EDISON

IQE

Interim results

Multiple VCSEL programmes entering production

Tech hardware & equipment

During H118 IQE experienced double-digit sales growth on a constant currency basis in each of its three primary markets, although this was partly offset by a currency headwind. The investment in multiple VCSEL qualifications and the Newport foundry depressed margins, but underpins management's expectations of a sustained photonics ramp-up in H218 and FY19. Acknowledging the currency headwind and one-off H118 photonics costs, we revise our estimates downwards.

Year end	Revenue (£m)	PBT* (£m)	EPS* (p)	DPS (p)	P/E (x)	Yield (%)
12/16**	132.7	20.6	2.89	0.0	31.7	N/A
12/17	154.5	24.3	3.36	0.0	27.3	N/A
12/18e	176.2	30.1	3.18	0.0	28.8	N/A
12/19e	205.2	44.0	4.55	0.0	20.1	N/A

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

Investment in photonics growth a drag on margins

As flagged in the pre-close trading update, total H118 revenues grew by 4% year-on-year to £73.4m, with the photonics segment growing by 30% in constant currency to 26% of the total. Adjusted profit before tax was depressed by several factors, falling by 21% to £7.6m. These include the currency headwind, the cost of multiple low margin VCSEL qualification programmes and the cost of staffing the new Newport facility prior to commencing production. Collectively, these one-off effects totalled £3.5m. If these costs are stripped out, adjusted profit before tax becomes £11.1m, a 14% improvement on the prior year period. Additionally, H117 benefitted from £1.0m licence revenues but there were none in H118. Net cash reduced by £5.0m during the period to £40.6m at the end of June, reflecting continued investment in multiple innovative technologies and capex for the new Newport foundry.

VCSEL product qualifications herald ramp-up

The recent work on VCSEL product qualifications has resulted in IQE being in mass production with eight VCSEL chip manufacturers and in final qualification stages with another four. Volumes for these programmes, which include production for Android OEMs, are already ramping up, underpinning management's expectation of a photonics ramp-up in H218 and FY19. We adjust our estimates downwards in line with revised management guidance to reflect the currency headwind and one-off H118 photonics costs.

Valuation: In line with other VCSEL epitaxy providers

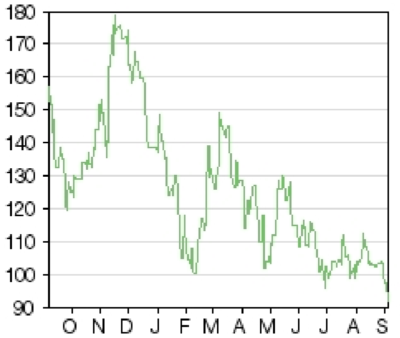
A comparison of IQE's prospective P/E multiples against those of listed companies offering epitaxy for VCSELs (IntelliEPI, LandMark Optoelectronics and Visual Photonics) shows IQE trading towards the upper end of this sample. We believe this is reasonable given IQE's strong market position. Taking this approach, the shares look fairly priced at current levels, although investors should note that we are modelling photonics revenue growth towards the lower bound of guidance.

4 September 2018

Price	**91.60p**
Market cap	**£697m**

Net cash (£m) at end June 2018	40.6
Shares in issue	760.8m
Free float	95.2%
Code	IQE
Primary exchange	AIM
Secondary exchange	N/A

Share price performance



%	1m	3m	12m
Abs	(11.8)	(15.6)	(34.0)
Rel (local)	(10.3)	(13.6)	(35.0)
52-week high/low		178.8p	91.6p

Business description

IQE is the leading supplier of epitaxial compound semiconductor wafers globally. The principal applications include radio frequency semiconductors, devices for optical networks, vertical cavity lasers, infrared semiconductors, power electronics and CPV solar cells.

Next events

Capital markets day	21 September 2018

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Edison profile page

IQE is a research client of Edison Investment Research Limited

Progress against strategy

Multiple VCSEL programmes commence production

The recent work on VCSEL product qualifications has resulted in IQE being in mass production with eight VCSEL chip manufacturers and in final qualification stages with another four. These include facial recognition for mobile phones, short-distance data communications, camera autofocus, proximity sensing and industrial heating. Deliveries for the first volume VCSEL programme, which we have previously inferred is for the iPhone X, began to ramp up in June from a higher base than the corresponding period the previous year. Volumes for the new VCSEL programmes, which include initial production for Android OEMs, have begun to ramp up as well. This reduces IQE's exposure to a single handset manufacturer or use case. Adoption of facial recognition technology, which uses arrays of VCSELs, by Android users is likely to be driven by use of the technology for authorising mobile phone payments, promoting adoption in mid- and low-tier phones rather than just high-end models.

