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Rating

Buy

North America United States

TMT

Semicap Equipment

Company

Universal Display Corp.

OLED.OQ

Bloomberg OLED US Exchange NMS

Ticker

Date

2 November 2023

Forecast Change

Price at 2 Nov 2023 (USD)	141.96
Price target	165.00
52-week range	164.60 - 89.97

30 Results: A mixed bag, but not without merits

Generally unchanged CY23 guidance is a positive

3Q results were a mixed bag, as revenues came in below DBe/Street but offset by a low quality EPS beat on lower tax expense. That said, we view a tighter (and roughly unchanged) full-year CY23 revenue range positively when considering current demand volatility in Consumer IT. And while we acknowledge the Royalty/License decline in 3Q on a number of headwinds, we view the "dip" as a one-off occurrence rather that a structural change in business dynamics (further implied by the co's expected return to a normalized materials-to-licensing ratio in 4Q). The company is also making good progress toward commercialization of blue (~\$4.3m in shipments YTD), which we we view as an important step towards commercialization. Net-net, we remain convinced that commercialization of blue in the context of an improved macro could drive significant revenue growth in the out-years and see our forecast for revenue growth of ~20% per year in CY24/CY25 as reasonable. Post results, we tweak our CY23E/CY24E slightly and maintain our Buy rating.

What we liked

1) UDC tightened its full-year CY23 revenue guidance to \$565-590m (vs. \$560-600m prior) as management noted improved visibility over its customers' demand trends entering 4Q. 2) In 3Q, UDC shipped ~\$1.5m of blue emitter material/host, bringing cumulative blue material shipments YTD to ~\$4.3m. While we acknowledge the q/q variability, we see continued, initial shipments as an encouraging step toward commercialization. 3) On LG Display's comments around an initial ramp of Tandem OLED, UDC pointed to a ~1-2x material volume multiplier given the adoption of a two-stack structure/configuration. 4) UDC expects foldable phones to grow ~28% y/y in CY23 to ~16m units. Here, recall management's indication that foldable smartphones adopt ~2-3x the material content vs. typical smartphones, mainly due to the higher numbers of screens present on the devices.

What we monitor

1) 3Q Royalty/License revenues of ~\$46m (vs. DBe of ~\$64m) were down -29% q/q on less favorable customer mix and lower fees per gram for certain customers, given increased demand estimates over the span of their contracts. That said, from a customer mix standpoint, we note UDC's guidance for a return to material-to-licensing ratio of 1.5:1 in 4Q, which should provide more normalized revenue trends for the segment going forward. 2) UDC lowered its full-year CY23 gross margin

Valuation & Risks

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Key changes			
EPS (USD)	3.85 to 4.13	\uparrow	7.2%
Revenue (USDm)	580.0 to 577.5	\downarrow	-0.4%

Deutsche Bank Securities Inc.

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Semicap Equipment Universal Display Corp.

guidance to 76-77% (vs. 77-78% prior) due to a ~\$2.5m inventory provision charge related to on-hand inventory. We note how the outlook implies a moderate sequential decline in the (Material) gross margin profile into 4Q (of ~63.8%, per DBe). 3) 3Q EPS beat was largely driven by a ~\$20c contribution from lower tax expense due to a recent change in IRS regulations but offset by lower revenue.

Results and guide

3Q revenues of \$141m (down -4% q/q and down -12% y/y) came in below DBe/Street at \$151m/\$149m. By segment, material revenues of \$93m (up +20% q/q) were above DBe of \$83m and royalty revenues of \$46m (down -29% q/q) were below DBe of \$63m. By customer, Samsung revenues of ~\$64m (45% of sales) were above DBe of \$60m, LG Display revenues of ~\$28m (20% of sales) were below DBe of \$35m and BOE revenues of ~\$17m (12% of sales) were below DBe of \$20m. EPS of \$1.08 was above DBe/Street of \$1.00. As a reminder, UDC does not provide quarterly guidance, but provided a revised full year revenue outlook of \$565-590m (down -6% y/y at the mid-point). Post results, we raise our 4Q revenue/EPS estimates from \$152m/\$0.98 to \$159m/\$1.18, and adjust CY23E from \$580m/\$3.85 to \$578m/\$4.13, CY24E from \$699m/\$5.00 to \$695m/\$5.15 and CY25E from \$827m/\$6.40 to \$820m/\$6.50.

