

## Parade Technologies 4966.TWO 4966 TT

Global Markets Research

8 February 2023

EQUITY: TECHNOLOGY

### Bottoming out

1Q23 likely a clear bottom on meaningful supply chain inventory digestions; reiterate Buy, lift TP

#### Reiterate our Buy rating with a higher TP of TWD1150; 1Q23 likely a clear bottom

Although Parade's 1Q23 sales guidance of 3% growth to 11% q-q decline in USD terms was worse than Bloomberg consensus of nearly flattish q-q (*Fig. 1*), we think it is unlikely to be a big surprise, given the Street's expectation of Mac/iPad 2023 order cuts (*news, report*). However, **Parade's outlook beyond 1Q23 appears quite encouraging:** 1) management expects inventory dollar to come down significantly in 1Q and 2Q (following the 4Q22 peak, with DOI at 226 days), and its **DOI to return to normal by end-2Q23** (note its historical DOI range before COVID-19 was 40-80 days, with the average level at 60 days; *Fig. 11*); 2) Parade started seeing **rush orders in 1Q23**, starting from high speed (mainly PC customers) and followed by display segment, though management could not ascertain if these orders resulted from inventory rebuild or demand recovery; 3) Parade expects **accelerated inventory digestion at distributors in 1Q23**, and thus inventory replenishment from distributors to start in 2Q23, particularly as **some large OEMs seem to be willing to take inventory currently**. We believe all these factors indicate a likely clear cyclical bottom in 1Q23. Thus, though we lower 2023/24F EPS by 28%/9% to reflect Mac/iPad order cuts and higher opex, we forecast 25% q-q sales growth in 2Q and 50% y-y EPS growth in 2024F. We, thus, raise our TP to TWD1,150, based on 20x 2024F EPS (from TWD800, on 16x 2023F EPS). 20x is at mid-point of its historical PE range of 8-28x. We raise our target PE multiple on semi cycle likely bottoming in 1H23. Parade's share price has risen by 69% from the Sep 2022 bottom (vs TAIEX up by 16%), and we expect the strength to sustain following our cycle view(*report*).

#### 4Q22 and 1Q23 guidance below consensus; high value products likely to be 2023 growth drivers

Parade's 4Q22 EPS came in c.10% below consensus on lower-than-expected sales and GPM (on product mix deterioration and inventory write-off). Management guidance of +3% to -11% sales was a miss with GPM broadly in line (43-47% vs consensus of 43.8%) despite Parade offering some price incentives (not price cuts) for customers (more on display side, less on high speed). However, 1Q opex guidance was larger than we had expected, at c.31% of sales, and we thus model a significant operating de-leverage in 2023F. Looking ahead, Parade expects long-term GPM to grow, driven by higher-value products e.g. USB4 retimer, TED products, OLED Tcon, and auto applications.

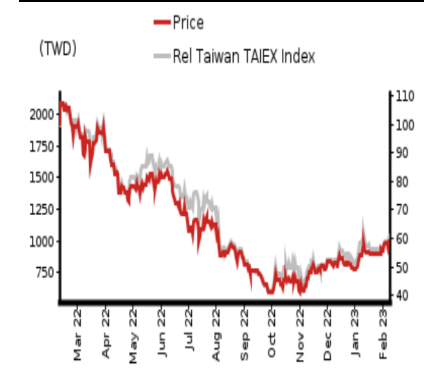
Year-end 31 Dec	FY21	FY22F		FY23F		FY24F	
Currency (TWD)	Actual	Old	New	Old	New	Old	New
Revenue (mn)	19,995	20,195	20,055	17,450	15,885	20,725	19,805
Reported net profit (mn)	5,245	4,943	4,898	4,029	2,918	5,138	4,662
Normalised net profit (mn)	5,245	4,943	4,898	4,029	2,918	5,138	4,662
FD normalised EPS	66.29	61.65	61.35	50.24	36.41	64.08	58.16
FD norm. EPS growth (%)	47.8	-7.0	-7.5	-18.5	-40.7	27.5	59.7
FD normalised P/E (x)	15.1	—	16.3	—	27.5	—	17.2
EV/EBITDA (x)	11.0	—	12.5	—	21.8	—	13.6
Price/book (x)	5.5	—	4.5	—	4.5	—	4.0
Dividend yield (%)	2.2	—	3.3	—	3.8	—	2.9
ROE (%)	38.6	27.4	30.4	18.2	16.5	21.7	24.8
Net debt/equity (%)	net cash	net cash	net cash	net cash	net cash	net cash	net cash

Source: Company data, Nomura estimates

Rating Remains	Buy
Target price Increased from TWD 800.00	TWD 1,150.00
Closing price 08 February 2023	TWD 1,000.00
Implied upside	+15.0%

Market Cap (USD mn)	2,701.8
ADT (USD mn)	35.9

#### Relative performance chart



Source: Thomson Reuters, Nomura

#### Research Analysts

##### Semiconductor

**Aaron Jeng, CFA - NITB**  
aaron.jeng@nomura.com  
+886(2) 21769962

**Vivian Yang - NITB**  
vivian.yang@nomura.com  
+886(2) 21769970

# Key data on Parade Technologies

## Performance

(%)	1M	3M	12M		
Absolute (TWD)	12.5	55.0	-47.6	M cap (USDmn)	2,701.8
Absolute (USD)	14.4	65.1	-51.5	Free float (%)	78.8
Rel to Taiwan	5.3	39.7	-33.4	3-mth ADT (USDmn)	35.9
TAIEX Index					