Newport foundry expansion on track

The construction and fit-out of the new foundry in Newport, UK, is on schedule to commence production by the end of FY18. Five reactors were installed during H118, a further two were delivered in August and three more will be delivered during H218. Commissioning and qualifications are ongoing. The staff required to operate the facility 24/7 have all been recruited and are being trained. The factory already has dedicated bays for 20 reactors, enabling IQE to double capacity if required to meet demand. The additional capacity is critical for IQE to maintain its dominant position in the VCSEL market as it grows.

First volume order for NanoImprint Lithography (NIL)

IQE has developed a proprietary NIL technology, which delivers the complex diffraction gratings associated with DFB (distributed feedback) lasers at higher quality, much lower cost and much higher throughput. In July 2018 it announced that this technology had been production qualified by a leading supplier of DFB lasers to the telecoms and datacentre markets, and that work on the first production order (for US$0.25m) had commenced. During the qualification process, the customer established that using IQE's proprietary NIL technology to create embedded gratings gave greater precision and dimensional control and therefore superior performance compared with conventional DFB laser manufacturing techniques using electron beam processing. In addition to DFB applications, IQE is also engaged in multiple other NIL qualification programmes across a range of wafer sizes and end-applications.

Investment in future growth a drag on H118 profit

Double-digit constant currency revenue growth in key segments

As flagged in the pre-close trading update, total revenues grew by 4% year-on-year to £73.4m, as double-digit sales growth on a constant currency basis in each of the three primary markets was tempered by a c 10% currency headwind. The segmental split was distorted by inventory management factors. During both H117 and H217, significant production capacity was allocated to the initial VCSEL ramp-up for the iPhone X. During H118, sales to the chip manufacturer servicing this application were similar to H117, as the supply chain absorbed inventory, enabling the group to replenish wireless inventory channels and start work on a significant number of VCSEL production qualifications. On a constant currency basis, wireless revenues grew by 11% year-on-year to 65% of the total, photonics by 30% to 26% of the total and infrared by 11%. Unlike H117, which benefited from £1.0m licence income from the JVs, there was no licence income as management opted to reinvest cash generated by the two JVs back into the infant businesses.

Profits adversely affected by programmes to support future growth

Adjusted profit before tax fell by 21% to £7.6m, depressed by several factors. These were the currency headwind (£2.0m), the cost of multiple low-margin VCSEL qualification programmes (£0.6m) and the cost of staffing the new Newport facility prior to commencing production (£0.9m), which is scheduled for H218. Collectively, these one-off effects totalled £3.5m. If these costs are stripped out, adjusted profit before tax becomes £11.1m, a 14% improvement on the prior year period. In addition, the cost of converting reactors from photonics applications to wireless and back again was c £0.5m. We note that management has authorised an expansion of wireless capacity in the Taiwan facility to reduce the need to requalify reactors for different technologies in the future. Management estimates that reactor conversions cost c £3m over the last 18 months.

Cash from operations reinvested in R&D and capacity

Net cash reduced by £5.0m during the period to £40.6m at the end of June. Working capital increased by £6.6m compared with end FY17, capitalised development expenditure totalled £9.4m as the group continued work on multiple innovative technologies, and capex totalled £5.8m, half of which related to the new Newport foundry.

Outlook and estimate changes

Management guidance

Management has updated its guidance of segmental revenue growth for the current year and over a three- to five-year time horizon, adding guidance for FY19 as well. This guidance is summarised in Exhibit 1, together with the growth rates adopted in our estimates, those programmes included in the guidance and those presenting upside to the guidance. The main changes to guidance are: (1) a reining in of the top end of FY18 photonics revenue growth from 60% to 50%; (2) a reduction in FY18 photonics operating margin from 38% to 35% to reflect the one-off costs experienced in H118; (3) putting FY18 licence income guidance at the bottom end of the previous guidance, which was £0-2m; and (4) raising the FY18 tax rate from 15% to 18%.

Exhibit 1: Management revenue guidance

	FY18 guidance*	FY18e Edison**	FY19 guidance*	FY19e Edison**	3-5 year guidance*	Upside to 3-5 year guidance
Wireless growth	0-5%	4.0%	0-5%	1.5%	0-10%	Filters and switches, integrated front-end modules
Photonics growth	35-50%	40.0%	40-60%	40.0%	40-60%	Integrated optical modules
Infrared growth	5-15%	7.0%	5-15%	7.0%	5-15%	Consumer applications
Licence income from JVs	£0m	£0m	£0m	£0m	£0-2m	
Power growth	N/A	None		None	N/A	Power switches
Solar growth	N/A	None		None	N/A	Satellite applications

Source: Edison Investment Research, company statements. Note: *Constant currency. **Revised.

