

Thin Film Electronics

Industry update

New Apple phones show enhanced NFC support

Apple's introduction of native NFC support in the iPhone models launched this month is a key development for Thinfilm. First, it makes it easier for consumers with these models to tap and read NFC tags, removing an inhibitor to adoption. Second, it indicates that Apple is becoming more supportive of a consumer-friendly NFC ecosystem. The initial reaction from Thinfilm's customers to the announcement appears to be very positive. Because it will take time for this heightened interest to convert to potential orders, we leave our estimates and valuation broadly unchanged.

Year end	Revenue (\$m)	EBITDA* (\$m)	PBT* (\$m)	EPS* (c)	DPS (c)	EV/sales (x)
12/16	3.8	(36.9)	(42.8)	(6.5)	0.0	23.9
12/17	5.9	(50.9)	(57.5)	(6.6)	0.0	15.4
12/18e	5.4	(49.5)	(54.2)	(4.6)	0.0	16.9
12/19e	34.5	(43.3)	(51.3)	(4.4)	0.0	2.6

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

New iPhone models improve NFC usability

All three of the Apple iPhone models launched this month (iPhone XS, XS Max and XR) will support native background NFC tag read functionality. This means users with these new iPhones will not have to launch a dedicated app to tap and read a NFC tag as they are obliged to do on the iPhone X. The clumsiness of this approach has been cited by Thinfilm as a major inhibitor to adoption (see our [August note](#)). Moreover, while Android phones need to be unlocked before tapping, we understand the new model iPhones will not have to be unlocked, so iOS is overtaking Android with regards to NFC ease of use.

Apple attitude to NFC more positive

The initial reaction from Thinfilm's customers indicates they see Apple's announcement as a sign that Apple wants its phone users to start scanning NFC tags. This is encouraging brand owners to take a more serious interest in NFC marketing. However, for Thinfilm to derive maximum benefit from this interest, Apple needs to support the non-standard tags talk first (TTF) NFC protocol deployed in Thinfilm's printed tags, thus justifying the investment in a roll-to-roll facility for manufacturing these tags in high volume. Together with a number of major semiconductor players, Thinfilm has submitted the TTF protocol for inclusion within the NFC standard to the NFC Forum. Inclusion of TTF within the NFC standard, which management anticipates will be decided by end 2019, should encourage Apple to provide TTF support. We note the recent appointment of Thinfilm employee Cosmin Pascu as vice-chair of the NFC Compliance Committee.

Valuation: Substantial upside potential, execution key

We leave our estimates unchanged at this stage, although we note that this development should provide support to our mid-term forecasts. Following the strengthening in the US\$/NOK exchange rate since our last note, we adjust our base case indicative valuation from NOK1.92/share to NOK1.86/share.

Tech hardware & equipment

19 September 2018

Price **NOK1.10**

Market cap **NOK1,287m**

NOK8.18/US\$

Net cash (\$m) at 30 June 2018
excluding financial lease 66.2

Shares in issue 1.17bn

Free float 96.2%

Code THIN

Primary exchange Oslo

Secondary exchange OTCQX

Share price performance



% 1m 3m 12m

Abs (2.1) (40.7) (61.4)

Rel (local) (4.5) (42.5) (67.1)

52-week high/low NOK3.0 NOK0.8

Business description

Thin Film Electronics is a global leader in NFC mobile marketing and smart-packaging solutions using printed electronics technology. This technology should enable it to offer printed NFC tags at a substantially lower price point than conventional silicon tags.

Next events

Q318 results 9 November 2018

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Increasing penetration of Apple customer base

At the moment Apple models preceding the iPhone X do not support NFC (see Exhibit 1). At this stage, it is unclear whether it will be technically possible to retroactively implement support on the installed base of iOS device. Even if this were possible, we have no visibility on whether Apple has any intention of doing this. This means that for now there is still a significant proportion of iPhones in use that cannot tap and read tags deploying standard NFC protocol. This proportion will reduce year by year as users upgrade. Also, it is possible that the inclusion of native NFC support on the three new models will encourage existing iPhone X users to download the app required and start tapping tags. However, even though NFC tapping activity is restricted to a sub-set of iPhone users, the recent announcement from Apple appears to have triggered a fresh wave of interest in NFC from brand owners. Firstly, they seem less interested in the absolute proportion of iPhone users with NFC compatible models than the overall direction of travel, which is towards greater use of NFC, and they want to be amongst the first to embrace the technology. Secondly, many brand owners are keen to engage with aspirationalists who tend to change their phones more often and want the latest models which are the ones with NFC support.