## Income statement (TWDmn)

Year-end 31 Dec	FY20	FY21	FY22F	FY23F	FY24F
Revenue	15,280	19,995	20,055	15,885	19,805
Cost of goods sold	-8,548	-10,463	-10,740	-8,730	-10,700
Gross profit	6,732	9,531	9,316	7,155	9,105
SG&A	-3,048	-3,702	-4,049	-3,983	-4,038
Employee share expense					
Operating profit	3,684	5,830	5,267	3,172	5,067
EBITDA	4,164	6,544	5,921	3,333	5,245
Depreciation	-206	-272	-396	-161	-178
Amortisation	-274	-442	-258	0	0
EBIT	3,684	5,830	5,267	3,172	5,067
Net interest expense	29	3	25	0	0
Associates & JCEs	0	0	0	0	0
Other income	-14	-24	84	0	0
Earnings before tax	3,699	5,809	5,375	3,172	5,067
Income tax	-193	-564	-477	-254	-405
Net profit after tax	3,506	5,245	4,898	2,918	4,662
Minority interests	0	0	0	0	0
Other items	0	0	0	0	0
Preferred dividends	0	0	0	0	0
Normalised NPAT	3,506	5,245	4,898	2,918	4,662
Extraordinary items	0	0	0	0	0
Reported NPAT	3,506	5,245	4,898	2,918	4,662
Dividends	-1,217	-1,753	-2,622	-3,015	-2,361
Transfer to reserves	2,289	3,492	2,276	-97	2,301

## Valuations and ratios

Reported P/E (x)	22.3	15.1	16.3	27.5	17.2
Normalised P/E (x)	22.3	15.1	16.3	27.5	17.2
FD normalised P/E (x)	22.3	15.1	16.3	27.5	17.2
Dividend yield (%)	1.6	2.2	3.3	3.8	2.9
Price/cashflow (x)	20.6	12.0	31.4	17.1	22.0
Price/book (x)	6.2	5.5	4.5	4.5	4.0
EV/EBITDA (x)	17.5	11.0	12.5	21.8	13.6
EV/EBIT (x)	19.7	12.3	14.1	22.9	14.1
Gross margin (%)	44.1	47.7	46.5	45.0	46.0
EBITDA margin (%)	27.3	32.7	29.5	21.0	26.5
EBIT margin (%)	24.1	29.2	26.3	20.0	25.6
Net margin (%)	22.9	26.2	24.4	18.4	23.5
Effective tax rate (%)	5.2	9.7	8.9	8.0	8.0
Dividend payout (%)	34.7	33.4	53.5	103.3	50.6
ROE (%)	29.3	38.6	30.4	16.5	24.8
ROA (pretax %)	53.7	63.9	41.7	21.9	34.3

## Growth (%)

Revenue	29.4	30.9	0.3	-20.8	24.7
EBITDA	44.3	57.2	-9.5	-43.7	57.4
Normalised EPS	42.2	47.8	-7.5	-40.7	59.7
Normalised FDEPS	42.2	47.8	-7.5	-40.7	59.7

Source: Company data, Nomura estimates

## Cashflow statement (TWDmn)

Year-end 31 Dec	FY20	FY21	FY22F	FY23F	FY24F
EBITDA	4,164	6,544	5,921	3,333	5,245
Change in working capital	329	675	-2,604	1,611	-1,202
Other operating cashflow	-691	-638	-774	-254	-405
Cashflow from operations	3,802	6,581	2,543	4,690	3,638
Capital expenditure	-227	-296	-172	-111	-139
Free cashflow	3,575	6,284	2,372	4,579	3,499
Reduction in investments	0				
Net acquisitions	-1,383	-2,069	-2,586	0	0
Dec in other LT assets					
Inc in other LT liabilities					
Adjustments	0	0	0	0	0
CF after investing acts	2,191	4,216	-215	4,579	3,499
Cash dividends	-1,217	-1,753	-2,622	-3,015	-2,361
Equity issue	0	0	-1,547	0	0
Debt issue	0	0	0	0	0
Convertible debt issue	0	0	0	0	0
Others	-561	-1,781	2,158	0	0
CF from financial acts	-1,778	-3,534	-2,011	-3,015	-2,361
Net cashflow	414	682	-2,226	1,564	1,139
Beginning cash	8,106	8,520	9,202	6,975	8,539
Ending cash	8,520	9,202	6,975	8,539	9,678
Ending net debt	-8,520	-9,202	-6,975	-8,539	-9,678

## Balance sheet (TWDmn)

As at 31 Dec	FY20	FY21	FY22F	FY23F	FY24F
Cash & equivalents	8,520	9,202	6,975	8,539	9,678
Marketable securities	0	0	0	0	0
Accounts receivable	1,579	1,395	1,066	1,856	2,724
Inventories	1,615	2,098	4,468	2,552	3,460
Other current assets	484	587	621	621	621
Total current assets	12,198	13,281	13,131	13,569	16,483
LT investments	0	0	0	0	0
Fixed assets	249	346	496	446	406
Goodwill					
Other intangible assets					
Other LT assets	4,122	5,758	8,445	8,445	8,445
Total assets	16,569	19,385	22,072	22,461	25,335
Short-term debt	0	0	0	0	0
Accounts payable	1,241	1,131	399	884	1,457
Other current liabilities	2,470	3,657	3,860	3,860	3,860
Total current liabilities	3,711	4,787	4,259	4,744	5,317
Long-term debt	0	0	0	0	0
Convertible debt					
Other LT liabilities	174	136	81	81	81
Total liabilities	3,885	4,923	4,341	4,826	5,399
Minority interest					
Preferred stock	0	0	0	0	0
Common stock	808	809	812	812	812
Retained earnings	14,043	17,290	18,864	18,768	21,069
Proposed dividends					
Other equity and reserves	-2,167	-3,636	-1,945	-1,945	-1,945
Total shareholders' equity	12,684	14,462	17,731	17,634	19,936
Total equity & liabilities	16,569	19,385	22,072	22,460	25,334