Revisions to estimates

Following the changes to management guidance, we adjust our estimates as follows:

- **Revenues**: We reduce FY18 wireless revenue growth from 5.0% to 4.0% to reflect H118 currency headwinds, and cut FY18 and FY19 licence income from £1.0m to £0.0m in both years.

- **Operating margin**: We reduce FY18 photonics operating margins by 2.5pp to 35.0% and raise FY19 photonics operating margins by 3.0pp to 40.0%, both in line with management guidance.
- **Tax rate**: We raise this from 15% to 18% in line with management guidance.
- **Capex**: We raise this in line with guidance, adding a further £3.8m for the option to acquire the cREO technology and IP portfolio from Translucent, which is payable in September 2018. We model this as satisfied through existing cash resources, but note that IQE has the option to satisfy this through the issue of shares.

Exhibit 2: Changes to estimates

	FY17	FY18e			FY19e		
	Actual	Old	New	% change	Old	New	% change
Revenue (£m)	154.5	178.1	176.2	-1.1%	207.1	205.2	-0.9%
EBITDA (£m)	38.4	47.9	44.5	-7.2%	59.0	59.9	1.7%
Adjusted PBT (£m)	24.3	32.8	30.1	-8.5%	42.3	44.0	4.1%
Adjusted EPS (p)	3.36	3.62	3.18	-12.0%	4.60	4.55	-1.0%
Capitalised R&D	16.9	9.0	13.0	44.4%	9.0	13.0	44.4%
PPE	18.0	26.0	33.0	26.9%	19.0	25.0	31.6%
Net cash	45.6	47.5	29.3	-38.3%	67.4	40.2	-40.4%

Source: Edison Investment Research

Valuation

The share price has declined from the peak of 178.75p reached in November 2017 and is now trading at 91.6p/share. Based on our current estimates, which assume photonics growth at the lower end of management guidance, the shares are trading at a premium to the mean for its peers on all metrics (Exhibit 3). The size of this premium reduces if we adopt a higher photonics growth rate (Exhibit 4). If we adopt a 50% growth rate in FY18 and 60% in FY19, which is at the upper end of management guidance, the shares are still trading at a premium to the mean P/E for FY18e (29.6x vs 22.6x for peers) and the mean P/E for FY19e (19.5x vs 17.0x for peers). This might suggest that the shares are already pricing in some upgrades to management guidance.

Exhibit 3: Peer multiple analysis

Name	Market cap ($m)	EV/sales 1FY (x)	EV/sales 2FY (x)	EV/EBITDA 1FY (x)	EV/EBITD A 2FY (x)	PE 1FY (x)	PE 2FY (x)
Epitaxy							
GCS Holdings	139	1.5	1.4	6.0	4.6	11.8	11.6
IntelliEPI	74	2.5	2.0	9.0	7.1	16.7	12.1
LandMark Optoelectronics	754	8.8	7.1	16.2	12.1	29.8	21.7
S.O.I.T.E.C.	2,468	5.0	3.8	18.2	13.3	31.0	22.4
Visual Photonics Epitaxy	566	7.2	5.8	21.5	15.7	34.1	26.0
Win Semiconductors Corp	2,216	3.6	3.1	9.4	7.6	20.1	15.7
Optoelectronics							
II-VI INC	3,156	2.5	2.2	-	-	20.1	16.4
Emcore Corp	136	0.9	0.7	41.2	17.3	(12.9)	(41.3)
Finisar Corporation	2,395	1.4	1.3	8.8	6.8	24.6	14.3
Lumentum Holdings	4,352	2.7	2.4	9.8	8.4	15.3	13.2
Mean		**3.0**	**2.5**	**12.4**	**10.3**	**22.6**	**17.0**
IQE	984	4.0	3.5	16.0	11.9	31.2	21.9

Source: Bloomberg, Edison Investment Research estimates. Note: Prices as at 29 August 2018. Grey shading indicates exclusion from mean.

