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Suzhou Maxwell Technologies (300751 CH)

Key takeaways from plant visit

NOT RATED

Current Price **RMB 512.90**

We visited Suzhou Maxwell's production base in Suzhou last week and met with the management. Maxwell is a market leader in manufacturing screen printing equipment for solar cells and has been expanding into providing complete production line for HJT cells. Key takeaways include 1) encouraging progress on HJT development; 2) solid backlog to secure earnings growth in FY21E-22E; and 3) strong pricing power to protect margin.

- **Company background.** Founded in 2010, Maxwell is a leading solar cell equipment supplier specializing in offering screen printing equipment with a dominant market share of over 70%. The Company has also expanded its product offerings to HJT cell production equipment, OLED production equipment and laser equipment. During FY14-FY19, Maxwell has achieved 122%/368% revenue/net profit CAGR on back of strong downstream solar cell capacity expansion.
- **Achieving localization of complete HJT cell production lines.** Since its first delivery of HJT screen printing equipment in 1H19, Maxwell has made progress in HJT and won several tenders of HJT cell equipment procurement from major cell makers in 2020 (e.g. Anhui Xuancheng Huasheng, Canadian Solar [CSIQ, NR], Tongwei [600438 CH, NR]) (see more details in Fig. 3-4). Through purchase agreement with its 30%-holding affiliate Jiangsu Qiweixing, which cooperates with Japanese company Y.A.C. and manufactures cleaning and texturing equipment for HJT cells, Maxwell is now able to offer complete production line for manufacturing HJT cells. Among the 1.85GW HJT cell capacity inviting for equipment procurement tender in 2H20, Maxwell stated it won 61% of total amount. The Company will deliver equipment for Huasheng's and CSIQ's HJT cell fabs after CNY, and expects to see Huasheng's cell efficiency data coming out in May-Jun 2021. For Tongwei's 1GW HJT cell fab, the equipment will be delivered in May-Jun 2021, and data may be seen by the end of 2021. The Company expects tender for equipment procurement of 10-15GW HJT cell capacity in 2021.
- **Competitive strength in HJT equipment: increasing throughput, reducing silver paste consumption and offering software service.** It becomes industry consensus that HJT cells should achieve at least 25% conversion efficiency in order to have better cost efficiency over PERC. To achieve this, Maxwell will further increase the throughput of its equipment to help reduce per GW CAPEX. The throughput of Maxwell's PECVD equipment for HJT cells has increased from 5,000 pcs/hr in 2019 to 8,000 pcs/hr in 2020, while per GW CAPEX was down from <RMB 600mn to <RMB 500mn. The Company targets to launch new generation with 10,000 pcs/hr throughput and further lower per GW CAPEX to RMB 400mn in 2021. Maxwell also makes efforts in reducing silver paste consumption in HJT cells, through the introduction of silver coated copper particles in screen printing process and the launch of proprietary welding machines for thinner busbars and fingers, which together aim to make HJT silver consumption similar to that in PERC. In addition, Maxwell will provide clients who purchase a complete production line with their proprietary software system. The system could track each wafer's data throughout the whole production line, which will help cell makers to improve their production process, reducing no. of staffs on production line and most importantly, enhance clients' loyalty.

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Stock Data

Mkt Cap (RMB mn)	26,671
Avg 3 mths t/o (RMB mn)	388.35
52w High/Low (RMB)	726.02/138.67
Total Issued Shares (mn)	52