## Liquidity (x)

Current ratio	3.29	2.77	3.08	2.86	3.10
Interest cover	-	-	-	-	-

## Leverage

Net debt/EBITDA (x)	net cash	net cash	net cash	net cash	net cash
Net debt/equity (%)	net cash	net cash	net cash	net cash	net cash

## Per share

Reported EPS (TWD)	44.86	66.29	61.35	36.41	58.16
Norm EPS (TWD)	44.86	66.29	61.35	36.41	58.16
FD norm EPS (TWD)	44.86	66.29	61.35	36.41	58.16
BVPS (TWD)	162.29	182.80	222.07	219.99	248.70
DPS (TWD)	15.57	22.15	32.84	37.61	29.45

## Activity (days)

Days receivable	33.2	27.1	22.4	33.6	42.3
Days inventory	54.6	64.8	111.6	146.8	102.8
Days payable	43.3	41.4	26.0	26.8	40.1
Cash cycle	44.5	50.5	108.0	153.5	105.1

Source: Company data, Nomura estimates

## Company profile

Parade is a leading IC supplier of high-speed interface standards use in display panels and consumer electronics. The company's product portfolio covers HDMI, DP, SATA, and USB standards.

## Valuation Methodology

Our TP of TWD1,150 is based on 20x P/E of 2024F EPS, the multiple is at the historical mid-end of Parade's P/E range. The benchmark index for this stock is Taiwan TAIEX index.

## Risks that may impede the achievement of the target price

Major risks: 1) weaker-than-expected PC demand; 2) slower than-expected adoption of mini LED, and; 3) slower-than-expected development of PCIe Gen4/5 retimer.

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## ESG

Parade takes measures to avoid the use of conflict minerals and achieve environmentally friendly product designs.

# Financial analysis and forecasts

We revise down our 2023/24 forecasts to factor in the downside from Mac/iPad. We also lower OPM to reflect our higher opex assumptions. We now expect opex expense of around USD30mn per quarter in 2023-24F. We, therefore, lower EPS by 28%/9% for 2023/24F.

**Fig. 1: Parade's 4Q22 results and 1Q23 guidance vs Nomura forecasts and Bloomberg consensus**

(TWD mn)	4Q22							1Q23F							Comments	
	Actual	NMR	q-q (%)	Diff (%)	BBG	q-q (%)	Diff (%)	Guidance	q-q (%)	NMR	q-q (%)	Diff (%)	BBG	q-q (%)		Diff (%)
Sales	3,181	3,321	(27.7)	(4.2)	3,243	(29.4)	(1.9)	3,058	(3.9)	3,260	(1.9)	(6.2)	3,212	(0.9)	(4.8)	USD90.0mn-105.0mn
Gross profit	1,401	1,511	(27.3)	(7.3)	1,433	(31.0)	(2.3)	1,376	(1.8)	1,468	(2.9)	(6.3)	1,405	(1.9)	(2.1)	
- OPEX	(961)	(963)	(6.0)	(0.2)	(925)	(9.7)	4.0	(956)	(0.5)	(742)	(22.9)	28.8	(834)	(9.8)	14.7	
Operating profit	440	548	(48.0)	(19.8)	509	(51.8)	(13.5)	419	(4.6)	726	32.4	(42.2)	571	12.4	(26.6)	
Net profit	454	499	(49.7)	(9.0)	485	(51.2)	(6.3)			668	33.8		522	7.6		
EPS (TWD)	5.67	6.22	(49.7)	(8.9)	6.41	(48.2)	(11.6)			8.33	33.8		7.17	11.7		
Margin	Actual	NMR	Diff (ppts)		BBG	Diff (ppts)		Guidance	NMR	Diff (ppts)		BBG	Diff (ppts)		Comments	
Gross margin (%)	44.0	45.5	(1.5)		44.2	(0.2)		45.0	45.0	(0.0)		43.8	1.2		43.0%-47.0%	
OPEX ratio (%)	(30.2)	(29.0)	(1.2)		(28.5)	(1.7)		(31.3)	(22.8)	(8.5)		(26.0)	(5.3)		USD29mn-32mn	
Operating margin (%)	13.8	16.5	(2.7)		15.7	(1.9)		13.7	22.3	(8.5)		17.8	(4.1)			
Net margin (%)	14.3	15.0	(0.7)		14.9	(0.7)			20.5			16.2				

