

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Name(s) of the analyst(s): Pöyhönen

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