Source: Bloomberg

Shareholding Structure

ZHOU Jian	20.3%
WANG Zhenggen	15.7%
Wujiang Dongyun Venture Capital	6.7%

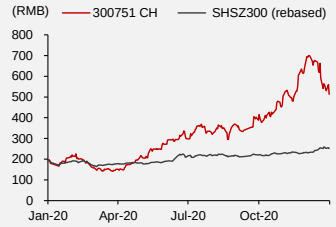
Source: Company data

Share Performance

	Absolute	Relative
1-mth	-12.80%	-21.0%
3-mth	39.0%	20.7%
6-mth	87.5%	54.4%

Source: Bloomberg

12-mth Price Performance



Source: Bloomberg

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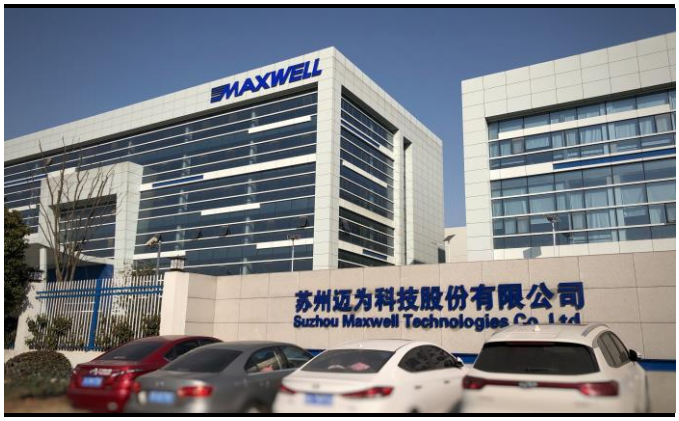
- **Robust screen printing equipment orders.** Maxwell generates 70-80% of its revenue from sets of screen printing equipment, which covers >20% of per GW CAPEX on a PERC production line based on our estimates. Through successful equipment localization, the Company now owns over 70% market share in screen printing equipment segment. Maxwell saw strong order intakes in FY20E, greatly driven by replacement demand due to large wafer format. Their production capacity is fully filled till Jul-Aug in 2021. Mgmt. mentioned it was costly for the customers to upgrade equipment from 166mm to 182mm, and it was technically impossible to upgrade to 210mm without new equipment investment. Therefore, most cell makers chose to buy brand new equipment instead of upgrade. We estimate Maxwell's order intakes in FY20E would be equivalent to 100GW-120GW solar cell equipment demand, which could secure its earnings growth in FY22E and beyond. For FY21E, Maxwell expected moderate order intakes, for the reason that new PERC capacity expansion and replacement may slow as clients are waiting for the results from next-gen cell technologies (e.g. HJT).
- **Stable margin outlook.** Maxwell feels comfortable to maintain a stable gross profit margin ahead (9M20 at 34.6%, rebounding from 33.8% in FY19). Maxwell believes such pricing power comes from less competitors (from 28 in 2012 to 3 in 2019) as well as the Company's strong technological competitive edges.
- **Valuation.** Maxwell's share price gained 381% in 2020. The stock is now trading at 52x FY21E P/E, close to its recent historical high, and is similar to peers' average. Consensus is projecting earnings growth of 38%/37% in 2021E/22E, which we think is achievable. Northbound has been accumulating Maxwell since Dec 2020, possibly eyeing on the Company's growth potential in HJT technologies.

Earnings Summary

(YE 31 Dec)	FY17A	FY18A	FY19A
Revenue (RMB mn)	476	788	1,438
YoY growth (%)	38	66	82
Net income (RMB mn)	131	171	248
EPS (RMB)	3.36	3.85	4.76
YoY growth (%)	2	15	24
P/E (x)	152.8	133.3	107.7
P/B (x)	64.4	23.4	19.6
Yield (%)	-	0.1	0.2
ROE (%)	50.8	23.5	19.8
Net gearing (%)	Net cash	Net cash	Net cash