Valuation and risks

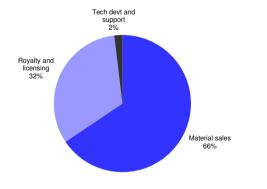
Our price target of \$165 (unchanged) is based on our DCF analysis assuming high growth rates in the next 5 years, with revenues decelerating to a terminal growth rate of 5%. Risks include its reliance of OLED related intellectual property, licensing negotiations with key customers, rate of OLED adoption, availability of display equipment, alternative technologies and global demand for consumer electronics.

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Figure 1: 3Q (Sep-23) results summary

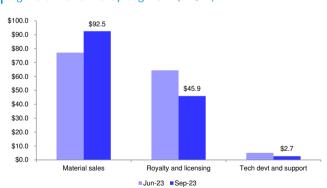
	Sep-23	Sep-23		
in \$m	DBe	Actual	Actual vs. DBe	Comments
Revenues	\$151.0	\$141.1	(\$10.0)	Full-year CY23 guidance of \$565-590m (vs. \$560-600m prior)
q/q	3%	-4%		
Gross Margin	78.5%	75.7%	-282 bps	Materials GM of 65.8%; Full-year Overall GM guide of 76-77%
Opex	\$63.0	\$58.4	(\$4.6)	CY23 Opex expected up LSD y/y
Operating Margin	36.8%	34.3%	-249 bps	
Tax rate	22.0%	4.4%		
EPS (adjusted)	\$1.00	\$1.08	\$0.07	
Revenue by products				
Material sales	\$82.5	\$92.5	\$10.0	CSOT was a ~8% customers with ~\$11m in revs
Royalty and licensing	\$63.4	\$45.9	(\$17.5)	Impacted by customer mix/lower catch-up adjustments
Tech devt and support	\$5.1	\$2.7	(\$2.4)	
Balance sheet				
Cash and marketable securities	\$870	\$793	(\$77)	
Account receivable	\$74	\$122	\$49	
Inventory	\$164	\$181	\$17	
Long term debt	\$0	\$0	\$0	
Cash flow				
Cash flow from operations	\$128.8	\$60.3	(\$68.5)	
Capital expenditures	(\$12.9)	(\$24.9)	(\$12.0)	
Free cash flow	\$115.9	\$48.2	(\$67.6)	
Share repurchases	\$0.0	\$0.0	\$0.0	
Dividend payments	(\$16.7)	(\$16.7)	\$0.1	
Source : Company data, Deutsche Bank estimates				

Figure 2: Revenue split



Source : Company data, Deutsche Bank

Figure 3: Revenue by segment (in \$m)



Source : Company data, Deutsche Bank

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Figure 4: Revenue by geography

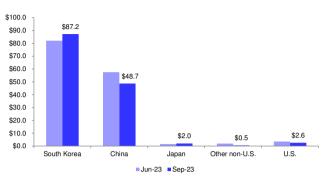




Figure 6: Summary of estimate changes

Year end: Dec	30	223	4C	23E	1Q	24E	CY2	:023E	CY2	024E	CY2	025E
in USD \$m	Old	Actual	Old	New								
Sales	151.0	141.1	151.9	159.4	145.9	150.6	580.0	577.5	698.7	694.7	826.9	820.3
q/q growth	3%	-4%	1%	13%	-4%	-6%						
y/y growth	-6%	-12%	-10%	-6%	12%	15%	-6%	-6%	20%	20%	18%	18%
Gross margin	78.5%	75.7%	78.6%	77.0%	77.4%	77.4%	77.6%	76.5%	77.9%	77.4%	79.6%	79.0%
Operating margin	36.8%	34.3%	35.6%	40.3%	33.7%	37.5%	36.9%	37.5%	40.8%	41.7%	45.3%	45.8%
Adjusted EPS	\$1.00	\$1.08	\$0.98	\$1.18	\$0.89	\$1.03	\$3.85	\$4.13	\$5.00	\$5.15	\$6.40	\$6.50