Source: Company data, Bloomberg consensus, Nomura estimates

**Fig. 2: Parade's 1Q-2Q23F and 2023-24F forecast revisions and 2022 results**

(TWD mn)	1Q23F			2Q23F			2022			2023F			2024F		
	Revised	Previous	Change	Revised	Previous	Change	Actual	NMR	Diff	Revised	Previous	Change	Revised	Previous	Change
Sales	3,055	3,260	(6.3%)	3,833	3,732	2.7%	20,055	20,195	(0.7%)	15,885	17,450	(9.0%)	19,805	20,725	(4.4%)
Gross profit	1,373	1,468	(6.5%)	1,718	1,672	2.8%	9,316	9,426	(1.2%)	7,155	7,853	(8.9%)	9,105	9,417	(3.3%)
Operating profit	423	726	(41.7%)	768	905	(15.2%)	5,267	5,375	(2.0%)	3,172	4,379	(27.6%)	5,067	5,584	(9.3%)
Net profit	389	668	(41.7%)	706	833	(15.2%)	4,898	4,943	(0.9%)	2,918	4,029	(27.6%)	4,662	5,138	(9.3%)
EPS (TWD)	4.85	8.33	(41.7%)	8.81	10.39	(15.2%)	61.35	61.65	(0.5%)	36.41	50.24	(27.5%)	58.16	64.08	(9.2%)
Margin	Revised	Previous	Change	Revised	Previous	Change	Actual	NMR	Change	Revised	Previous	Change	Revised	Previous	Change
Gross margin (%)	44.9	45.0	-0.1 ppts	44.8	44.8	0.0 ppts	46.5	46.7	-0.2 ppts	45.0	45.0	0.0 ppts	46.0	45.4	0.5 ppts
Operating margin (%)	13.8	22.3	-8.4 ppts	20.0	24.3	-4.2 ppts	26.3	26.6	-0.4 ppts	20.0	25.1	-5.1 ppts	25.6	26.9	-1.4 ppts
Net margin (%)	12.7	20.5	-7.7 ppts	18.4	22.3	-3.9 ppts	24.4	24.5	-0.1 ppts	18.4	23.1	-4.7 ppts	23.5	24.8	-1.3 ppts

Source: Company data, Nomura estimates

**Fig. 3: Parade's P&L**

(TWD mn)	1Q22	2Q22	3Q22	4Q22	1Q23F	2Q23F	3Q23F	4Q23F	1Q24F	2Q24F	3Q24F	4Q24F	2021	2022	2023F	2024F
Net sales	5,898	6,384	4,592	3,181	3,055	3,833	4,219	4,778	4,341	4,489	5,100	5,875	19,995	20,055	15,885	19,805
Gross profit	2,821	3,015	2,079	1,401	1,373	1,718	1,881	2,183	1,999	2,064	2,351	2,691	9,531	9,316	7,155	9,105
- OPEX	(1,005)	(1,059)	(1,025)	(961)	(950)	(950)	(983)	(1,099)	(933)	(943)	(1,046)	(1,116)	(3,702)	(4,049)	(3,983)	(4,038)
Operating profit	1,816	1,957	1,054	440	423	768	898	1,084	1,066	1,121	1,305	1,575	5,830	5,267	3,172	5,067
Net profit	1,657	1,795	992	454	389	706	826	997	981	1,032	1,201	1,449	5,245	4,898	2,918	4,662
EPS (TWD)	20.91	22.51	12.38	5.67	4.85	8.81	10.30	12.44	12.23	12.87	14.98	18.07	66.29	61.35	36.41	58.16
Profitability	1Q22	2Q22	3Q22	4Q22	1Q23F	2Q23F	3Q23F	4Q23F	1Q24F	2Q24F	3Q24F	4Q24F	2021	2022	2023F	2024F
Gross margin	47.8%	47.2%	45.3%	44.0%	44.9%	44.8%	44.6%	45.7%	46.1%	46.0%	46.1%	45.8%	47.7%	46.5%	45.0%	46.0%
- OPEX ratio	(17.0%)	(16.6%)	(22.3%)	(30.2%)	(31.1%)	(24.8%)	(23.3%)	(23.0%)	(21.5%)	(21.0%)	(20.5%)	(19.0%)	(18.5%)	(20.2%)	(25.1%)	(20.4%)
Operating margin	30.8%	30.7%	23.0%	13.8%	13.8%	20.0%	21.3%	22.7%	24.6%	25.0%	25.6%	26.8%	29.2%	26.3%	20.0%	25.6%
Net margin	28.1%	28.1%	21.6%	14.3%	12.7%	18.4%	19.6%	20.9%	22.6%	23.0%	23.5%	24.7%	26.2%	24.4%	18.4%	23.5%
Q-Q	1Q22	2Q22	3Q22	4Q22	1Q23F	2Q23F	3Q23F	4Q23F	1Q24F	2Q24F	3Q24F	4Q24F	2021	2022	2023F	2024F
Net sales	9.1%	8.2%	(28.1%)	(30.7%)	(4.0%)	25.4%	10.1%	13.2%	2.9%	3.4%	13.6%	15.2%				
Gross profit	7.9%	6.9%	(31.1%)	(32.6%)	(2.0%)	25.1%	9.5%	16.0%	6.3%	3.2%	13.9%	14.5%				
- OPEX	3.6%	5.4%	(3.2%)	(6.2%)	(1.2%)	0.0%	3.4%	11.8%	(5.1%)	1.0%	10.9%	6.8%				
Operating profit	10.4%	7.7%	(46.1%)	(58.3%)	(3.8%)	81.5%	16.9%	20.7%	18.8%	5.2%	16.4%	20.6%				
Net profit	13.2%	8.4%	(44.7%)	(54.2%)	(14.3%)	81.5%	16.9%	20.7%	18.8%	5.2%	16.4%	20.6%				
Y-Y	1Q22	2Q22	3Q22	4Q22	1Q23F	2Q23F	3Q23F	4Q23F	1Q24F	2Q24F	3Q24F	4Q24F	2021	2022	2023F	2024F
Net sales	35.8%	30.2%	(14.0%)	(41.2%)	(48.2%)	(40.0%)	(8.1%)	50.2%	42.1%	17.1%	20.9%	23.0%	30.9%	0.3%	(20.8%)	24.7%
Gross profit	44.1%	29.1%	(20.7%)	(46.4%)	(51.3%)	(43.0%)	(9.5%)	55.8%	45.6%	20.1%	25.0%	23.3%	41.6%	(2.3%)	(23.2%)	27.3%
- OPEX	20.5%	13.7%	6.0%	(0.9%)	(5.4%)	(10.2%)	(4.0%)	14.3%	(1.8%)	(0.8%)	6.3%	1.6%	21.4%	9.4%	(1.6%)	1.4%
Operating profit	61.6%	39.3%	(36.4%)	(73.3%)	(76.7%)	(60.8%)	(14.8%)	146.5%	152.0%	46.1%	45.4%	45.3%	58.2%	(9.7%)	(39.8%)	59.7%
Net profit	60.3%	42.4%	(33.2%)	(69.0%)	(76.5%)	(60.7%)	(16.8%)	119.5%	152.0%	46.1%	45.4%	45.3%	49.6%	(6.6%)	(40.4%)	59.7%

