EDISON

Windar Photonics

FY17 results

Technology deployments intensifying

Alternative energy

FY17 was a pivotal year for Windar. An order for 300 units towards the year-end helped drive a doubling in revenues and suggests that the wind turbine industry is beginning to adopt its wind measurement technology. We leave our estimates and indicative valuation of 125p/share broadly unchanged, noting the potential for a substantial rise in indicative valuation once management is able to announce that the technology has been designed-in by turbine manufacturers, which is a key catalyst for volume deployment.

Year end	Revenue (€m)	EBITDA (€m)	PBT* (€m)	EPS (c)	DPS (c)	P/E (x)
12/16	1.2	(2.4)	(3.0)	(7.6)	0.0	N/A
12/17	2.2	(1.2)	(2.1)	(5.0)	0.0	N/A
12/18e	5.6	0.7	0.2	0.4	0.0	278
12/19e	25.3	8.8	8.3	15.6	0.0	7.1

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

Strong growth in FY17

As flagged in the pre-close trading update, FY17 revenues rose by 85% y-o-y to €2.2m. This strong revenue growth was primarily driven by demand from independent power producers (IPPs). Growth was particularly strong in China. The cost base realignment resulted in a €0.8m reduction in operating costs to €2.2m and contributed to a €1.2m cut in EBITDA losses to €1.2m. In July 2017, Windar completed a subscription raising £1.25m (gross) at 82p/share, resulting in Windar having cash holdings of €1.1m (excluding restricted cash) at the end of December 2017. Noting arrangements with the Danish Export Credit Agency and a factoring agency to reduce working capital requirements, we calculate that this is sufficient to take Windar through to a sustainable cash-generative situation.

Chinese contract supports FY18 growth

Our estimates, which are unchanged, model FY18 sales of 450 LiDAR units, which include the remaining 250 units for delivery under the transformational Chinese contract for 300 units announced in December. This shipment volume is expected to generate €5.6m in revenues and is followed by deliveries of 2,200 units in FY19, giving a fourfold increase in revenue. This ramp-up is predicated on Windar receiving notification of an OEM design-in or follow-on order to the transformational Chinese contract in sufficient time to reach the shipment target by end-FY18.

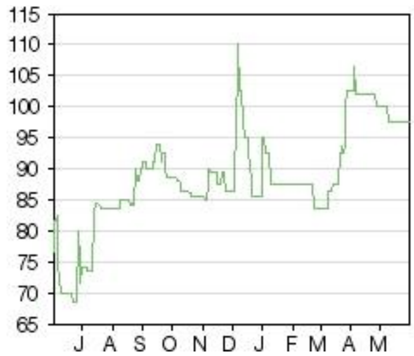
Valuation: Further orders should drive share price

Our valuation analysis is based on a DCF using a terminal growth rate of 2% and a discount factor of 40% to reflect current levels of commercial risk, which note that the company is waiting for confirmation that its technology will be designed-in to one or more turbine models, and for a follow-on order to the large Chinese contract. This implies an indicative value of 125p/share (previously 121p). Receipt of further volume orders should give investors better visibility on the technology adoption and market penetration, reducing the discount applied for risk. A 20% discount would give an indicative valuation of 350p/share.

31 May 2018

Price	**97.5p**
Market cap	**£41m**
	£/€1.14
Net cash (€m) at end-December 2017, excluding Growth Fund loan	1.1
Shares in issue	41.8m
Free float	47.9%
Code	WPHO
Primary exchange	AIM
Secondary exchange	N/A

Share price performance



%	1m	3m	12m
Abs	(2.5)	16.8	27.5
Rel (local)	(4.8)	10.0	24.2
52-week high/low		110.0p	68.5p

Business description

Windar Photonics is a UK-registered, Copenhagen-based developer and manufacturer of an innovative low-cost light detection and ranging (LiDAR) system. Approaching wind direction and speed is measured ahead of a wind turbine, allowing appropriate yaw alignment, increasing efficiency.

Next events

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Windar Photonics is a research client of Edison Investment Research Limited

Market development

Wind farm owners and operators

Windar has a significant number of trial installations with utility companies in Asia, Europe and North America. These are providing results that confirm the attractive business case for the adoption of its low-cost LiDAR systems. Management is currently focused on development projects with IPPs in North America and Asia. The 300 units ordered under the transformational contract received in December 2017 from a Chinese partner are primarily for retrofit deployment. Other orders received over the past year include a repeat order of four units from a French IPP for direct integration into turbines, a 15-unit order through a Chinese distributor, an order for five LiDAR units with associated WindTIMIZERs for integration into Vestas turbines from a Mexican IPP and an order for nine units from a Central American IPP, also for integration into Vestas turbines. This sequence of orders highlights the success of Windar's revised strategy, adopted in H216, of developing its network of distributors, which now totals 14, rather than investing in a costly direct sales team. Management's target is to retrofit LiDAR systems across the turbine portfolio of four of the top 25 IPPs over the next one to three years. Management estimates that partnership with a single one of these IPPs could represent 100–300 LiDAR sales.