Source: Company data, Deutsche Bank estimates

Figure 7: Key assumptions used for our base-case scenario

(in \$m)	2023E	2024E	2025E	2026F	2027F	2028F	2029F	2030F	2031F
Total revenue	577.5	694.7	820.3	1,014.3	1,218.4	1,380.6	1,524.1	1,632.2	1,725.2
y/y	-6%	20%	18%	24%	20%	13%	10%	7%	6%
Royalty revenue	226.6	268.8	321.5	390.6	468.7	515.6	567.2	604.3	634.5
Emitter revenue	335.1	411.9	481.2	601.5	721.8	830.1	913.1	972.9	1021.6
Host material revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other revenue	15.9	14.0	17.6	22.1	27.8	34.9	43.8	55.0	69.1
Total gross profit	441.5	537.7	648.2	818.3	982.4	1,086.4	1,196.7	1,272.7	1,339.7
% of sales	76%	77%	79%	81%	81%	79%	79%	78%	78%
Total opex	224.8	247.7	272.2	303.2	333.8	361.4	381.5	397.7	411.6
% of sales	39%	36%	33%	30%	27%	26%	25%	24%	24%
Operating profit	216.8	290.0	376.0	515.1	648.5	725.0	815.2	875.0	928.1
% of sales	38%	42%	46%	51%	53%	53%	53%	54%	54%
Non-Oper income	24.3	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
Pretax income	241.0	318.6	404.6	543.7	677.1	753.5	843.7	903.5	956.6
Tax expense	43.2	70.1	89.0	119.6	149.0	165.8	185.6	198.8	210.5
Net income	197.8	248.5	315.6	424.1	528.1	587.8	658.1	704.7	746.1
EPS	4.13	5.15	6.50	8.69	10.74	11.85	13.16	13.97	14.67

Note: 2023-2025 are DB estimates, 2026 and beyond are DB forecasts for this scenario analysis only Source: Company data, Deutsche Bank estimates