If we restrict the comparison to the three listed companies offering epitaxy for VCSELs: IntelliEPI, LandMark Optoelectronics and Visual Photonics, then based on our current estimates IQE is trading on prospective P/E multiples that are in line with those for LandMark and below that for Visual Photonics. IQE has a much stronger market position than the other three, so trading towards the upper end of this smaller sample seems reasonable. Taking this approach, the shares look fairly priced at current levels, although investors should note that this is based on estimates that are towards the lower end of management guidance.

Exhibit 4: Analysis of effect of photonics growth on key financial metrics

Photonics revenue growth in each of FY18e and FY19e	40%	45%	50%	55%	60%
FY18e total revenues (£m)	176.2	178.5	180.9	-	-
FY18e adjusted PBT (£m)	30.1	30.9	31.7	-	-
FY18e adjusted EPS (p)	3.18	3.27	3.36	-	-
Implied FY18e P/E (x)	31.2	30.4	29.6	-	-
FY19e total revenues (£m)	205.2	208.5	211.8	215.2	218.5
FY19e adjusted PBT (£m)	44.0	45.3	46.7	48.0	49.3
FY19e adjusted EPS (p)	4.55	4.69	4.82	4.96	5.09
Implied FY19e P/E (x)	21.9	21.2	20.6	20.1	19.5

Source: Edison Investment Research

Exhibit 5: Financial summary

£'000s	2016*	2017	2018e	2019e
Year End 31 December	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS	**Restated**			
Revenue	132,707	154,480	176,161	205,165
Cost of Sales (Inc D&A + SBP)	(98,538)	(115,857)	(125,955)	(144,641)
Gross Profit	34,169	38,623	50,206	60,524
EBITDA	33,057	38,384	44,484	59,941
Depreciation and Amortisation	(10,938)	(12,025)	(14,527)	(15,932)
Operating Profit (before amort. and except.)	22,119	26,359	29,957	44,009
Acquired Intangible Amortisation	(1,374)	(1,429)	(1,429)	(1,429)
Exceptionals	1,962	(385)	0	0
Share based payments	(2,881)	(7,526)	(3,000)	(3,000)
Operating Profit	19,826	17,019	25,528	39,580
Underlying interest	(1,463)	(2,099)	100	0
Exceptionals	(26)	80	0	0
Profit Before Tax (norm)	20,630	24,340	30,057	44,009
Profit Before Tax (FRS 3)	18,363	14,920	25,628	39,580
Tax	(340)	(435)	(4,613)	(7,124)
Profit After Tax (norm)	20,692	24,823	25,444	36,884
Profit After Tax (FRS 3)	18,023	14,485	21,015	32,455
Average Number of Shares Outstanding (m)	671.5	689.5	748.7	760.8
EPS - normalised (p)	2.89	3.36	3.18	4.55
EPS - (IFRS) (p)	2.66	2.09	2.79	4.25
Dividend per share (p)	0.0	0.0	0.0	0.0
BALANCE SHEET				
Fixed Assets	214,043	224,836	254,880	275,519
Intangible Assets	103,972	108,513	113,057	116,196
Tangible Assets	85,001	90,875	116,375	133,875
Other	25,070	25,448	25,448	25,448
Current Assets	64,323	111,559	108,486	136,877
Stocks	28,498	33,707	40,059	46,654
Debtors	30,868	32,240	39,093	50,027
Cash	4,957	45,612	29,334	40,196
Other	0	0	0	0
Current Liabilities	(51,522)	(44,916)	(48,205)	(55,855)
Creditors	(43,870)	(44,916)	(48,205)	(55,855)
Short term borrowings	(7,652)	0	0	0
Long Term Liabilities	(39,021)	(666)	(666)	(666)
Long term borrowings	(36,854)	0	0	0
Other long term liabilities	(2,167)	(666)	(666)	(666)
Net Assets	187,823	290,813	314,495	355,875
CASH FLOW				
Operating Cash Flow	22,463	29,717	34,568	50,062
Net Interest	(1,489)	(2,125)	100	0
Tax	(839)	(5,844)	(1,100)	(1,200)
Capex	(19,060)	(28,190)	(46,000)	(38,000)
Acquisitions/disposals	(11,250)	0	(3,846)**	0
Financing	578	94,912	0	0
Dividends	0	0	0	0
Net Cash Flow	(9,597)	88,470	(16,278)	10,862
Opening net debt/(cash)	23,223	39,549	(45,612)	(29,334)
HP finance leases initiated	0	0	0	0
Other	(6,729)	(3,309)	0	0
Closing net debt/(cash)	39,549	(45,612)	(29,334)	(40,196)

Source: Company accounts, Edison Investment Research. Note: *Restated. **May be satisfied through issue of new shares.

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