

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM 10-Q**

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**


For the quarterly period ended **September 30, March 31, 2023 2024**

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number 1-12031

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**UNIVERSAL DISPLAY CORPORATION**

(Exact name of registrant as specified in its charter)

**Pennsylvania**

**23-2372688**

(State or other jurisdiction of  
incorporation or organization)

(I.R.S. Employer  
Identification No.)

**250 Phillips Boulevard, Ewing, New Jersey**

**08618**

(Address of principal executive offices)

(Zip Code)

**Registrant's telephone number, including area code: (609) 671-0980**

Securities registered pursuant to Section 12(b) of the Act:

Title of each class

Trading Symbol(s)

Name of each exchange on which registered

Common Stock, \$0.01 par value

OLED

The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit

such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>	Emerging growth company	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial account standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of November 1, 2023 April 29, 2024, the registrant had outstanding 47,358,076 47,439,488 shares of common stock.

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## PART I – FINANCIAL INFORMATION

### ITEM 1. FINANCIAL STATEMENTS

#### UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES

#### CONSOLIDATED BALANCE SHEETS

(UNAUDITED)

(in thousands, except share and per share data)

	September 30, 2023	December 31, 2022	March 31, 2024	December 31, 2023
<b>ASSETS</b>				
<b>CURRENT ASSETS:</b>				
Cash and cash equivalents	\$ 79,323	\$ 93,430	\$ 74,012	\$ 91,985
Short-term investments	412,350	484,345	465,293	422,137
Accounts receivable	122,192	92,664	119,584	139,850
Inventory	181,406	183,220	172,905	175,795
Other current assets	83,444	45,791	89,478	87,365
Total current assets	878,715	899,450	921,272	917,132
PROPERTY AND EQUIPMENT, net of accumulated depreciation of \$137,020 and \$117,118	174,638	143,445		
ACQUIRED TECHNOLOGY, net of accumulated amortization of \$182,657 and \$189,671	94,518	38,382		
OTHER INTANGIBLE ASSETS, net of accumulated amortization of \$10,055 and \$8,989	7,233	8,247		
PROPERTY AND EQUIPMENT, net of accumulated depreciation of \$149,062 and \$143,908			175,896	175,150
ACQUIRED TECHNOLOGY, net of accumulated amortization of \$191,043 and \$186,850			86,132	90,325
OTHER INTANGIBLE ASSETS, net of accumulated amortization of \$10,769 and \$10,414			6,519	6,874

GOODWILL	15,535	15,535	15,535	15,535
INVESTMENTS	301,193	259,861	312,939	299,548
DEFERRED INCOME TAXES	49,637	58,161	63,040	59,108
OTHER ASSETS	101,447	109,739	102,382	105,289
TOTAL ASSETS	<u>\$ 1,622,916</u>	<u>\$ 1,532,820</u>	<u>\$ 1,683,715</u>	<u>\$ 1,668,961</u>
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>				
CURRENT LIABILITIES:				
Accounts payable	\$ 20,624	\$ 9,519	\$ 12,841	\$ 10,933
Accrued expenses	38,500	51,002	42,099	52,080
Deferred revenue	66,828	45,599	19,157	47,713
Other current liabilities	5,391	29,577	20,882	8,096
Total current liabilities	<u>131,343</u>	<u>135,697</u>	<u>94,979</u>	<u>118,822</u>
DEFERRED REVENUE	8,859	18,279	13,292	12,006
RETIREMENT PLAN BENEFIT LIABILITY	61,165	59,790	52,568	52,249
OTHER LIABILITIES	39,183	43,685	37,976	38,658
Total liabilities	<u>240,550</u>	<u>257,451</u>	<u>198,815</u>	<u>221,735</u>
COMMITMENTS AND CONTINGENCIES (Note 18)				
SHAREHOLDERS' EQUITY:				
Preferred Stock, par value \$0.01 per share, 5,000,000 shares authorized, 200,000 shares of Series A Nonconvertible Preferred Stock issued and outstanding (liquidation value of \$7.50 per share or \$1,500)				
	2	2		
Common Stock, par value \$0.01 per share, 200,000,000 shares authorized, 48,720,530 and 49,136,030 shares issued, and 47,354,882 and 47,770,382 shares outstanding, at September 30, 2023 and December 31, 2022, respectively				
	487	491		
Preferred Stock, par value \$0.01 per share, 5,000,000 shares authorized, 200,000 shares of Series A Nonconvertible Preferred Stock issued and outstanding (liquidation value of \$7.50 per share or \$1,500)				
			2	2
Common Stock, par value \$0.01 per share, 200,000,000 shares authorized, 48,804,964 and 48,731,026 shares issued, and 47,439,316 and 47,365,378 shares outstanding, at March 31, 2024 and December 31, 2023, respectively				
			488	487
Additional paid-in capital	693,899	681,335	702,609	699,554
Retained earnings	744,227	653,277	826,879	789,553
Accumulated other comprehensive loss	(14,965)	(18,452)	(3,794)	(1,086)
Treasury stock, at cost (1,365,648 shares at September 30, 2023 and December 31, 2022)	<u>(41,284)</u>	<u>(41,284)</u>		
Treasury stock, at cost (1,365,648 shares at March 31, 2024 and December 31, 2023)			<u>(41,284)</u>	<u>(41,284)</u>

Total shareholders' equity	1,382,366	1,275,369	1,484,900	1,447,226
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	\$ 1,622,916	\$ 1,532,820	\$ 1,683,715	\$ 1,668,961

The accompanying notes are an integral part of these Consolidated Financial Statements.

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## UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES

### CONSOLIDATED STATEMENTS OF INCOME

(UNAUDITED)

(in thousands, except share and per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,		Three Months Ended March 31,	
	2023	2022	2023	2022	2024	2023
REVENUE:						
Material sales			239,78	242,74		
	\$ 92,492	\$ 84,182	\$ 9	\$ 2	\$ 93,284	\$ 70,190
Royalty and license fees			165,52	191,53		
	45,915	71,450	4	0	68,268	55,210
Contract research services			12,796	13,315		
	2,670	4,924			3,707	5,067
Total revenue	141,07	160,55	418,10	447,58		
	7	6	9	7	165,259	130,467
COST OF SALES	34,248	37,396	99,357	97,798	36,969	32,970
Gross margin	106,82	123,16	318,75	349,78		
	9	0	2	9	128,290	97,497
OPERATING EXPENSES:						
Research and development	33,099	30,414	96,840	85,156	37,985	31,423
Selling, general and administrative	18,084	18,442	50,557	59,373	19,252	15,396
Amortization of acquired technology and other intangible assets	4,557	3,562	11,442	14,562	4,548	2,891
Patent costs	2,572	2,018	7,056	6,075	1,982	2,255
Royalty and license expense	81	261	414	596	1,651	164
Total operating expenses			166,30	165,76		
	58,393	54,697	9	2	65,418	52,129
OPERATING INCOME			152,44	184,02		
	48,436	68,463	3	7	62,872	45,368
Interest income, net	7,136	2,432	20,301	4,306	9,568	6,967
Other loss, net	(1,693)	(804)	(3,180)	(749)	(1,943)	(703)
Interest and other income, net	5,443	1,628	17,121	3,557		
Interest and other loss, net					7,625	6,264