Figure 8: OLED income statement summary

Year End December		Fisca	1 2022			Fiscal	2023E			Fiscal	2024E			Fiscal	2025E	
(\$ in millions)	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4QE	1QE	2QE	3QE	4QE	1QE	2QE	3QE	4QE
	Mar-22	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25	Jun-25	Sep-25	Dec-25
NCOME STATEMENT																
Material sales	86.7	71.9	84.2	88.3	70.2	77.1	92.5	95.3	90.5	89.7	110.3	121.3	115.3	111.8	125.8	128.3
Royalty and license fees	59.8	60.3	71.5	75.6	55.2	64.4	45.9	61.1	57.0	72.9	63.2	75.6	66.7	86.6	77.5	90.7
Tech development and support rev	4.0	4.4	4.9	5.1	5.1	5.1	2.7	3.1	3.1	3.2	3.7	4.0	4.1	4.3	4.5	4.6
Total revenues	150.5	136.6	160.6	169.0	130.5	146.6	141.1	159.4	150.6	165.8	177.2	201.0	186.1	202.7	207.8	223.7
QoQ	3%	-9%	18%	5%	-23%	12%	-4%	13%	-6%	10%	7%	13%	-7%	9%	3%	8%
YoY	12%	5%	12%	16%	-13%	7%	-12%	-6%	15%	13%	26%	26%	24%	22%	17%	11%
Total cost of sales	33.2	27.2	37.4	30.1	33.0	32.1	34.2	36.6	34.0	34.8	42.0	46.2	43.2	40.3	43.9	44.8
Gross profit	117.3	109.3	123.2	138.9	97.5	114.4	106.8	122.8	116.6	131.0	135.3	154.9	142.9	162.4	164.0	178.9
Research and development	26.5	28.2	30.4	31.9	31.4	32.3	33.1	33.1	33.8	35.4	36.5	37.6	38.9	39.3	41.3	42.1
Sales and marketing	21.1	19.9	18.4	18.5	15.4	17.1	18.1	18.1	19.0	18.6	18.8	18.8	19.2	19.6	20.7	21.8
Patent costs and amort of acq tech	7.3	7.8	5.6	5.2	5.1	6.2	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
Royalty and license expense	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total operating exp	55.1	56.0	54.7	55.9	52.1	55.8	58.4	58.5	60.0	61.4	62.6	63.7	65.4	66.2	69.3	71.2
Operating Income	62.3	53.3	68.5	83.1	45.4	58.6	48.4	64.3	56.5	69.7	72.7	91.1	77.5	96.2	94.6	107.7
Interest income, net	0.3	1.6	2.4	3.5	7.0	6.2	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
Other income (loss)	(0.0)	0.1	(0.8)	(5.9)	(0.7)	(0.8)	(1.7)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total other income/(expense)	0.3	1.7	1.6	(2.4)	6.3	5.4	5.4	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
Income before income taxes	62.5	55.0	70.1	80.6	51.6	64.1	53.9	71.5	63.7	76.8	79.8	98.3	84.6	103.4	101.8	114.8
Income taxes	(12.5)	(13.5)	(16.6)	(15.5)	(11.8)	(14.4)	(2.4)	(14.6)	(14.0)	(16.9)	(17.6)	(21.6)	(18.6)	(22.7)	(22.4)	(25.3)
Net income, non-GAAP	50.0	41.5	53.5	65.1	39.8	49.7	51.5	56.8	49.7	59.9	62.2	76.6	66.0	80.6	79.4	89.6
Net Income, GAAP	50.0	41.5	53.5	65.1	39.8	49.7	51.5	56.8	49.7	59.9	62.2	76.6	66.0	80.6	79.4	89.6
GAAP EPS (Diluted)	\$1.05	\$0.87	\$1.13	\$1.37	\$0.84	\$1.04	\$1.08	\$1.19	\$1.03	\$1.24	\$1.29	\$1.58	\$1.35	\$1.64	\$1.61	\$1.81
Non-GAAP EPS	\$1.05	\$0.87	\$1.12	\$1.36	\$0.83	\$1.04	\$1.08	\$1.18	\$1.03	\$1.24	\$1.29	\$1.59	\$1.36	\$1.66	\$1.63	\$1.84
Avg. Shares - Diluted (Non-GAAP)	47.4	47.5	47.5	47.5	47.6	47.6	47.6	47.7	47.8	47.9	48.0	48.1	48.2	48.3	48.4	48.5
Dividends per share	\$0.30	\$0.30	\$0.30	\$0.30	\$0.35	\$0.35	\$0.35	\$0.35	\$0.40	\$0.40	\$0.40	\$0.40	\$0.45	\$0.45	\$0.45	\$0.45
Margin Structure																
Gross margin (overall)	78.0%	80.1%	76.7%	82.2%	74.7%	78.1%	75.7%	77.0%	77.4%	79.0%	76.3%	77.0%	76.8%	80.1%	78.9%	80.0%
Gross Margin (material)	65.5%	65.2%	59.5%	69.9%	58.0%	62.9%	65.8%	63.8%	64.8%	63.7%	64.3%	64.3%	65.1%	66.7%	67.7%	67.7%
Research and development	17.6%	20.6%	18.9%	18.9%	24.1%	22.1%	23.5%	20.8%	22.4%	21.4%	20.6%	18.7%	20.9%	19.4%	19.9%	18.8%
Sales and marketing	14.0%	14.5%	11.5%	11.0%	11.8%	11.7%	12.8%	11.3%	12.6%	11.2%	10.6%	9.4%	10.3%	9.6%	10.0%	9.7%
Patent costs and amort of acq tech	4.8%	5.7%	3.5%	3.0%	3.9%	4.2%	5.1%	4.5%	4.7%	4.3%	4.0%	3.5%	3.8%	3.5%	3.4%	3.2%
Royalty and license expense	0.1%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Operating Expenses	36.6%	41.0%	34.1%	33.0%	40.0%	38.1%	41.4%	36.7%	39.9%	37.0%	35.3%	31.7%	35.2%	32.7%	33.4%	31.8%
Operating Margin	41.4%	39.0%	42.6%	49.2%	34.8%	40.0%	34.3%	40.3%	37.5%	42.0%	41.0%	45.3%	41.6%	47.5%	45.5%	48.2%
Tax Rate	20.1%	24.5%	23.7%	19.2%	22.8%	22.4%	4.4%	20.5%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%
Net Margin	33.2%	30.4%	33.3%	38.5%	30.5%	33.9%	36.5%	35.6%	33.0%	36.1%	35.1%	38.1%	35.5%	39.8%	38.2%	40.0%
· · · · · · · · · · · · · · · · · · ·	33.270	00,0	55.576	00.070	00.070	00.070	00.070	00.070	55.575	55.170	00.170	00.170	30.070	00.070	30.270	.0.070