Source: Company data, Bloomberg, CMBIS

Figure 1: Maxwell's plant in Suzhou



Source: CMBIS

Figure 2: Inside Maxwell's screen printing equipment manufacturing facility



Source: Suzhou Daily

Figure 3: Maxwell's milestones in developing HJT cell equipment

Date	Milestone event
1H19	Delivered the 1st screen printing equipment for HJT cells to REC in Singapore
Oct-19	Delivered 1st generation HJT PECVD and screen-printing equipment to Tongwei's HJT facility in Hefei Province - PECVD throughput: 5,000 pcs/hr - Per GW CAPEX of a complete production line: ~RMB 500-600mn
Aug-20	Won the bid to provide Anhui Xuancheng Huangsheng's 600MW HJT facility with one complete production line (incl. Japanese Y.A.C.'s cleaning and texturing equipment) as well as PVD and 2nd generation PECVD for the other production line - PECVD throughput: 8,000 pcs/hr - Per GW CAPEX of a complete production line: <RMB 500mn
Oct-20	Approved max. RMB 65mn related party transactions with its 30%-holding associate Jiangsu Qiweixing to procure cleaning and texturing equipment for HJT cells, marking Maxwell's capability to provide complete production lines for HJT

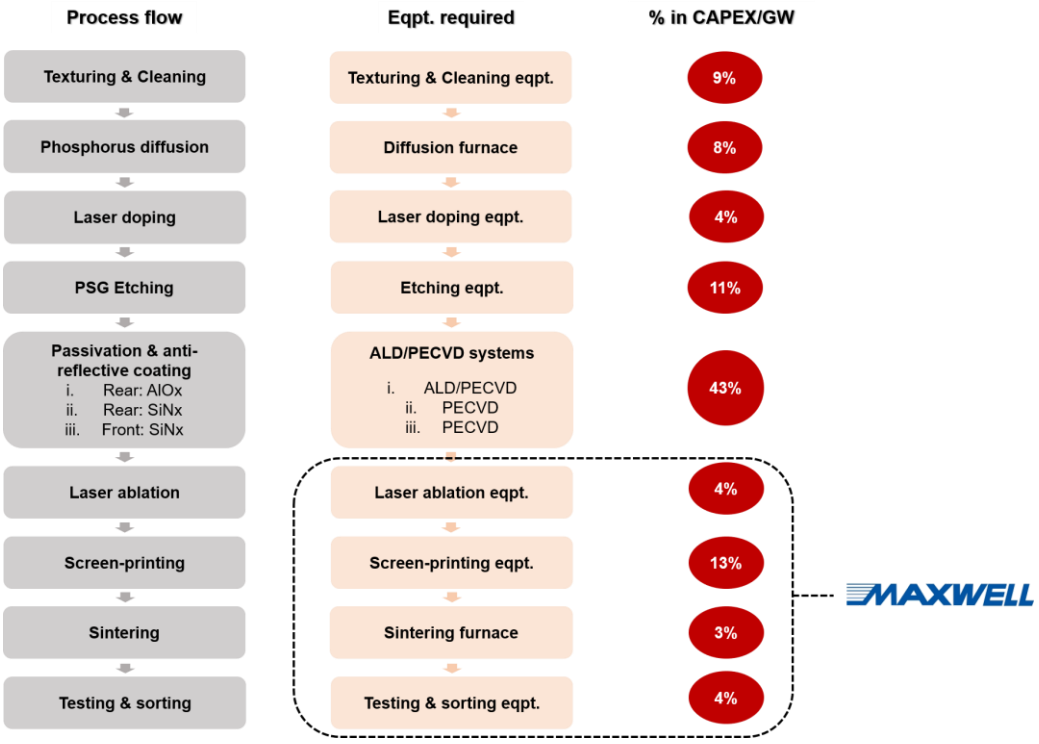
Source: Company data, CMBIS

Figure 4: Maxwell's HJT equipment in solar cell makers' fabs

Solar cell makers	Fab capacity	Progress	HJT equipment			
			Cleaning & texturing	PECVD	PVD	Screen printing
Tongwei Hefei	250MW	Delivered		Y		Y
Anhui Xuancheng Huasheng	600MW - line 1	To deliver after CNY	Y (sales of Y.A.C.'s equipment)	Y	Y	Y
	600MW - line 2			Y		Y
Tongwei Chengdu	1GW – 4 lines	To deliver by mid-year	Y (sales of Y.A.C.'s equipment)	Y	Y	Y