OEMs

Windar continues to work with turbine manufactures to get its LiDAR units integrated into turbine control systems during production. In April 2017, Windar announced an order for 25 LiDAR units for delivery, some of which were for Chinese OEMS. In December, it issued two announcements regarding orders related to OEMs. One was from a Chinese OEM manufacturer for five LiDAR systems. The other was from a Chinese distribution partner for five units, which will be delivered to two wind turbine OEMs. Management's target is for Windar's LiDAR units to be designed-in to four or five turbine systems in the next two to three years, with the current focus on OEMs in Asia. It is confident of being awarded one or more design-in contracts in the near future. Once one OEM adopts the technology, it is likely that the others will follow, so as not to lose competitive advantage. Management estimates that integration into a single turbine model could typically represent 300–500 LiDAR sales annually, although for some models the volumes would be substantially higher.

Product development

Typically, wind turbines are located in groups, so the wind flow round each turbine is modified by its neighbours, reducing the amount of power that can be generated. Similarly, neighbouring hills may modify wind flow, causing turbulence. During FY17, Windar continued to work with the Danish Technical University on the two-year Energy Development and Demonstration Programme, which commenced in October 2016. This programme expands the capabilities of Windar's analytics to include wake detection and turbine optimisation. This programme has generated renewed interest from several major wind turbine OEMs keen to address these issues, leading to a record number of ongoing OEM turbine integration projects at the end of 2017. In addition, Windar successfully completed some product cost reduction programmes, which enabled it to secure some of the higher volume orders during FY17 without impairing margins.

Financial performance

Revenues increased and losses reduced in FY17

As flagged in the pre-close trading update, FY17 revenues rose by 85% y-o-y to €2.2m, supported by orders for at least 120 units. The strong revenue growth was primarily driven by demand from IPPs. Growth was particularly strong in China where sales trebled to €1.8m, 81% of the total. The OEM segment accounted for only a small proportion of total revenue. There was also €0.2m revenue deferred from FY16 due to the timing of deliveries. Management undertook a thorough review of operations during H216, part of which was the switch away from reliance on a direct salesforce. The number of sites was cut, leaving only the production facility in Copenhagen and a sales and service office in China, but investment in product development was increased. The cost base realignment resulted in a 28% reduction in operating costs to €2.2m and a halving in 2017 EBITDA losses to €1.2m.

Getting closer to cash break-even

The cost savings made during H216 have helped the company approach EBITDA break-even. Cash consumption during FY17 totalled €0.5m, €0.3m of which related to capitalised R&D costs (before netting against grants). Capitalised R&D costs were lower than the €0.5m reported for FY16, because the MEMS (micro-electro-mechanical systems) development taking place in FY16 was completed during that year. Cash flow benefited from a €0.3m reduction in inventory as finished goods ready at the end of FY16 were shipped out and stocks returned to a normal level. Additionally, trade receivables reduced by €0.2m to €0.4m, despite substantially higher revenues because of the ability to finance some sales through Denmark's export credit agency. In July, Windar completed a subscription raising £1.25m (gross) at 82p/share, which resulted in the company having cash holdings of €1.1m (excluding restricted cash and the Growth Fund loan) at the end of December 2017. The funds from the placing are being used to support growth, as some of these retrofit test projects with IPPs convert to volume roll-outs across wind farms and ongoing test programmes with wind turbine OEMs complete successfully.

Order book underpins continued growth in FY18

Order intake in FY17 of €5.9m represented a fourfold increase on FY16. The order backlog at the end of December 2017 for deliveries in FY18 was €3.9m (€1.4m end-FY16). This is substantially higher than the total revenues achieved in FY17 and excludes any potential follow-on orders in H218 from the transformational Chinese contract. Our estimates model FY18 sales of 450 LiDAR units (a combination of WindEye and WindVISION units) generating €5.6m revenues. This volume ramp-up is partly supported by deliveries of the remaining 250 units scheduled for delivery in FY18 under the transformational Chinese contract but does require the company either to secure an OEM design-in or a follow-on order to the transformational Chinese contract awarded in December 2017, with sufficient leeway to make meaningful unit deliveries by year-end. We assume that the increase in volumes shipped will enable Windar to secure better pricing for components and outsourced manufacturing services, resulting in improved gross margins, and that operating costs will be retained at FY17 levels. We expect this volume ramp-up to result in Windar posting its first year of EBITDA profit. Interest payments include a loan from the Danish Growth Fund, bearing interest at 12%, which is shown as 'other long-term liabilities' in the financial summary table.