	1						
Ε		2020	2021	2022	2023E	2024E	2025E
-25		CY	CY	CY	CY	CY	CY
.3		229.7	318.6	331.1	335.1	411.9	481.2
7		185.1	219.0	267.1	226.6	268.8	321.5
3		14.1	15.9	18.4	15.9	14.0	17.6
.7		428.9	553.5	616.6	577.5	694.7	820.3
6							
%		6%	29%	11%	-6%	20%	18%
8		85.5	115.0	127.9	136.0	156.9	172.1
.9		343.4	438.5	488.7	441.5	537.7	648.2
1		83.9	99.7	117.1	129.9	143.3	161.6
8		61.3	80.4	77.9	68.6	75.2	81.2
1		29.5	30.2	25.8	25.6	28.5	28.5
2		11.1	0.7	0.9	0.6	0.7	8.0
2		185.9	210.9	221.6	224.8	247.7	272.2
.7		157.5	227.6	267.1	216.8	290.0	376.0
		5.1	0.5	7.8	27.4	28.5	28.5
)		0.9	0.1	(6.7)	(3.2)	0.0	0.0
1		6.0	0.6	1.1	24.3	28.5	28.5
.8		163.5	228.2	268.2	241.0	318.6	404.6
.3)		(30.2)	(44.0)	(58.2)	(43.2)	(70.1)	(89.0)
6		133.4	184.2	210.1	197.8	248.5	315.6
6		133.4	184.2	210.1	197.8	248.5	315.6
31		\$2.82	\$3.89	\$4.43	\$4.15	\$5.14	\$6.42
34		\$2.80	\$3.87	\$4.40	\$4.13	\$5.15	\$6.50
5		47.2	47.4	47.5	47.6	48.0	48.4
J		47.2	47.4	47.5	47.0	40.0	40.4
45		\$0.60	\$0.80	\$1.20	\$1.40	\$1.60	\$1.80
)%		80.1%	79.2%	79.3%	76.5%	77.4%	79.0%
7%		66.9%	67.2%	65.1%	62.9%	64.3%	66.8%
3%		19.6%	18.0%	19.0%	22.5%	20.6%	19.7%
%		14.3%	14.5%	12.6%	11.9%	10.8%	9.9%
%		6.9%	5.4%	4.2%	4.4%	4.1%	3.5%
%		2.6%	0.1%	0.1%	0.1%	0.1%	0.1%
3%		43.3%	38.1%	35.9%	38.9%	35.7%	33.2%
2%		36.7%	41.1%	43.3%	37.5%	41.7%	45.8%
)%		18.4%	19.3%	21.7%	17.9%	22.0%	22.0%
)%		31.1%	33.3%	34.1%	34.3%	35.8%	38.5%

Source : Company data, Deutsche Bank estimates



2 November 2023 Semicap Equipment Universal Display Corp.

Semicap Equipment Universal Display Corp.