No Apple phones currently support the TTF protocol used in Thinfilm's printed tags. This means that for campaigns addressing both Android and iOS users, Thinfilm supplies silicon tags manufactured by third parties and programmed for use with its proprietary CNECT software platform. This enables the company to participate in the increasing demand for NFC tags despite the lack of Apple support for the TTF protocol. Once Thinfilm's new roll-to-roll manufacturing facility is outputting high volumes of printed tags, which we expect will take place during FY19, it is important that the printed tags are Apple compatible as well. Management's preferred strategy for achieving this is to get the TTF protocol embedded in the NFC standard but, as discussed in our [July note](#), it is pursuing other options in parallel to ensure it achieves this vital objective.

Exhibit 1: NFC support

Phone type	Phone locked	Phone unlocked	Requires App download
Standard NFC			
Earlier iPhone models	No	No	N/A
iPhone X	No	Yes	Yes
iPhone XS, XS Max and XR	Yes	Yes	No
NFC enabled Android devices	No	Yes	No
TTF NFC			
iPhone – all models	No	No	N/A
NFC enabled Android devices	No	Yes	No

Source: Edison Investment Research

Exhibit 2: Financial summary

	US\$000s	2016	2017	2018e	2019e	2020e
Year end December		IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS		USD	USD	USD	USD	USD
Revenue		3,845	5,907	5,422	34,528	141,092
EBITDA		(36,873)	(50,867)	(49,492)	(43,343)	15,723
Operating Profit (norm, before amort. and except.)		(40,049)	(57,858)	(54,280)	(50,255)	8,618
Intangible Amortisation		0	0	0	0	0
Exceptionals		0	0	0	0	0
Share-based payments		(1,433)	(2,220)	(1,390)	(1,390)	(1,390)
Operating Profit		(41,482)	(60,078)	(55,670)	(51,645)	7,228
Net Interest		(2,731)	374	65	(1,002)	(2,041)
Profit Before Tax (norm)		(42,780)	(57,484)	(54,215)	(51,257)	6,577
Profit Before Tax (FRS 3)		(44,213)	(59,704)	(55,605)	(52,647)	5,187
Tax		(282)	122	0	0	0
Profit After Tax (norm)		(43,062)	(57,362)	(54,215)	(51,257)	6,577
Profit After Tax (FRS 3)		(44,495)	(59,582)	(55,605)	(52,647)	5,187
Average Number of Shares Outstanding (m)		659.1	862.7	1,172.0	1,172.0	1,172.0
EPS - normalised (c)		(6.5)	(6.6)	(4.6)	(4.4)	0.6
EPS - (IFRS) (c)		(6.8)	(6.9)	(4.7)	(4.5)	0.4
Dividend per share (c)		0.0	0.0	0.0	0.0	0.0
EBITDA Margin (%)		N/A	N/A	N/A	N/A	0.1
Operating Margin (before GW and except.) (%)		N/A	N/A	N/A	N/A	6.1
BALANCE SHEET						
Fixed Assets		24,903	34,246	53,382	55,044	51,677
Intangible Assets		3,142	2,190	3,686	5,332	7,142
Tangible Assets		9,155	20,522	39,234	40,322	36,218
Investments		12,607	11,534	10,462	9,390	8,318
Current Assets		79,231	115,074	33,678	24,928	50,773
Stocks		1,086	709	891	5,676	23,193
Debtors		3,940	16,245	891	5,676	23,193
Cash		74,205	98,120	31,896	13,576	4,386
Other		0	0	0	0	0
Current Liabilities		(7,789)	(7,320)	(891)	(46,676)	(64,193)
Creditors		(7,789)	(7,320)	(891)	(5,676)	(23,193)
Short term borrowings		0	0	0	(41,000)	(41,000)
Long Term Liabilities		(12,850)	(12,125)	(11,581)	(11,037)	(10,493)
Long term borrowings		(12,581)	(12,125)	(11,581)	(11,037)	(10,493)
Other long term liabilities		(269)	0	0	0	0
Net Assets		83,495	129,875	74,587	22,259	27,764
CASH FLOW						
Operating Cash Flow		(37,412)	(52,281)	(40,749)	(48,128)	(1,795)
Net Interest		88	343	65	(1,002)	(2,041)
Tax		(118)	(38)	0	0	0
Capex		(5,350)	(27,107)	(24,996)	(9,646)	(4,810)
Acquisitions/disposals		0	0	0	0	0
Financing		101,124	103,285	0	0	0
Dividend payments and Other items		(67)	170	0	0	0
Net Cash Flow		58,265	24,372	(65,680)	(58,776)	(8,646)
Opening net debt/(cash)		(15,940)	(61,624)	(85,995)	(20,315)	38,461
Finance leases initiated		(12,581)	0	0	0	0
Other		0	0	0	0	0
Closing net debt/(cash)		(61,624)	(85,995)	(20,315)	38,461	47,107

Source: Edison Investment Research

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