INCOME BEFORE INCOME TAXES			169,56	187,58		
	53,879	70,091	4	4	70,497	51,632
INCOME TAX EXPENSE		(16,63	(28,53	(42,65		
	(2,363)	6)	1)	7)	(13,644)	(11,793)
NET INCOME			141,03	144,92		
	\$ 51,516	\$ 53,455	\$ 3	\$ 7	\$ 56,853	\$ 39,839
NET INCOME PER COMMON SHARE:						
BASIC	\$ 1.08	\$ 1.12	\$ 2.95	\$ 3.04	\$ 1.19	\$ 0.83
DILUTED	\$ 1.08	\$ 1.12	\$ 2.95	\$ 3.04	\$ 1.19	\$ 0.83
WEIGHTED AVERAGE SHARES USED IN COMPUTING NET INCOME PER COMMON SHARE:						
BASIC	47,570	47,396	47,555	47,386		
	,099	,495	,734	,426	47,557,959	47,523,593
DILUTED	47,632	47,466	47,609	47,455		
	,431	,934	,692	,893	47,628,492	47,567,007
CASH DIVIDENDS DECLARED PER COMMON SHARE	\$ 0.35	\$ 0.30	\$ 1.05	\$ 0.90	\$ 0.40	\$ 0.35

The accompanying notes are an integral part of these Consolidated Financial Statements.

**UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**  
**(UNAUDITED)**  
*(in thousands)*

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
NET INCOME	\$ 51,516	\$ 53,455	\$ 141,033	\$ 144,927
OTHER COMPREHENSIVE INCOME (LOSS), NET OF TAX:				
Unrealized gain (loss) on available-for-sale securities, net of tax of (\$318), \$572, (\$756) and \$2,120, respectively	1,138	(1,680)	2,706	(7,231)
Amortization of prior service cost and actuarial loss for retirement plan included in net periodic pension costs, net of tax of (\$71), (\$159), (\$212) and (\$444), respectively	253	493	759	1,511
Change in cumulative foreign currency translation adjustment	(44)	(191)	22	(601)
TOTAL OTHER COMPREHENSIVE INCOME (LOSS)	1,347	(1,378)	3,487	(6,321)
COMPREHENSIVE INCOME	\$ 52,863	\$ 52,077	\$ 144,520	\$ 138,606

	Three Months Ended March 31,	
	2024	2023
NET INCOME	\$ 56,853	\$ 39,839
OTHER COMPREHENSIVE (LOSS) INCOME, NET OF TAX:		
Unrealized (loss) gain on available-for-sale securities, net of tax of none and (\$733), respectively	(2,666)	2,627
Amortization of prior service cost and actuarial loss for retirement plan included in net periodic pension costs, net of tax of (\$3) and (\$71), respectively	8	253
Change in cumulative foreign currency translation adjustment	(50)	95
TOTAL OTHER COMPREHENSIVE (LOSS) INCOME	(2,708)	2,975
COMPREHENSIVE INCOME	\$ 54,145	\$ 42,814

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**UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY**  
**(UNAUDITED)**

Three Months Ended September 30, 2023										Three Months Ended March 31, 2024									
Series A Nonconvertible Addition Other Total Convertible Other Total Preferred Common Paid-in Additional Treasury Stock Shareholders'										Series A Nonconvertible Additional Other Total Preferred Stock Common Stock Paid-in Retained Comprehensive Treasury Stock Shareholders'									
Shares	Amount	Shares	Amount	Capital	Earnings	Loss	Shares	Amount	Equity	Shares	Amount	Capital	Earnings	Loss	Shares	Amount	Equity		

BALANCE,	4																															
JUNE 30, 2023	8,										1, 1,																					
	2		7		6		7		3		3																					
	0		0		8		0		(1		6		(4		3																	
	0,		6,		6,		9,		6,		5,		1,		8,																	
	0		9		4		5		3		3		6		2		7															
	0		3		8		0		7		1		4		8		6															
	0		\$ 2		2		\$ 7		\$ 1		\$ 2		\$ 2)		8		\$ 4)		\$ 6													
BALANCE,																																
DECEMBER 31,																																
2023										200,000	\$	2	48,731,026	\$	487	\$ 699,554	\$ 789,553	\$	(1,086)	1,365,648	\$ (41,284)	\$	1,447,226									
Net income											5										5											
											1,										1,											
											5										5											
											1										1											
	—	—	—	—	—	6	—	—	—	6	—	—	—	—	—	56,853	—	—	—	—	56,853											
Other comprehensive income											1,										1,											
											3										3											
											4										4											
	—	—	—	—	—	—	7	—	—	7																						
Other comprehensive loss																						—	—	—	—	—	—	(2,708)	—	—	—	(2,708)
Cash dividend											(1										(1											
											6,										6,											
											6										6											
											6										6											
	—	—	—	—	—	1)	—	—	—	1)	—	—	—	—	—	(19,527)	—	—	—	—	(19,527)											
Issuance of common stock to employees	8,		6,								6,																					
	9		7								7																					
	0		3								3																					
	—	—	8	—	8	—	—	—	—	8	—	—	103,752	1	8,552	—	—	—	—	8,553												
Shares withheld for employee taxes	(3		,1		(4						(4																					
	9		6								6																					
	—	—	0)	—	6)	—	—	—	—	6)	—	—	(39,829)	—	(7,058)	—	—	—	—	(7,058)												
Issuance of common stock to Board of Directors and Scientific Advisory Board																																
	3,																															
	3		4								4																					
	0		2								2																					
	—	—	4	—	3	—	—	—	—	3	—	—	5,552	—	758	—	—	—	—	758												





Other						3,			3,
comprehensive						4			4
income						8			8
	—	—	—	—	—	7	—	—	7
Cash dividend						(5			(5
						0,			0,
						0			0
						8			8
	—	—	—	—	—	3)	—	—	3)
Issuance of			1						
common stock			3		1				1
to employees			9,		6,				6,
			8		9				9
			2		4				4
	—	—	6	1	6	—	—	—	7
Shares			(5						
withheld for			6,		(7				(7
employee			5		,8				,8
taxes			0		9				9
	—	—	4)	—	5)	—	—	—	5)
Cancellation of			(5						
restricted stock			2						
awards			6,						
			2						
			4						
	—	—	1)	(5)	5	—	—	—	—
Issuance of			1						
common stock			3,		1,				1,
to Board of			5		5				5
Directors			0		6				6
and Scientific			4	—	4	—	—	—	4
Advisory Board	—	—	4	—	4	—	—	—	4
Issuance of			1						
common stock			3,		1,				1,
to employees			9		9				9
under an			1		4				4
ESPP	—	—	5	—	4	—	—	—	4



**UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY**

**(UNAUDITED)**

*(in thousands, except for share data)*

Three Months Ended September 30, 2022										
	Series A				Accumulated				Total	
	Nonconvertible				Additional		Other		Treasury Stock	
	Preferred Stock		Common Stock		Paid-in		Comprehensive			
	Shares	Amount	Shares	Amount	Capital	Earnings	Loss	Shares	Amount	Equity
BALANCE,										
JUNE 30, 2022	200,000	\$ 2	49,115,444	\$ 491	\$ 666,087	\$ 563,191	\$ (23,178)	1,365,648	\$ (41,284)	\$ 1,165,309
Net income	—	—	—	—	—	53,455	—	—	—	53,455
Other comprehensive										
loss	—	—	—	—	—	—	(1,378)	—	—	(1,378)
Cash dividend	—	—	—	—	—	(14,247)	—	—	—	(14,247)
Issuance of common										
stock										
to employees	—	—	8,753	—	8,209	—	—	—	—	8,209
Shares withheld for										
employee taxes	—	—	(2,852)	—	(306)	—	—	—	—	(306)
Issuance of common										
stock to Board of										
Directors										
and Scientific Advisory										
Board	—	—	2,196	—	347	—	—	—	—	347
Issuance of common										
stock to employees under										
an ESPP	—	—	4,984	—	436	—	—	—	—	436
BALANCE,										
SEPTEMBER 30, 2022	200,000	\$ 2	49,128,525	\$ 491	\$ 674,773	\$ 602,399	\$ (24,556)	1,365,648	\$ (41,284)	\$ 1,211,825
Nine Months Ended September 30, 2022										
	Series A				Accumulated				Total	
	Nonconvertible				Additional		Other		Treasury Stock	
	Preferred Stock		Common Stock		Paid-in		Comprehensive			
	Shares	Amount	Shares	Amount	Capital	Earnings	Loss	Shares	Amount	Equity
BALANCE,										
DECEMBER 31, 2021	200,000	\$ 2	49,065,924	\$ 491	\$ 658,728	\$ 500,212	\$ (18,235)	1,365,648	\$ (41,284)	\$ 1,099,914
Net income	—	—	—	—	—	144,927	—	—	—	144,927

Other comprehensive loss	—	—	—	—	—	—	(6,321)	—	—	(6,321)
Cash dividend	—	—	—	—	—	(42,740)	—	—	—	(42,740)
Issuance of common stock to employees	—	—	70,887	—	22,147	—	—	—	—	22,147
Shares withheld for employee taxes	—	—	(31,334)	—	(9,150)	—	—	—	—	(9,150)
Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	10,022	—	1,421	—	—	—	—	1,421
Issuance of common stock to employees under an ESPP	—	—	13,026	—	1,627	—	—	—	—	1,627
BALANCE, SEPTEMBER 30, 2022	200,000	\$ 2	49,128,525	\$ 491	\$ 674,773	\$ 602,399	\$ (24,556)	1,365,648	\$ (41,284)	\$ 1,211,825

*The accompanying notes are an integral part of these Consolidated Financial Statements.*

## UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES

### CONSOLIDATED STATEMENTS OF CASH FLOWS

(UNAUDITED)

(in thousands)

	Nine Months Ended September 30,		Three Months Ended March 31,	
	2023	2022	2024	2023
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>				
Net income	\$ 141,033	\$ 144,927	\$ 56,853	\$ 39,839
Adjustments to reconcile net income to net cash provided by operating activities:				
Depreciation	20,128	17,982	6,616	6,496
Amortization of intangibles	11,442	14,562	4,548	2,891
Amortization of premium and discount on investments, net	(9,436)	(3,469)	(2,236)	(3,597)
Stock-based compensation to employees	17,359	22,528		
Stock-based compensation to Board of Directors and Scientific Advisory Board	1,264	1,121		
Deferred income tax expense (benefit)	7,556	(7,876)		
Stock-based compensation			9,174	4,415
Deferred income tax benefit			(3,936)	(5,936)
Retirement plan expense, net of benefit payments	2,347	3,998	330	782

Decrease (increase) in assets:				
Accounts receivable	(29,528)	29,446	20,266	(13)
Inventory	1,814	(46,034)	2,890	8,975
Other current assets	(37,653)	(9,057)	(2,113)	8,598
Other assets	8,292	2,282	2,907	5,515
Increase (decrease) in liabilities:				
Accounts payable and accrued expenses	(32)	7,217	(7,977)	(24,116)
Other current liabilities	(24,186)	(543)	12,786	12,874
Deferred revenue	11,809	(63,066)	(27,270)	(8,616)
Other liabilities	(4,502)	10,156	(682)	(486)
Net cash provided by operating activities	117,707	124,174	72,156	47,621
CASH FLOWS FROM INVESTING ACTIVITIES:				
Purchases of property and equipment	(52,208)	(31,119)	(7,206)	(9,098)
Purchases of intangibles	(66,563)	(4,761)	—	(51)
Purchases of investments	(303,004)	(464,766)	(99,947)	(65,207)
Proceeds from sale and maturity of investments	346,407	302,872	42,970	115,031
Net cash used in investing activities	(75,368)	(197,774)		
Net cash (used in) provided by investing activities			(64,183)	40,675
CASH FLOWS FROM FINANCING ACTIVITIES:				
Proceeds from issuance of common stock	1,532	1,247	639	518
Payment of withholding taxes related to stock-based compensation to employees	(7,895)	(9,150)	(7,058)	(7,181)
Cash dividends paid	(50,083)	(42,740)	(19,527)	(16,769)
Net cash used in financing activities	(56,446)	(50,643)	(25,946)	(23,432)
DECREASE IN CASH AND CASH EQUIVALENTS	(14,107)	(124,243)		
(DECREASE) INCREASE IN CASH AND CASH EQUIVALENTS			(17,973)	64,864
CASH AND CASH EQUIVALENTS, BEGINNING OF PERIOD	93,430	311,993	91,985	93,430
CASH AND CASH EQUIVALENTS, END OF PERIOD	\$ 79,323	\$ 187,750	\$ 74,012	\$ 158,294
Supplemental disclosures:				
Unrealized gain (loss) on available-for-sale securities	\$ 3,304	\$ (9,711)		
SUPPLEMENTAL DISCLOSURES:				
Unrealized (loss) gain on available-for-sale securities			\$ (2,666)	\$ 3,202
Common stock issued to Board of Directors and Scientific Advisory Board that was				
earned and accrued for in a previous period	300	300	300	300
Net change in accounts payable and accrued expenses related to purchases of property and equipment	887	4,256	(156)	766
Cash paid for income tax	81,132	42,227		
Cash paid for income taxes, net of refunds			5,085	4,961

The accompanying notes are an integral part of these Consolidated Financial Statements.

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## UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES

### NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(UNAUDITED)

#### 1. BUSINESS:

Universal Display Corporation and its subsidiaries (the Company) is a leader in the research, development and commercialization of organic light emitting diode (OLED) technologies and materials for use in display and solid-state lighting applications. OLEDs are thin, lightweight and power-efficient solid-state devices that emit light and can be manufactured on both flexible and rigid substrates, making them highly suitable for use in full-color displays and as lighting products. OLED displays are capturing a growing share of the display market, especially in the mobile phone, television, monitor, wearable, tablet, notebook and personal computer, augmented reality (AR), virtual reality (VR) and automotive markets. The Company believes this is because OLEDs offer potential advantages over competing display technologies with respect to power efficiency, contrast ratio, viewing angle, video response time, form factor and manufacturing cost. The Company also believes that OLED lighting products have the potential to replace many existing light sources in the future because of their high-power efficiency, excellent color rendering index, low operating temperature and novel form factor. The Company's technology leadership, intellectual property position, and more than 20 years of experience working closely with leading OLED display manufacturers are some of the competitive advantages that should enable the Company to continue to share in the revenues from OLED displays and lighting products as they gain wider acceptance.