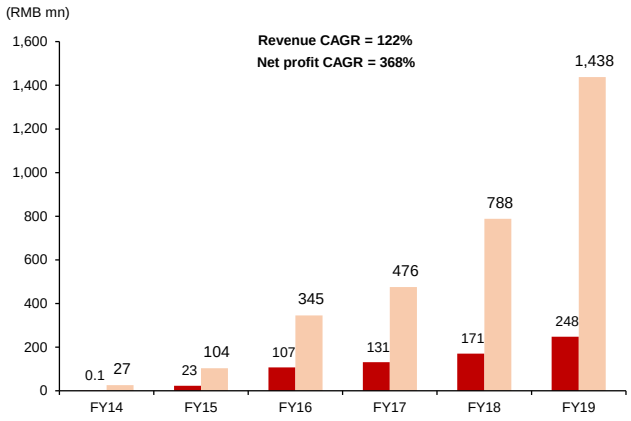
Source: Announcements, Solarzoom, CMBIS

Figure 5: Maxwell's product offerings cover ~25% of value on a PERC cell production line



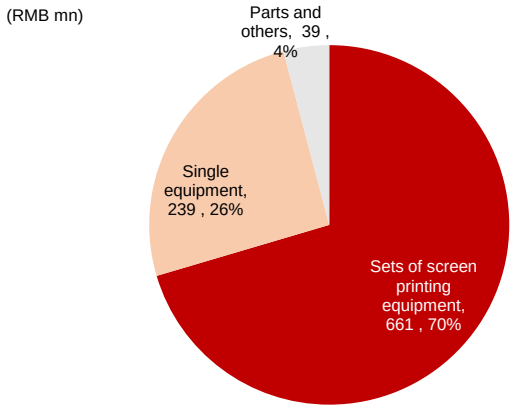
Source: CMBIS estimates

Figure 6: Maxwell's revenue and net profit trend



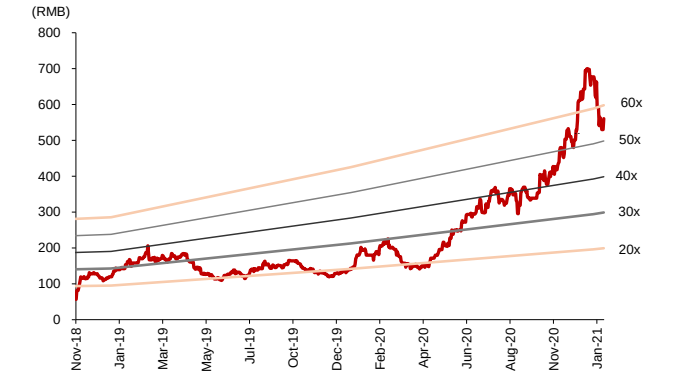
Source: Company data, CMBIS

Figure 7: Maxwell's 1H20 revenue mix



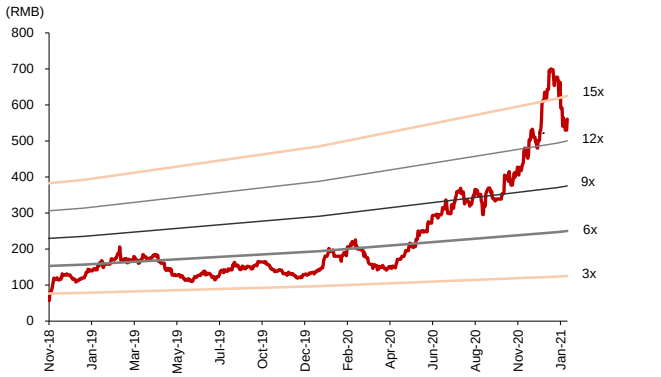
Source: Company data, CMBIS
Note: 1) Sets of screen printing equipment including screen printing equipment, sintering furnace, texting and sorting equipment, etc.; 2) single equipment including any above mentioned equipment that was not sold in sets, as well as laser equipment and OLED production equipment, etc.