Source: Company data, Nomura estimates

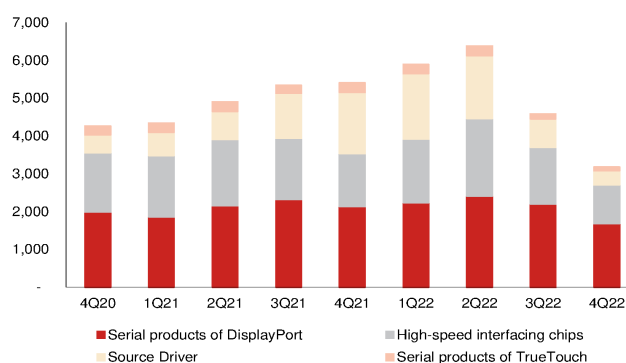
**Fig. 4: Nomura forecasts vs Bloomberg consensus for 2023-2024F**

(TWD mn)	2023F			2024F		
	NMR	BBG	Diff (%)	NMR	BBG	Diff (%)
Sales	15,885	17,172	(7.5)	19,805	21,493	(7.9)
Gross profit	7,155	7,715	(7.3)	9,105	9,478	(3.9)
Operating profit	3,172	4,136	(23.3)	5,067	5,697	(11.1)
Net profit	2,918	3,810	(23.4)	4,662	5,308	(12.2)
EPS (TWD)	36.41	47.28	(23.0)	58.16	65.79	(11.6)
<b>Margin</b>	<b>NMR</b>	<b>BBG</b>	<b>Diff (ppts)</b>	<b>NMR</b>	<b>BBG</b>	<b>Diff (ppts)</b>
Gross margin (%)	45.0	44.9	0.1	46.0	44.1	1.9
Operating margin (%)	20.0	24.1	(4.1)	25.6	26.5	(0.9)
Net margin (%)	18.4	22.2	(3.8)	23.5	24.7	(1.2)

Source: Company data, Bloomberg consensus, Nomura estimates

**Fig. 5: Parade's quarterly product mix**

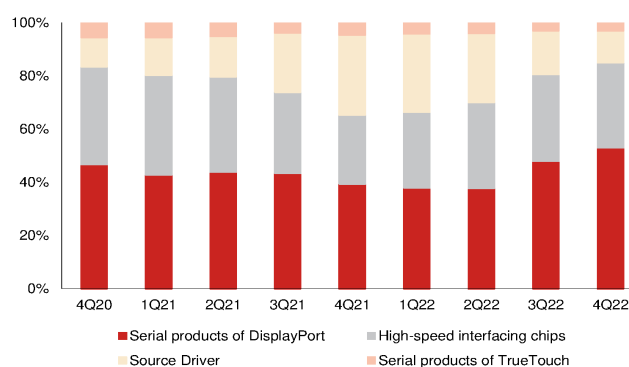
TWD mn



Source: Company data, Nomura research

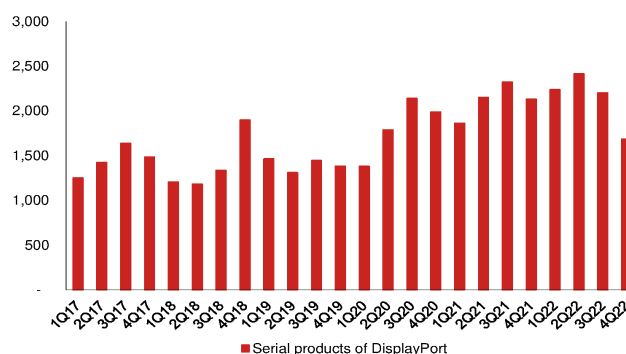
**Fig. 6: Parade's quarterly product mix**