The Company's primary business strategy is to (1) develop new OLED materials and sell existing and new materials to product manufacturers of products for display applications, such as mobile phones, televisions, monitors, wearables, tablets, portable media devices, notebook computers, personal computers and automotive applications, and specialty and general lighting products; and (2) further develop and either license or otherwise commercialize the Company's proprietary OLED material, device design and manufacturing technologies to those manufacturers. The Company has established a significant portfolio of proprietary OLED technologies and materials, primarily through internal research and development efforts and acquisitions of patents and patent applications, as well as maintaining long-standing, and establishing new relationships with world-class universities, research institutions and strategic manufacturing partnerships. The Company currently owns, exclusively licenses or has the sole right to sublicense more than 6,000 patents issued and pending worldwide.

The Company manufactures and sells its proprietary OLED materials to customers for evaluation and use in commercial OLED products. The Company also enters into agreements with manufacturers of OLED display and lighting products under which it grants them licenses to practice under the Company's patents and to use the Company's proprietary know-how. At the same time, the Company works with these and other companies that are evaluating the Company's OLED material, device design and manufacturing technologies for possible use in commercial OLED display and lighting products.

#### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

##### *Interim Financial Information*

In the opinion of management, the accompanying unaudited Consolidated Financial Statements have been prepared in accordance with the requirements of the Securities and Exchange Commission for interim financial reporting and contain all adjustments (consisting of only normal recurring adjustments) necessary to present fairly the Company's financial position as of **September 30, 2023** **March 31, 2024** and results of operations for the three **and nine** months ended **September 30, 2023** **March 31, 2024** and **2022, 2023**, and cash flows for the **nine three** months ended **September 30, 2023** **March 31, 2024** and **2022, 2023**. While management believes that the disclosures presented are adequate to make the information not misleading, these unaudited Consolidated Financial Statements should be read in conjunction with the audited Consolidated Financial Statements and the notes thereto in the Company's latest year-end Consolidated Financial Statements, which are included in the Company's Annual Report on Form 10-K for the

year ended **December 31, 2022** **December 31, 2023**. The results of the Company's operations for any interim period are not necessarily indicative of the results of operations for any other interim period or for the full year.

### **Principles of Consolidation**

The Consolidated Financial Statements include the accounts of Universal Display Corporation and its wholly owned subsidiaries, UDC, Inc., UDC Ireland Limited (UDC Ireland), Universal Display Corporation Hong Kong, Limited, Universal Display Corporation Korea, Y.H. (UDC Korea), Universal Display Corporation Japan GK, Universal Display Corporation China, Ltd., Adesis, Inc. (Adesis), UDC Ventures LLC, OVJP Corporation (OVJP Corp) and OLED Material Manufacturing Limited (OMM). All intercompany transactions and accounts have been eliminated.

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### **Reclassification of Prior Year Presentation**

Certain prior year adjustments to reconcile net income to net cash provided by operating activities have been reclassified on the Consolidated Statements of Cash Flows to conform to the current year presentation. **These adjustments have** **Stock-based compensation activity has** been consolidated **into their respective operating assets** and **liabilities accounts, specifically, inventory, other current assets, other assets** **includes stock-based compensation to employees, Board of Directors, and** **deferred revenue. Scientific Advisory Board.**

### **Management's Use of Estimates**

The preparation of financial statements in conformity with U.S. generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The estimates made are principally in the areas of revenue recognition including estimates of material unit sales and royalties, the useful life of acquired intangibles, lease liabilities, right-of-use assets, the use and recoverability of inventories, intangibles, investments and income taxes including realization of deferred tax assets, stock-based compensation and retirement benefit plan liabilities. Actual results could differ from those estimates.

### **Inventories**

Inventories consist of raw materials, work-in-process and finished goods, and are stated at the lower of cost, determined on a first-in, first-out basis, or net realizable value. Inventory valuation and firm committed purchase order assessments are performed on a quarterly basis and those items that are identified to be obsolete or in excess of forecasted usage are written down to their estimated realizable value. Estimates of realizable value are based upon management's analyses and assumptions, including, but not limited to, forecasted sales levels by product, expected product lifecycle, product development plans and future demand requirements. A 12-month rolling forecast based on factors, including, but not limited to, production cycles, anticipated product orders, marketing forecasts, backlog, and shipment activities is used in the inventory analysis. If market conditions are less favorable than forecasts or actual demand from customers is lower than estimates, additional inventory write-downs may be required. If demand is higher than expected, inventories that had previously been written down may be sold.

### **Fair Value of Financial Instruments**

The carrying values of accounts receivable, other current assets, accounts payable and other current liabilities approximate fair value in the accompanying Consolidated Financial Statements due to the short-term nature of those instruments. The Company's other financial instruments, which include cash equivalents **and** investments **retirement plan benefit liability and other liabilities** **(excluding minority equity investments)** are carried at fair value.



## Minority Equity Investments

The Company accounts for minority equity investments in companies that are not accounted for under the equity method as equity securities without readily determinable fair values. The fair value of these securities is based on original cost less impairments, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or similar investment in the same issuer. Under this method, the share of income or loss of such companies is not included in the Consolidated Statements of Income. The carrying value of these investments is included in investments on the Consolidated Balance Sheets.

The Company's policy is to recognize an impairment in the value of its minority equity investments when clear evidence of an impairment exists. Factors considered in the assessment include a significant adverse change in the regulatory, economic, or technological environment, the completion of new equity financing that may indicate a decrease in value, the failure to complete new equity financing arrangements after seeking to raise additional funds, or the commencement of proceedings under which the assets of the business may be placed in receivership or liquidated to satisfy the claims of debt and equity stakeholders. The impairment in the value of minority equity investments is included in the other (loss) income, loss, net line item on the Consolidated Statements of Income.

## Leases

The Company is a lessee in operating leases primarily incurred to facilitate manufacturing, research and development, and selling, general and administrative activities. At contract inception, the Company determines if an arrangement is or contains a lease, and if so recognizes a right-of-use asset and lease liability at the lease commencement date. For operating leases, the lease liability is measured at the present value of the unpaid lease payments at the lease commencement date, whereas for finance leases, the lease liability is initially measured at the present value of the unpaid lease payments and subsequently measured at amortized cost using the interest method. Operating lease right-of-use assets are included in other assets on the Consolidated Balance Sheets. The short-term portion of operating lease liabilities is included in other current liabilities on the Consolidated Balance Sheets and the long-term portion is included

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in other liabilities on the Consolidated Balance Sheets. As of September 30, 2023 March 31, 2024, the Company had no leases that qualified as financing arrangements.

Key estimates and judgments include how the Company determines the discount rate used to discount the unpaid lease payments to present value and the lease term. The Company monitors for events or changes in circumstances that could potentially require recognizing an impairment loss.

## Revenue Recognition and Deferred Revenue

Material sales relate to the Company's sale of its OLED materials for incorporation into its customers' commercial OLED products or for their OLED development and evaluation activities. Revenue associated with material sales is generally recognized at the time title passes, which is typically at the time of shipment or at the time of delivery, depending upon the contractual agreement between the parties. Revenue may be recognized after control of the material passes in the event the transaction price includes variable consideration. For example, a customer may be provided an extended opportunity to stock materials prior to use in mass production and given a general right of return not conditioned on breaches of warranties associated with the specific product. In such circumstances, revenue will be recognized at the earlier of the expiration of the customer's general right of return or once it becomes unlikely that the customer will exercise its right of return.