Figure 8: Maxwell's forward P/E band



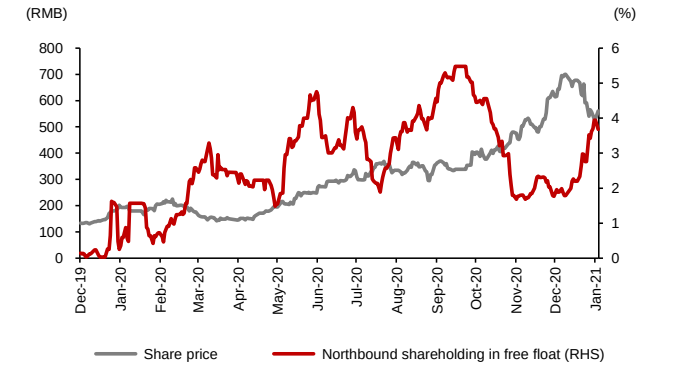
Source: Bloomberg, CMBIS

Figure 9: Maxwell's forward P/B band



Source: Bloomberg, CMBIS

Figure 10: Northbound shareholding in Maxwell



Source: Wind, CMBIS

Figure 11: China and overseas peers' valuation comp

Company	Ticker	Rating	TP (Local ccy)	Last price (Local ccy)	Market cap (US$ mn)	P/E (x) FY20E	P/E (x) FY21E	P/B (x) FY20E	P/B (x) FY21E	ROE (%) FY20E	ROE (%) FY21E	EPS CAGR FY19A-FY21E
China Solar Power Eqpt. Suppliers												
Jingsheng	300316 CH	BUY	40.2	38.98	7,730	61.8	43.3	10.1	8.4	17.1	21.2	34.6%
S.C New Energy	300724 CH	BUY	138.0	133.02	6,590	74.6	47.4	14.0	11.0	20.4	26.0	53.6%
Suzhou Maxwell	**300751 CH**	**NR**	**N/A**	**512.90**	**4,114**	**72.3**	**52.4**	**15.9**	**12.5**	**22.4**	**24.4**	**43.4%**
NAURA	002371 CH	NR	N/A	231.01	17,689	237.9	166.4	17.7	16.1	7.5	9.8	46.1%
Wuxi Autowell	688516 CH	NR	N/A	68.09	1,036	50.7	29.5	6.8	5.6	14.4	20.0	52.6%
Lead Intelligence	300450 CH	NR	N/A	85.69	11,992	83.0	55.7	13.1	10.8	17.9	21.1	30.0%
DR Laser	300776 CH	NR	N/A	141.23	2,305	39.3	29.0	8.1	6.6	20.2	22.3	180.4%
Yingkou Jinchen	603396 CH	NR	N/A	38.03	620	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Shangji Automation	603185 CH	NR	N/A	140.57	5,373	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Qingdao Gaoce	688556 CH	NR	N/A	23.50	587	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beijing Jingyuntong	601908 CH	NR	N/A	10.48	3,222	40.3	19.8	N/A	N/A	N/A	N/A	N/A
Zhejiang Jinggong	002006 CH	NR	N/A	5.27	370	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Average						**82.5**	**55.4**	**12.3**	**10.1**	**17.1**	**20.7**	**82.5**
Global Solar Power Eqpt. Suppliers												
Meyer Burger	MBTN SW	NR	N/A	0.37	1,044	N/A	N/A	2.7	3.3	N/A	N/A	N/A
Centrotherm	CTNK GR	NR	N/A	2.84	73	N/A	N/A	N/A	N/A	N/A	9.9	N/A
Manz	M5Z GR	NR	N/A	45.30	425	85.5	20.8	N/A	N/A	N/A	35.0	N/A
Singulus	SNG GR	NR	N/A	4.40	47	N/A	10.7	N/A	N/A	357.4	N/A	N/A

Source: Bloomberg, CMBIS estimates

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