%



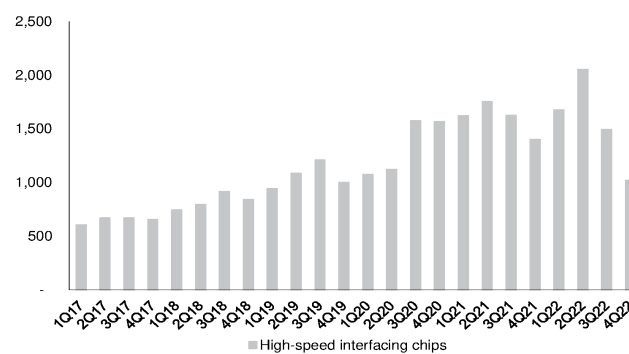
Source: Company data, Nomura research

**Fig. 7: Parade's DP sales trend**

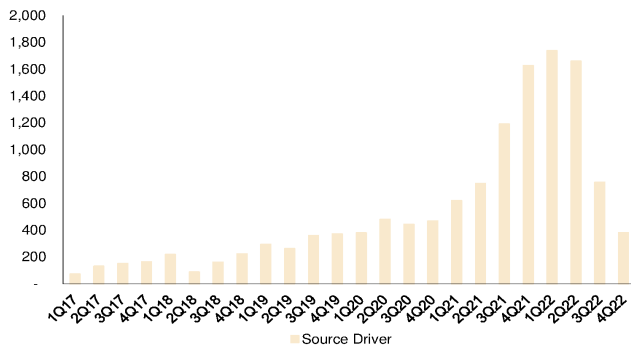


Source: Company data, Nomura research

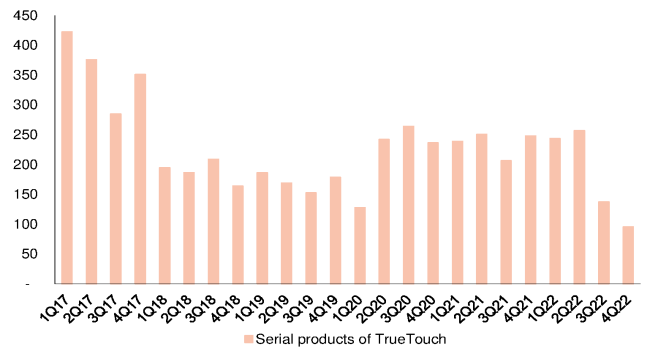
**Fig. 8: Parade's high-speed sales trend**



Source: Company data, Nomura research

**Fig. 9: Parade's Source Driver sales trend**

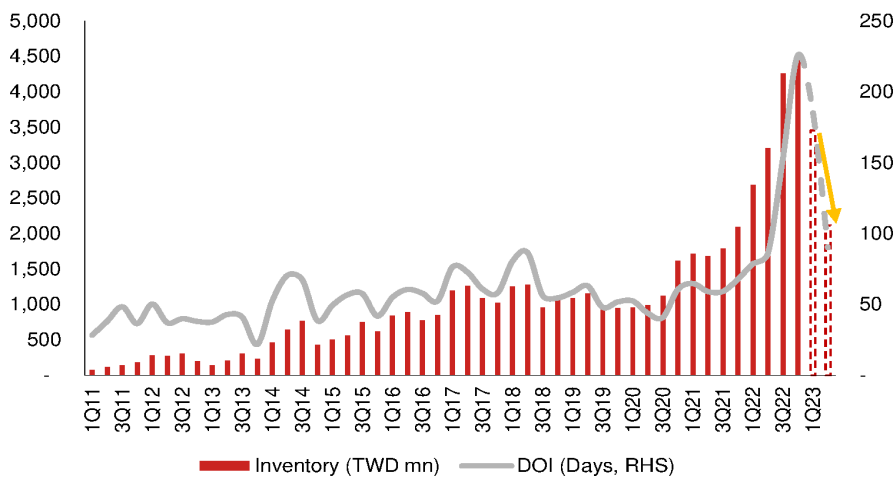
Source: Company data, Nomura research

**Fig. 10: Parade's True Touch sales trend**

Source: Company data, Nomura research

**Fig. 11: Parade's inventory trend**

Inventory to decline in 1Q23F, and even more in 2Q23F

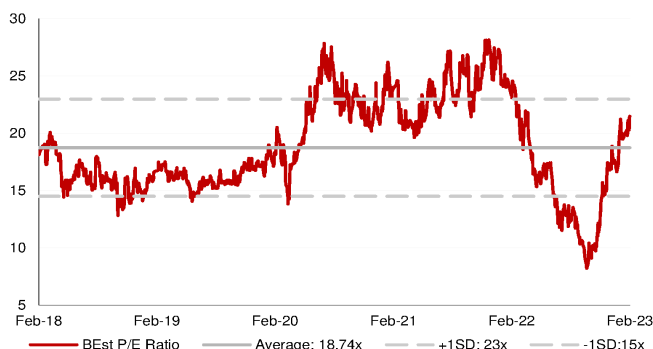


Source: Company data, Nomura research

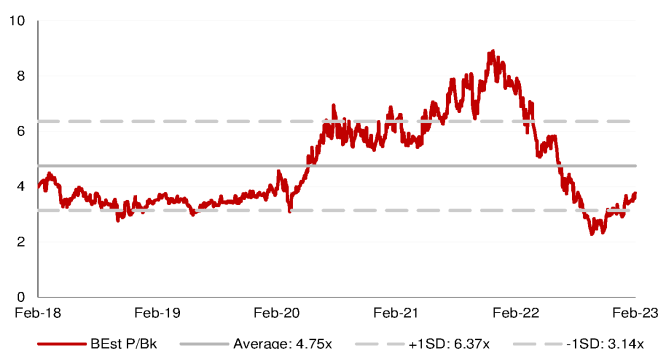
## Valuation methodology and risks

Our TP of TWD1,150 is based on 20x 2024F P/E (from TWD800, on 16x 2023F EPS), at the mid-end of Parade's historical P/E range. 20x is at mid-point of its historical PE range of 8-28x.