The vast majority of revenue attributed to material sales is determined through technology license agreements and material supply agreements the terms of which are jointly agreed upon with the Company's customers. The remaining revenue recognized is in the form of contract research services

revenue earned by the Company's subsidiary, Adesis, Inc., and the Company's occasional material sales to smaller customers. None of the revenue recognized during the three months ended March 31, 2024 or 2023 resulted solely from royalty or license fee arrangements as to which there were not associated material sales.

The rights and benefits to the Company's OLED technologies are conveyed to the customer through technology license agreements and material supply agreements. The Company believes that the licenses and materials sold under these combined agreements are not distinct from each other for financial reporting purposes and as such, they are accounted for as a single performance obligation. Accordingly, total contract consideration is estimated and recognized over the contract term based on material units sold at the estimated per unit fee over the life of the contract. Total contract consideration is allocated to material sales and royalty and licensing fees on the Consolidated Statements of Income based on contract pricing.

Various estimates are relied upon to recognize revenue. The Company estimates total material units to be purchased by its customers over the contract term based on historical trends, industry estimates and its forecast process. Management uses the expected value method to estimate the material per unit fee. Additionally, management estimates the sales-based portion of royalty revenue based on the estimated net sales revenue of its customers over the contract term.

Contract research services revenue is revenue earned by Adesis by providing chemical materials synthesis research, development and commercialization for non-OLED applications on a contractual basis. These services range from intermediates for structure-activity relationship studies, reference agents and building blocks for combinatorial synthesis, re-synthesis of key intermediates, specialty organic chemistry needs, and selective toll manufacturing. These services are provided to third-party pharmaceutical and life sciences firms and other technology firms at fixed costs or predetermined rates on a contract basis. Revenue is recognized as services are performed with billing schedules and payment terms negotiated on a contract-by-contract basis. Payments received in excess of revenue recognized are recorded as deferred revenue. In other cases, services may be provided and revenue is recognized before the customer is invoiced. In these cases, revenue recognized will exceed amounts billed and the difference, representing amounts which are currently unbillable to the customer pursuant to contractual terms, is recorded as an unbilled receivable.

Technology development and support revenue is revenue earned from development and technology evaluation agreements and commercialization assistance fees. Technology development and support revenue is included in contract research services on the Consolidated Statements of Income.

On December 2, 2022, the Company entered into a commercial patent license agreement with Samsung Display Co., Ltd. (SDC), replacing a previous license agreement that had been in place since 2018. This agreement, which covers the manufacture and sale of specified OLED display materials, was effective as of January 1, 2023 and lasts through the end of 2027 with an additional two-year extension option for SDC. Under this agreement, the Company is being paid a license fee, which includes quarterly and annual payments over the agreement term of five years. The agreement conveys to SDC the non-exclusive right to use certain of the Company's intellectual property assets for a limited period of time that is less than the estimated life of the assets.

At the same time the Company entered into the current commercial patent license agreement with SDC, the Company also entered into a new supplemental material purchase agreement with SDC, which lasts for the same term as the license agreement and is subject to the

same extension option. This new material purchase agreement replaced a previous purchase agreement that had been in place since 2018. Under the supplemental material purchase agreement, SDC agrees to purchase red and green phosphorescent emitter materials from the Company for use in the manufacture of licensed products. This amount purchased is subject to SDC's requirements for phosphorescent emitter materials and the Company's ability to meet these requirements over the term of the supplemental agreement.

In 2015, the Company entered into an OLED patent license agreement and an OLED commercial supply agreement with LG Display Co., Ltd. (LG Display), which were effective as of January 1, 2015. The terms of these agreements were extended by a January 1, 2021 amendment through the end of 2025. The patent license agreement provides LG Display a non-exclusive, royalty bearing portfolio license to make and sell OLED displays under the Company's patent portfolio. The patent license calls for license fees, prepaid royalties and running royalties on licensed products. The OLED commercial supply agreement provides for the sale of materials for use by LG Display, which may include phosphorescent emitters and host materials. The agreements provide for certain other minimum obligations relating to the volume of material sales anticipated over the lives of the agreements as well as minimum royalty revenue.

In 2016, 2023, the Company entered into long-term, multi-year OLED patent license and material purchase agreements with Tianma Micro-electronics Co., Ltd. (Tianma). Under the license agreement, the Company has granted Tianma non-exclusive license rights under various patents owned or controlled by the Company to manufacture and sell OLED display products. The license agreement calls for license fees and running royalties on licensed products. Additionally, the Company supplies phosphorescent OLED materials to Tianma for use in its licensed products. In 2021, the parties extended the terms of both the patent license and material purchase agreements for an additional multi-year-term.

In 2017, the Company entered into new long-term, multi-year agreements with BOE Technology Group Co., Ltd. (BOE). Under these agreements, the Company has granted BOE non-exclusive license rights under various patents owned or controlled by the Company to manufacture and sell OLED display products. The Company supplies phosphorescent OLED materials to BOE for use in its licensed products.

In 2019, the Company entered into an evaluation and commercial supply relationship with Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd. (CSOT). In 2020, the Company entered into long-term, multi-year agreements with CSOT. Under these agreements, the Company has granted CSOT non-exclusive license rights under various patents owned or controlled by the Company to manufacture and sell OLED display products. The Company also supplies phosphorescent OLED materials to CSOT for use in its licensed products.

In 2018, the Company entered into long-term, multi-year OLED patent license and material purchase agreements with Visionox Technology, Inc. (Visionox). Under the license agreement, the Company granted certain of Visionox's affiliates non-exclusive license rights under various patents owned or controlled by the Company to manufacture and sell OLED display products. The license agreement calls for license fees and running royalties on licensed products. Additionally, the Company supplies phosphorescent OLED materials to Visionox for use in its licensed products. In 2021, the Company announced that it had extended the Visionox agreement by entering into new five-year OLED material supply and license agreements with a new affiliate of Visionox, Visionox Hefei Technology Co. Ltd.

In 2019, the Company entered into an evaluation and commercial supply relationship with Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd. (CSOT). In 2020, 2016, the Company entered into long-term, multi-year OLED patent license and material purchase agreements with CSOT, Tianma Micro-electronics Co., Ltd. (Tianma). Under these agreements, the license agreement, the Company has granted CSOT, Tianma non-exclusive license rights under various patents owned or controlled by the Company to manufacture and sell OLED display products. The license agreement calls for license fees and running royalties on licensed products. Additionally, the Company also supplies phosphorescent OLED materials to CSOT, Tianma for use in its licensed products. In 2021, the parties extended the terms of both the patent license and material purchase agreements for an additional multi-year-term.

All material sales transactions that are not variable consideration transactions are billed and due within 90 days and substantially all are transacted in U.S. dollars.

### Cost of Sales

Cost of sales consists of labor and material costs associated with the production of materials processed at the facilities of the Company's manufacturing partner, PPG Industries, Inc. (PPG) and at the Company's internal facilities. The Company's portion of cost of sales also includes depreciation of manufacturing equipment, as well as manufacturing overhead costs and inventory adjustments for excess and obsolete inventory.

### Research and Development

Expenditures for research and development are charged to expense as incurred.