Our estimates model shipments rising to 2,200 units in FY19, delivering an increase in revenue to €25.3m and €8.8m EBITDA. This level of shipments requires the technology to be designed-in to several turbine models and be deployed by multiple IPPs. The announcement in December of a transformational contract for 300 LiDAR units, primarily for volume installation in wind parks in China gives greater confidence that the industry is beginning to adopt Windar's proposition of integrating LiDAR systems into individual wind turbines. It is not, in our opinion, conclusive and we await announcements of a follow-on order to the transformational Chinese contract and OEM design-ins. Windar is reducing the working capital required for this volume ramp-up, and the potential requirement for external funding, through two mechanisms. Around half of the units sold will be supported by the Danish Export Credit Agency. The other units will be sold under a factoring arrangement. The details are explored in our February note.

Valuation

We continue to use a DCF valuation, rolling it out to 2027, based on modest assumptions regarding the rate of market penetration, ie 15% of the OEM market and 4% of the larger retrofit market in the longer term, and an average selling price of <€15k. These are the same growth rates that underpin our financial estimates. As profitability is particularly sensitive to the rate of market penetration, we also present a 'low' scenario, in which we assume 10% lower penetration than in our base case (on the same cost base) and a 'high' scenario, in which market penetration is 10% higher than in our base case (also on the same cost base). Exhibit 1 shows our assumed expansion rates in each scenario using GWEC market forecast data.

Exhibit 1: Scenario analysis showing impact of different rates of market penetration

	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e
Base case										
Share of retrofit market	0.15%	0.69%	1.65%	2.50%	3.00%	3.50%	4.00%	4.00%	4.00%	4.00%
Share of OEM market	0.49%	2.51%	4.42%	6.00%	8.00%	10.00%	12.00%	13.50%	15.00%	15.00%
Number of units	450	2,200	5,344	8,551	11,253	14,247	17,524	19,049	20,478	21,592
Revenues (€m)	5.6	25.3	61.5	84.7	109.2	135.5	163.3	173.9	183.3	189.4
EBITDA (€m)	0.7	8.8	29.7	39.5	51.9	65.3	79.8	84.8	90.0	93.5
Low case -10% market share)										
Number of units	405	1,980	4,809	7,697	10,127	12,822	15,772	17,144	18,515	15,449
Revenues (€m)	5.1	22.8	55.3	76.2	98.3	121.9	147.0	156.5	164.9	170.4
EBITDA (€m)	0.4	7.4	25.9	34.8	45.7	57.7	70.7	75.1	79.8	82.8
High case (+10% market share)										
Number of units	495	2,420	5,879	9,406	12,378	15,673	19,276	20,954	22,630	18,882
Revenues (€m)	6.2	27.8	67.6	93.1	120.1	149.0	179.6	191.3	201.6	208.3
EBITDA (€m)	1.0	10.2	33.3	44.2	58.0	72.9	89.0	94.6	100.3	104.1

Source: Edison Investment Research, GWEC market data

Running our financial model for each of these scenarios, and assuming a tax rate of 22%, a terminal growth rate of 2%, and a discount rate of 40% to reflect that we are still waiting for an announcement confirming that an OEM has decided to design-in Windar's LiDAR system into one or more of its turbine models, gives an indicative value at current levels of risk of 125p/share. Our February note had an indicative valuation of 121p/share. This was based on FY17 as Year 1, while our current model treats FY18 as Year 1. We have applied a higher discount for risk this time (40% rather than 25%) because of the delays in announcing either an OEM design-in or a follow-on order from the major Chinese customer. Management is confident that Windar will be awarded one or more design-in contracts in the near future. This would justify a more moderate discount for risk. A 20% discount, which is slightly less the rate applied in our last note, would imply an indicative valuation of 350p.