Appendix 1

Important Disclosures

*Other information available upon request

Disclosure checklist			
Company	Ticker	Recent price*	Disclosure
Universal Display Corp.	OLED.OQ	141.96 (USD) 02 Nov 2023	2

^{*}Prices are current as of the end of the previous trading session unless otherwise indicated and are sourced from local exchanges via Reuters, Bloomberg and other vendors. Other information is sourced from Deutsche Bank, subject companies, and other sources. For disclosures pertaining to recommendations or estimates made on securities other than the primary subject of this research, please see the most recently published company report or visit our global disclosure look-up page on our website at https://research.db.com/Research/Disclosures/Dis

Important Disclosures Required by U.S. Regulators

Disclosures marked with an asterisk may also be required by at least one jurisdiction in addition to the United States. See Important Disclosures Required by Non-US Regulators and Explanatory Notes.

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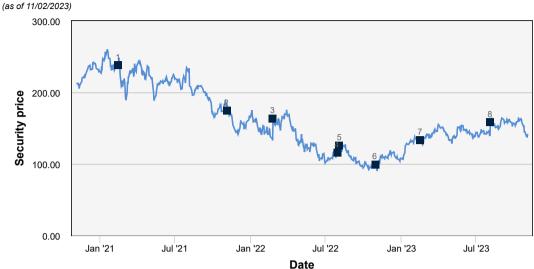
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Semicap Equipment Universal Display Corp.

Historical recommendations and target price: Universal Display Corp. (OLED.OQ)



Current Recommendations

Buy Hold Sell Not Rated Suspended Rating

** Analyst is no longer at Deutsche Bank

1.	02/15/2021	Buy, Target Price Change USD 270.00, Current Price USD 238.16 Sidney Ho	5.	08/05/2022	Buy, Target Price Change USD 140.00, Current Price USD 125.41 Sidney Ho
2.	11/05/2021	Buy, Target Price Change USD 240.00, Current Price USD 174.35 Sidney Ho	6.	10/30/2022	Buy, Target Price Change USD 130.00, Current Price USD 99.05 Sidney Ho
3.	02/24/2022	Buy, Target Price Change USD 180.00, Current Price USD 163.18 Sidney Ho	7.	02/16/2023	Buy, Target Price Change USD 150.00, Current Price USD 133.44 Sidney Ho
4.	07/31/2022	Buy, Target Price Change USD 150.00, Current Price USD 115.46 Sidney Ho	8.	08/04/2023	Buy, Target Price Change USD 165.00, Current Price USD 158.21 Sidney Ho

Equity Rating Key

Buy: Based on a current 12-month view of TSR, we recommend that investors buy the stock.

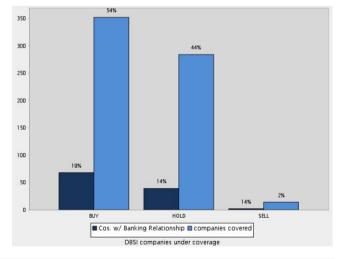
Sell: Based on a current 12-month view of TSR, we recommend that investors sell the stock.

Hold: We take a neutral view on the stock 12-months out and, based on this time horizon, do not recommend either a Buy or Sell.

TSR = Total Shareholder Return. Percentage change in share price from current price to projected target price plus projected dividend yield

Newly issued research recommendations and target prices supersede previously published research.

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