### **Patent Costs**

Costs associated with patent applications, patent prosecution, patent defense and the maintenance of patents are charged to expense as incurred. Costs to successfully defend a challenge to a patent are capitalized to the extent of an evident increase in the value of the patent. Costs that relate to an unsuccessful outcome are charged to expense.

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### **Amortization of Acquired Technology**

Amortization costs primarily relate to technology acquired from Merck KGaA, Darmstadt, Germany (Merck KGaA), and BASF SE (BASF) and Fujifilm Corporation (Fujifilm). The Merck KGaA acquisition was completed on April 28, 2023. The and the BASF and Fujifilm acquisitions were acquisition was completed in during the years year ended December 31, 2016 and 2012, respectively. Acquisition costs are being amortized over

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a period of 10years for the Merck KGaA and BASF patents. The Fujifilm acquired technology was fully amortized over a period of 10 years that ended in July 2022.

### **Amortization of Other Intangible Assets**

Other intangible assets from the Adesis acquisition are being amortized over a period of 10to 15 years. years. See Note 7 for further discussion.

### **Translation of Foreign Currency Financial Statements and Foreign Currency Transactions**

The Company's reporting currency is the U.S. dollar. The functional currency for the UDC Ireland and UDC Korea subsidiaries are also the U.S. dollar and the functional currency for the OMM subsidiary and each of the Company's other Asia-Pacific foreign subsidiaries is its respective local currency. The Company translates the amounts included in the Consolidated Statements of Income from OMM and its Asia-Pacific foreign subsidiaries into U.S. dollars at weighted-average exchange rates, which the Company believes are representative of the actual exchange rates on the dates of the transactions. The Company's OMM subsidiary and each of the Company's other Asia-Pacific foreign subsidiaries' assets and liabilities are translated into U.S. dollars from the local currency at the actual exchange rates as of the end of each reporting date, and the Company records the resulting foreign exchange translation adjustments in the Consolidated Balance Sheets as a component of accumulated other comprehensive loss. The overall effect of the translation of foreign currency and foreign currency transactions to date has been insignificant.

### **Income Taxes**

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. The Company recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount of which the likelihood of realization is greater than 50%. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. The Company records interest and penalties, if any, related to unrecognized tax benefits as a component of tax expense.

## Share-Based Payment Awards

The Company recognizes in the Consolidated Statements of Income the grant-date fair value of equity-based awards such as shares issued under employee stock purchase plans, restricted stock awards, restricted stock units and performance unit awards issued to employees and directors.

The grant-date fair value of stock awards is based on the closing price of the stock on the date of grant. The fair value of share-based awards is recognized as compensation expense on a straight-line basis over the requisite service period, net of forfeitures. The Company issues new shares upon the respective grant, exercise or vesting of the share-based payment awards, as applicable.

Performance unit awards are subject to either a performance-based or market-based vesting requirement. For performance-based vesting, the grant-date fair value of the award, based on fair value of the Company's common stock, is recognized over the service period based on an assessment of the likelihood that the applicable performance goals will be achieved, and compensation expense is periodically adjusted based on actual and expected performance. Compensation expense for performance unit awards with market-based vesting is calculated based on the estimated fair value as of the grant date utilizing a Monte Carlo simulation model and is recognized over the service period on a straight-line basis.

## Recent Accounting Pronouncements

### Adoption of New Accounting Standards Issued But Not Yet Adopted

In June 2022, the FASB issued ASU No. 2022-03, *Fair Value Measurement (Topic 820): Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions*. Under this standard, a contractual restriction on the sale of an equity security is not considered in measuring the security's fair value. The standard also requires certain disclosures for equity securities that are subject to

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contractual restrictions. The adoption of ASU 2022-03, beginning on January 1, 2024, did not have an impact on the Consolidated Financial Statements and related disclosures.

### Accounting Standards Issued But Not Yet Adopted

In November 2023, the FASB issued ASU No. 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures*. The standard improves the reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. ASU 2023-07 becomes effective January 1, 2024 during the annual period ending December 31, 2024. The Company is evaluating the potential impact of this standard on its Consolidated Financial Statements and related disclosures.

In December 2023, the FASB issued ASU No. 2023-09, *Improvements to Income Tax Disclosures (Topic 740)*. The standard enhances to the annual income tax disclosures to address investor requests for more information about the tax risks and opportunities present in an entity's worldwide operations. ASU 2023-09 becomes effective January 1, 2025, and the Company is evaluating the potential impact of this standard on its investments, income tax disclosures.

In March 2024, the FASB issued ASU No. 2024-01, *Compensation - Stock Compensation (Topic 718)*. The standard provides guidance to reduce complexity and diversity in practice in determining whether a profits interest award is accounted for as a share-based payment. Early adoption is permitted. This guidance can be applied either retrospectively to all prior periods presented in the financial statements or prospectively to profits interest or similar awards granted or modified on or after the effective date for our application of this guidance. ASU 2024-01 becomes effective January 1, 2025, and the Company is evaluating the potential impact of this standard on its Consolidated Financial Statements and related disclosures.

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### 3. CASH, CASH EQUIVALENTS AND INVESTMENTS:

The Company's portfolio of marketable fixed income securities consists of U.S. Government bonds and corporate bonds. The Company considers all highly liquid debt instruments purchased with an original maturity (maturity at the purchase date) of three months or less to be cash equivalents. The Company classifies its remaining debt security investments as available-for-sale. These debt securities are carried at fair market value, with unrealized gains and losses reported in shareholders' equity. Gains or losses on securities sold are based on the specific identification method.

#### Cash and Cash Equivalents

The following table provides details regarding the Company's portfolio of cash and cash equivalents (in thousands):

Cash and Cash Equivalents Classification	Amortized	Unrealized		Aggregate Fair	Amortized	Unrealized		Aggregate Fair
	Cost	Gain	(Losses)	Market Value	Cost	Gains	(Losses)	Market Value
September 30, 2023								
March 31, 2024								
Cash accounts in banking institutions	77,55							
	\$ 0	\$ —	\$ —	\$ 77,550	\$ 70,765	\$ —	\$ —	\$ 70,765
Money market accounts	1,773	—	—	1,773	3,247	—	—	3,247
	79,32							
	\$ 3	\$ —	\$ —	\$ 79,323	\$ 74,012	\$ —	\$ —	\$ 74,012
December 31, 2022								
December 31, 2023								
Cash accounts in banking institutions	86,26							
	\$ 8	\$ —	\$ —	\$ 86,268	\$ 91,717	\$ —	\$ —	\$ 91,717
Money market accounts	7,162	—	—	7,162	268	—	—	268
	93,43							
	\$ 0	\$ —	\$ —	\$ 93,430	\$ 91,985	\$ —	\$ —	\$ 91,985

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#### Short-term Investments

The following table provides details regarding the Company's portfolio of short-term investments (in thousands):

Short-term Investments Classification	Amortized	Unrealized		Aggregate Fair	Amortized	Unrealized		Aggregate Fair
	Cost	Gain	(Losses)	Market Value	Cost	Gains	(Losses)	Market Value
September 30, 2023								
March 31, 2024								