Exhibit 2: DCF analysis including scenarios for varying rates of market penetration

		Low case				Medium case				High case		
		Discount rate				Discount rate				Discount rate		
		20.0%	40.0%	60.0%		20.0%	40.0%	60.0%		20.0%	40.0%	60.0%
Term Growth	0.0%	207.2	89.5	49.5	0.0%	335.5	124.4	68.9	0.0%	385.2	160.4	85.2
	1.0%	208.9	89.9	49.7	1.0%	342.3	124.9	68.9	1.0%	388.1	161.1	85.4
	2.0%	210.7	90.4	49.8	2.0%	349.8	125.4	69.0	2.0%	391.1	161.8	85.7
	3.0%	212.6	90.8	50.0	3.0%	358.2	125.9	69.1	3.0%	394.3	162.6	85.9
	4.0%	214.6	91.3	50.1	4.0%	367.6	126.5	69.2	4.0%	397.7	163.5	86.2

Source: Edison Investment Research

Exhibit 3: Financial summary

€000s	2015	2016	2017	2018e	2019e
Year-end 31 December	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS					
Revenue	946	1,196	2,214	5,625	25,300
Cost of Sales	(679)	(627)	(1,301)	(2,821)	(11,499)
Gross Profit	267	569	913	2,804	13,801
EBITDA	(2,821)	(2,422)	(1,219)	670	8,797
Operating Profit (before amort. and except.)	(3,217)	(2,850)	(1,770)	470	8,597
Intangible Amortisation	0	0	0	0	0
Exceptionals	(223)	0	0	0	0
Warrants	(365)	(317)	(235)	(100)	(100)
Operating Profit	(3,805)	(3,167)	(2,006)	370	8,497
Net Interest	(100)	(107)	(286)	(258)	(258)
Profit Before Tax (norm)	(3,318)	(2,957)	(2,057)	212	8,339
Profit Before Tax (FRS 3)	(3,906)	(3,274)	(2,292)	112	8,239
Tax	121	128	66	0	0
Profit After Tax (norm)	(3,318)	(2,957)	(2,057)	165	6,505
Profit After Tax (FRS 3)	(3,785)	(3,146)	(2,226)	112	8,239
Average Number of Shares Outstanding (m)	38.2	39.0	41.1	41.8	41.8
EPS - normalised (c)	(8.7)	(7.6)	(5.0)	0.4	15.6
EPS - normalised fully diluted (c)	(8.7)	(7.6)	(5.0)	0.4	15.6
EPS - (IFRS) (c)	(9.9)	(8.1)	(5.4)	0.3	19.7
Dividend per share (c)	0.0	0.0	0.0	0.0	0.0
Gross Margin (%)	28.3	47.6	41.2	49.9	54.6
EBITDA Margin (%)	N/A	N/A	N/A	11.9%	34.8%
Operating Margin (before GW and except.) (%)	N/A	N/A	N/A	8.3%	34.0%
BALANCE SHEET					
Fixed Assets	1,363	1,357	1,014	1,014	1,114
Intangible Assets	1,120	1,184	869	869	919
Tangible Assets	144	119	107	107	157
Investments	98	54	39	39	39
Current Assets	2,632	2,705	2,767	3,441	13,910
Stocks	770	994	740	1,633	5,792
Debtors	1,072	898	676	1,378	4,531
Cash	594	783	1,117	195	3,351
Other	197	31	235	235	235
Current Liabilities	(488)	(1,276)	(1,504)	(1,966)	(4,045)
Creditors	(483)	(1,271)	(1,499)	(1,961)	(4,041)
Short-term borrowings	(4)	(5)	(5)	(5)	(5)
Long-Term Liabilities	(827)	(961)	(1,096)	(1,346)	(1,596)
Long-term borrowings	(25)	(21)	(16)	(16)	(16)
Other long-term liabilities (including loan from Growth Fund)	(801)	(940)	(1,080)	(1,330)	(1,580)
Net Assets	2,681	1,825	1,182	1,143	9,382
CASH FLOW					
Operating Cash Flow	(4,912)	(1,549)	(271)	(463)	3,564
Net Interest	(14)	(10)	(36)	(108)	(108)
Tax	70	(22)	0	0	0
Investment in intangible & tangible assets	(484)	(462)	(225)	(200)	(300)
Acquisitions/disposals	0	0	0	0	0
Financing	0	1,995	1,334	0	0
Dividends	0	0	0	0	0
Net Cash Flow	(5,340)	(48)	801	(771)	3,156
Opening net debt/(cash)	(5,549)	(564)	(758)	(1,096)	(174)
HP finance leases initiated	0	0	0	0	0
Other	356	242	(464)	(150)	0
Closing net debt/(cash) (excluding loan from Growth Fund)	(564)	(758)	(1,096)	(174)	(3,330)

Source: Edison Investment Research

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