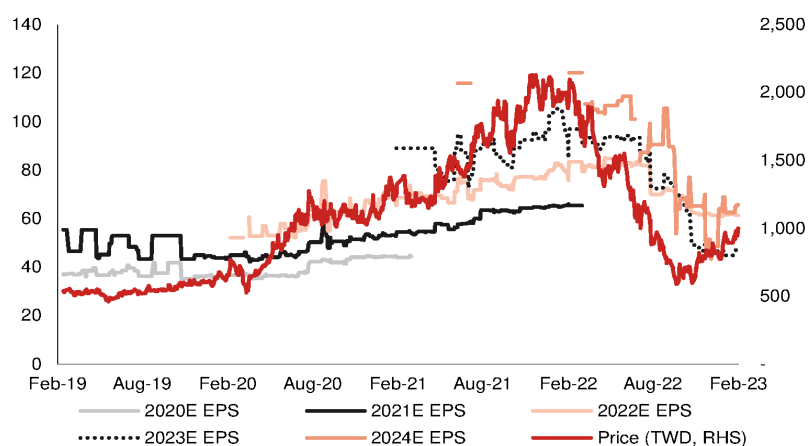
Major risks: 1) weaker-than-expected PC demand; 2) slower-than-expected adoption of mini LED; and 3) slower-than-expected development of PCIe Gen4/5 retimer.

**Fig. 12: Parade's 5-year consensus P/E**

Source: Bloomberg Finance L.P. consensus, Nomura research

**Fig. 13: Parade's 5-year consensus P/B**

Source: Bloomberg Finance L.P. consensus, Nomura research

**Fig. 14: Parade's share price vs Bloomberg consensus EPS revisions**

Source: Company data, Bloomberg Finance L.P. consensus, Nomura research

## Parade: 4Q22/2022 analysts briefing summary

*Below comments are from Parade's management:*

### 4Q22 results

- Revenue: USD101.45mn, -47.77% y-y; -32.83% q-q
- Gross profit: USD44.68mn, -52.46% y-y; -34.66% q-q
- Gross margin: 44%
  - Lower due to mix change, and should recognize inventory reserves under inventory correction (conservative, revaluation loss), within the guidance range
  - Write-off portion is quite small (necessary for aging devices).
  - Competition does not significantly impact GM.
- Net profit: USD14.48mn
- Basic EPS: USD0.18 (TWD5.67); Diluted EPS: USD0.18 (TWD5.6)

### 2022 results

- Revenue: USD679.92mn, -4.82% y-y
- Gross profit: USD316.18mn
- Op profit: USD180mn
- Net profit: USD167.25mn
- Basic EPS: USD2.09 (TWD61.35); Diluted EPS: USD2.06 (TWD60.35)

### 1Q23 guidance

- Revenue: USD90-105mn
- GM: 43-47%
  - Plans to offer some incentives to customers, more on the display than high-speed side. The price quote was not changed significantly.
  - Product mix change
- Opex: USD29-32mn

### Product mix in 4Q22

- True Touch (TT): below 5%
- DP: above 40%
- PS/high speed/Fresco logic: above 30%
- TC/Source driver: above 20%

### Q&A

- Inventory
  - Operations in China have been stopped (as Shanghai office was closed for a couple of weeks due to zero-covid), and one month was needed to deal with covid

infections after the policy easing. Customers were opened only partially.

- Management sees acceleration in manufacturing and for distribution sites after the reopening of offices.
- Into Jan, Parade expects lots of rush orders and pull in, and as a result, the distribution channel to ship an increased number of parts. Moreover, consumption from distribution channels has been accelerating. Started with high-speed devices, now expects the panel industry to also aggressively pull in.
- Inventory in Jan was consumed quickly. By end-1Q23, the distribution channel inventory will likely normalize, according to management. Own inventory will reduce quite a bit by end-1Q23. By end-2Q or within 2Q, management expects the inventory problem to be resolved. Normal level: before pandemic, typically ranged from 60-65 days.
- Do see momentum in 1Q23, distribution channel “ship out” to customers is a lot more than “ship in” to distributors.
- Inventory reduction? Production has reduced a lot; will significantly reduce the dollar amount.
- 2Q
  - 1Q is a low season for PC, particularly in 2023. Once the distribution channel inventory is normalized, the company will start procurement. 2H23 will likely be better than 1H23. Parade has a solid foundation to have a better 2Q.
  - Large OEMs are more willing to take the inventory. Parade views this as a positive trend. China’s reopening should also help consumer devices, with normalization likely in 2H.
  - Long-term GM target? Products are getting better (AMOLED tcon, USB4 retimer, auto projects, etc.).
- 2023 momentum
  - Based on the research reports by third parties, management believes PC units will likely see 10% reduction y-y in 2023.
  - Sees significant growth for Parade’s own devices, especially USB4 retimer – adopted in two significant platforms, with lots of customers. Entered mass production in 4Q22, and is currently accelerating shipment; will likely be a growth momentum for high-speed devices.
  - New announcement of a TED device. Total solutions will likely have a better market share in the display sector. Panel customers are excited to adopt.
- Standard plus customer
  - Parade works with them diligently, and continues with weekly forecasts.
  - Forecasts and guidance already factor in their forecasts.
- Wafer cost
  - Do not materialize the wafer price increase in 2023.
  - Foundries are providing incentives for customers to use their capacity, depending on the situation in the foundry. Some are reducing, some are maintaining, and some are raising prices. Any cost benefits will be seen in 2Q23.
  - Parade reached out to many foundries during the pandemic, and could have better costs after negotiation.
- OLED t-con
  - Have been shipping OLED tcon for some time with NB customers. Recently, Parade developed OLED tcon with customers, these devices can go to production quickly.
  - Price gap is big compared to normal tcon.
- Auto projects
  - PS: fully qualified for EV cars in 2H23, with good shipment size.
  - Engaged in programs with some well-known auto names in Europe.
  - Working with China EV cars, for high-speed and touch. Will go into production later in 2023.
  - Plans to continue shipping high-speed products to one EU car brand. Volume is quite stable.
- USB4
  - USB4 retimer: intel platform has its own solution in consumer space. Parade is largely in AMD platform. Also works with ARM-based NB (reference to Parade)



and Chromebook. Already has first generation device. Very soon will have second generation device, with better cost and power. Parade has a large retimer product portfolio.