Corporate bonds					\$ 796	\$ 1	\$ (1)	\$ 796
U.S. Government bonds					465,377	10	(979)	464,408
Marketable securities					89	—	—	89
					<u>\$ 466,262</u>	<u>\$ 11</u>	<u>\$ (980)</u>	<u>\$ 465,293</u>
December 31, 2023								
Corporate bonds	\$ 2,386	\$ 3	\$ (16)	\$ 2,373	\$ 1,763	\$ 1	\$ (5)	\$ 1,759
U.S. Government bonds	412,53		(2,56					
	9	—	2)	409,977	420,769	303	(694)	420,378
	<u>414,92</u>		<u>(2,57</u>					
	<u>\$ 5</u>	<u>\$ 3</u>	<u>\$ (8)</u>	<u>\$ 412,350</u>	<u>\$ 422,532</u>	<u>\$ 304</u>	<u>\$ (699)</u>	<u>\$ 422,137</u>
December 31, 2022								
Corporate bonds	150,69							
	8	—	(910)	149,788				
U.S. Government bonds	339,47		(4,94					
	2	32	7)	334,557				
	<u>490,17</u>		<u>(5,85</u>					
	<u>\$ 0</u>	<u>\$ 32</u>	<u>\$ (7)</u>	<u>\$ 484,345</u>				

#### Long-term Corporate Bonds and U.S. Government Bonds Bond Investments

The following table provides details regarding the Company's portfolio of long-term investments (in thousands):

Long-term Investments Classification	Amortized	Unrealized		Aggregate Fair
	Cost	Gains	(Losses)	Market Value
September 30, 2023				
Corporate bonds	\$ 128	\$ —	\$ (118)	\$ 10
U.S. Government bonds	289,024	—	(1,887)	287,137
	<u>\$ 289,152</u>	<u>\$ —</u>	<u>\$ (2,005)</u>	<u>\$ 287,147</u>
December 31, 2022				
Corporate bonds	\$ 2,479	\$ —	\$ (28)	\$ 2,451
U.S. Government bonds	247,464	52	(2,152)	245,364
	<u>\$ 249,943</u>	<u>\$ 52</u>	<u>\$ (2,180)</u>	<u>\$ 247,815</u>

Long-term Investments Classification	Amortized	Unrealized		Aggregate Fair
	Cost	Gains	(Losses)	Market Value
March 31, 2024				
U.S. Government bonds	\$ 299,537	\$ 68	\$ (712)	\$ 298,893
	<u>\$ 299,537</u>	<u>\$ 68</u>	<u>\$ (712)</u>	<u>\$ 298,893</u>
December 31, 2023				
U.S. Government bonds	\$ 284,053	\$ 1,457	\$ (8)	\$ 285,502
	<u>\$ 284,053</u>	<u>\$ 1,457</u>	<u>\$ (8)</u>	<u>\$ 285,502</u>

The Company's portfolio of minority equity investments consists of investments in privately held early-stage companies primarily motivated for the Company to gain early access to new technology and are passive in nature in that the Company typically does not seek to obtain representation on the boards of directors of the companies in which it invests. Minority equity investments are included in investments on the Consolidated Balance Sheets. As of September 30, 2023 March 31, 2024 and December 31, 2023, the Company had minority equity investments in five entities with a total carrying value of \$14.0 million accounted for as equity securities without readily determinable fair values, as compared to four minority investments with a total carrying value of \$12.0 million as of December 31, 2022. values.

#### 4. FAIR VALUE MEASUREMENTS:

The following table provides the assets and liabilities carried at fair value measured on a recurring basis as of September 30, 2023 March 31, 2024 (in thousands):

	Total Carrying Value as of September 30, 2023	Fair Value Measurements, Using		
		Quoted Prices in	Significant Other	Significant
		Active Markets	Observable Inputs	Unobservable
		(Level 1)	(Level 2)	Inputs (Level 3)
Cash equivalents	\$ 1,773	\$ 1,773	\$ —	\$ —
Short-term Corporate bonds investments	2,373	2,373	—	—
Short-term U.S. Government bonds investments	409,977	409,977	—	—
Long-term Corporate bonds investments	10	10	—	—
Long-term U.S. Government bonds investments	287,137	287,137	—	—

	Total Carrying Value as of March 31, 2024	Fair Value Measurements, Using		
		Quoted Prices in	Significant Other	Significant
		Active Markets	Observable Inputs	Unobservable
		(Level 1)	(Level 2)	Inputs (Level 3)
Short-term U.S. Government bonds	\$ 464,408	\$ 464,408	\$ —	\$ —
Long-term U.S. Government bonds	298,893	298,893	—	—
Cash equivalents	3,247	3,247	—	—
Short-term Corporate bonds	796	796	—	—
Short-term Marketable securities	89	89	—	—

The following table provides the assets and liabilities carried at fair value measured on a recurring basis as of December 31, 2022 December 31, 2023 (in thousands):



	Total Carrying Value as of December 31, 2022	Fair Value Measurements, Using		
		Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents	\$ 7,162	\$ 7,162	\$ —	\$ —
Short-term Corporate bonds investments	149,788	149,788	—	—
Short-term U.S. Government bonds investments	334,557	334,557	—	—
Long-term Corporate bonds investments	2,451	2,451	—	—
Long-term U.S. Government bonds investments	245,364	245,364	—	—

	Total Carrying Value as of December 31, 2023	Fair Value Measurements, Using		
		Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Short-term U.S. Government bonds	\$ 420,378	\$ 420,378	\$ —	\$ —
Long-term U.S. Government bonds	285,502	285,502	—	—
Short-term Corporate bonds	1,759	1,759	—	—
Cash equivalents	268	268	—	—

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument. Level 3 inputs are unobservable inputs based on management's own assumptions used to measure assets and liabilities at fair value. A financial asset's or liability's classification is determined based on the lowest level input that is significant to the fair value measurement.

Changes in fair value of the debt investments are recorded as unrealized gains and losses in accumulated other comprehensive loss on the Consolidated Balance Sheets and any credit losses on debt investments are recorded as an allowance for credit losses with an offset recognized in other (loss) income, loss, net on the Consolidated Statements of Income. There were no credit losses on debt investments as of September 30, 2023 March 31, 2024 or December 31, 2022 December 31, 2023.

## 5. INVENTORY:

Inventory consisted of the following (in thousands):

	September 30, 2023	December 31, 2022	March 31, 2024	December 31, 2023
Raw materials	\$ 120,096	\$ 115,448	\$ 108,681	\$ 113,400
Work-in-process	7,494	7,626	13,605	9,433
Finished goods	53,816	60,146	50,619	52,962
Inventory	\$ 181,406	\$ 183,220	\$ 172,905	\$ 175,795

The Company recorded an increase in its inventory reserve reserves of \$2.5 million none and \$1.7 3.3 million for the three months ended September 30, 2023 March 31, 2024 and 2022, respectively, and \$6.6 million and \$2.4 million for the nine months ended September 30, 2023 and 2022, 2023, respectively, due to excess inventory levels in certain products.

## 6. PROPERTY AND EQUIPMENT:

Property and equipment, net consist of the following (in thousands):

	September 30, 2023	December 31, 2022	March 31, 2024	December 31, 2023
Land	\$ 9,393	\$ 2,642	\$ 12,230	\$ 12,230
Building and improvements	118,365	99,586	117,505	116,903
Office and lab equipment	144,188	129,697	150,079	148,465
Furniture, fixtures and computer related assets	18,814	18,071	18,759	18,970
Construction-in-progress	20,898	10,567	26,385	22,490
	311,658	260,563	324,958	319,058
Less: Accumulated depreciation	(137,020)	(117,118)	(149,062)	(143,908)
Property and equipment, net	\$ 174,638	\$ 143,445	\$ 175,896	\$ 175,150

Depreciation expense was \$6.9 million and \$6.6 million for the three months ended September 30, 2023, March 31, 2024, and 2022, respectively, and \$20.1 million and \$18.0 million for the nine months ended September 30, 2023 and 2022, respectively. The increase in property and equipment, net for the nine months ended September 30, 2023 is primarily due to the purchases of two previously leased facilities for an aggregate cost of \$23.4 million.