- USB4 will dominate all NB/PC. Promote to other applications (e.g. auto). From charging port to video port (Type-C in cars). In three years, half of PC should have these products (USB4).
- Invest heavily to develop relevant technology, such as USB5 (80Gbps).
- Penetration rate: Almost all large OEMs are using Parade's solution. The company is now entering into second-tier OEMs. The ARM-based customer is bullish and Parade works with them very closely.
- TAM of retimer
  - In the past half year, demand for server retimer has not been as large as Parade originally thought. However, its customers still want advanced technology. TAM will likely remain at similar level or maybe a little bit lower.
  - Engage with other customers for more advanced applications for PCIe gen 4/5 (e.g. ADAS system for automotive). Datacenter may not use that many, but other segments can. Automotive market size may be larger than datacenter.
  - Similar profitability for retimers between datacenter and auto. However, auto takes more time to materialize (4-5 years).
  - Revenue to be lower than USD10mn in 2023.
  - Penetrates USB5 to datacenter. ASP continues to go up, but units do not.
- Smartphone (SP)/auto contribution
  - The company does not have much SP business. Focus on NB business.
  - Auto in 2023 will have a good growth rate. Might reach USD10mn of revenue.
- Bundle strategy
  - Customers use total solution. Strategy will not change. Will push TED/TTED.
  - TED has good percentage of panel revenue contribution.
  - Customers are busy on current solution and adoption is slower, but will comeback for advanced solutions eventually.

# Appendix A-1

## Analyst Certification

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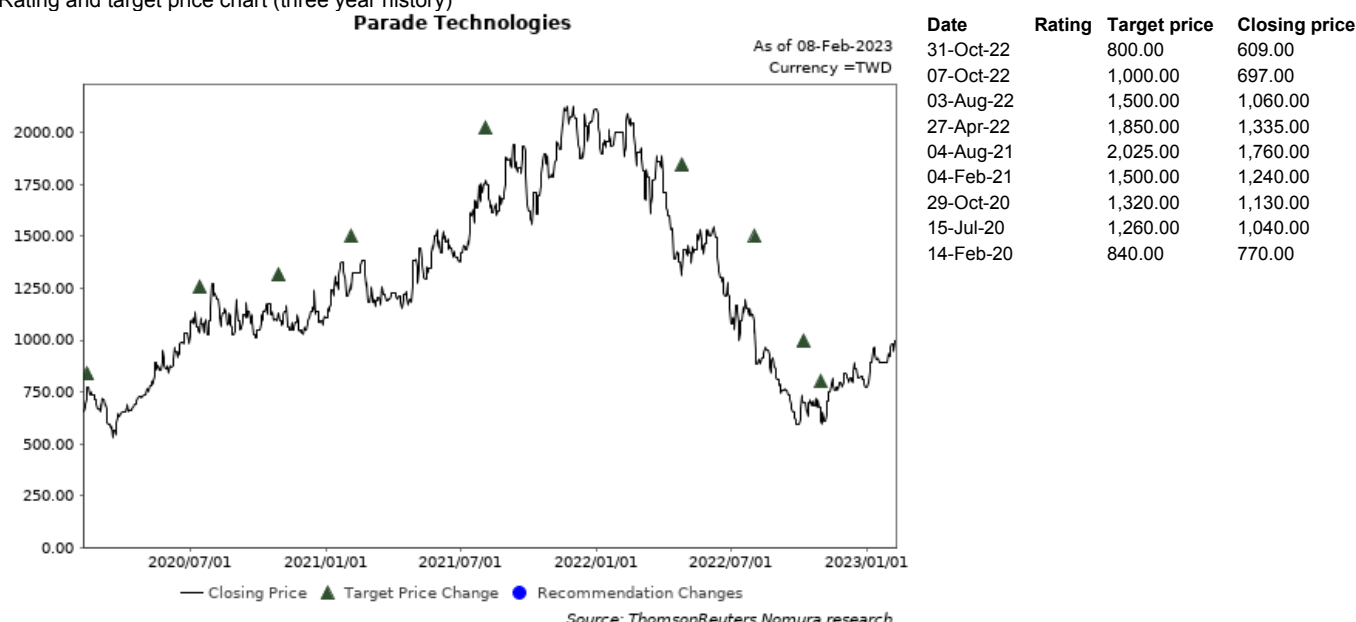
### Materially mentioned issuers

Issuer	Ticker	Price TWD	Price date	Stock rating	Sector rating	Disclosures
Parade Technologies	4966 TT	1,000.00	08-Feb-2023	Buy	N/A	

### Parade Technologies (4966 TT)

TWD 1,000.00 (08-Feb-2023) Buy (Sector rating: N/A)

Rating and target price chart (three year history)



For explanation of ratings refer to the stock rating keys located after chart(s)

**Valuation Methodology** Our TP of TWD1,150 is based on 20x P/E of 2024F EPS, the multiple is at the historical mid-end of Parade's P/E range. The benchmark index for this stock is Taiwan TAIEX index.

**Risks that may impede the achievement of the target price** Major risks: 1) weaker-than-expected PC demand; 2) slower than-expected adoption of mini LED, and; 3) slower-than-expected development of PCIe Gen4/5 retimer.

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As at 31 December 2022.

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