## 7. GOODWILL AND INTANGIBLE ASSETS:

The Company monitors the recoverability of goodwill annually or whenever events or changes in circumstances indicate the carrying value may not be recoverable. Purchased intangible assets subject to amortization consist of acquired technology and other intangible assets that include trade names, customer relationships and developed intellectual property (IP) processes.

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### Acquired Technology

Acquired technology primarily consists of acquired license rights for patents and know-how obtained from Merck KGaA, BASF and Fujifilm. These intangible assets consist of the following (in thousands):

	September 30, 2023 <sup>(1)</sup>	December 31, 2022
PD-LD, Inc.	\$ —	\$ 1,481
Motorola	—	15,909
Merck KGaA	66,012	—
BASF	95,989	95,989
Fujifilm	109,462	109,462
Other	5,712	5,212
	277,175	228,053
Less: Accumulated amortization	(182,657)	(189,671)

Acquired technology, net	\$	94,518	\$	38,382
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(1) During the nine months ended September 30, 2023, the gross value and accumulated amortization associated with the PD-LD, Inc. and Motorola portfolios have been removed from the table as the underlying patents have reached the end of their useful lives.

	March 31, 2024	December 31, 2023
Merck KGaA	\$ 66,012	\$ 66,012
BASF	95,989	95,989
Fujifilm	109,462	109,462
Other	5,712	5,712
	277,175	277,175
Less: Accumulated amortization	(191,043)	(186,850)
Acquired technology, net	\$ 86,132	\$ 90,325

Amortization expense related to acquired technology was \$4.2 million and \$3.2 million for the three months ended September 30, 2023 and March 31, 2024, respectively, and \$10.4 million and \$13.5 million for the nine months ended September 30, 2023 and 2022, respectively. Amortization expense is included in the amortization of acquired technology and other intangible assets expense line item on the Consolidated Statements of Income and is expected to be \$4.2 million for the three months ending December 31, 2023, \$16.8 million in each of the years ending December 31, 2024 and 2025, \$12.0 million in the year ending December 31, 2026, \$7.2 million in each of the years ending December 31, 2027 and 2028, and \$37.5 million in total thereafter.

#### Merck KGaA Patent Acquisition

On April 28, 2023, UDC Ireland entered into a Patent Sale and License Agreement with Merck KGaA. Under this agreement, Merck KGaA sold to UDC Ireland all of its rights, title and interest to over 550 of its owned and licensed OLED-related patents and patent applications in exchange for a cash payment of \$66.0 million. The Patent Sale and License Agreement contains customary representations, warranties and covenants of the parties. UDC Ireland recorded the payment of \$66.0 million as acquired technology, which is being amortized over a period of 10 years.

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#### BASF Patent Acquisition

On June 28, 2016, UDC Ireland entered into and consummated an IP Transfer Agreement with BASF. Under the IP Transfer Agreement, BASF sold to UDC Ireland all of its rights, title and interest to certain of its owned and co-owned intellectual property rights relating to the composition, development, manufacture and use of OLED materials, including OLED lighting and display stack technology, as well as certain tangible assets. The intellectual property includes knowhow and more than 500 issued and pending patents in the area of phosphorescent materials and technologies. These assets were acquired in exchange for a cash payment of €86.8 million (\$95.8 million). In addition, UDC Ireland also took on certain rights and obligations under three joint research and development agreements to which BASF was a party. The IP Transfer Agreement also contains customary representations, warranties and covenants of the parties. UDC Ireland recorded the payment of €86.8 million (\$95.8 million) and acquisition costs incurred of \$217,000 as acquired technology, which is being amortized over a period of 10 years.

#### Fujifilm Patent Acquisition

On July 23, 2012, the Company entered into a Patent Sale Agreement with Fujifilm. Under the agreement, Fujifilm sold more than 1,200 OLED-related patents and patent applications in exchange for a cash payment of \$105.0 million, plus \$4.5 million in costs incurred in connection with the purchase. The agreement contains customary representations and warranties and covenants, including respective covenants not to sue by both parties thereto. The agreement permitted the Company to assign all of its rights and obligations under the agreement to its affiliates, and the Company assigned, prior to the consummation of the transactions contemplated by the agreement, its rights and obligations to UDC Ireland. The transactions contemplated by the agreement were consummated on July 26, 2012. The Company recorded the \$105.0 million plus \$4.5 million of purchase costs as acquired technology, which was amortized over a period of 10 years that ended in July 2022.

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## Other Intangible Assets

As a result of the Adesis acquisition in June 2016, the Company recorded \$16.8 million of other intangible assets, including \$10.5 million assigned to customer relationships with a weighted average life of 11.5 years, \$4.8 million to internally developed IP, processes and recipes with a weighted average life of 15 years, and \$1.5 million to trade name and trademarks with a weighted average life of 10 years.

At September 30, 2023 and March 31, 2024, these other intangible assets consist of the following (in thousands):

	September 30, 2023			March 31, 2024		
	Gross Carrying	Accumulated	Net Carrying	Gross Carrying	Accumulated	Net Carrying
	Amount	Amortization	Amount	Amount	Amortization	Amount
Customer relationships	\$ 10,520	\$ (6,571)	\$ 3,949	\$ 10,520	\$ (7,029)	\$ 3,491
Developed IP, processes and recipes	4,820	(2,308)	2,512	4,820	(2,468)	2,352
Trade name/Trademarks	1,500	(1,080)	420	1,500	(1,155)	345
Other	448	(96)	352	448	(117)	331
Total identifiable other intangible assets	\$ 17,288	\$ (10,055)	\$ 7,233	\$ 17,288	\$ (10,769)	\$ 6,519

Amortization expense related to other intangible assets was \$359,000, \$356,000 and \$358,000 for the three months ended September 30, 2023, March 31, 2024 and 2022, respectively, and \$1.1 million for both the nine months ended September 30, 2023 and 2022, respectively. Amortization expense is included in the amortization of acquired technology and other intangible assets expense line item on the Consolidated Statements of Income and is expected to be \$359,000, \$1.0 million for the three nine months ending December 31, 2023, December 31, 2024, \$1.4 million for in each of the next three fiscal years (2024 - 2026), ending December 31, 2025 and 2026, \$1.3 million for the year ending December 31, 2027, \$422,000 for the year ending December 31, 2028, and \$1.3 million in total thereafter.

## 8. OTHER ASSETS:

Other assets consist of the following (in thousands):

	September 30, 2023	December 31, 2022	March 31, 2024	December 31, 2023
Long-term taxes receivable	\$ 57,581	\$ 63,915	\$ 57,808	\$ 60,146
Right-of-use assets	25,321	31,486	23,998	24,910
Long-term unbilled receivables			10,278	9,074
Long-term contract assets	16,317	11,651	8,688	9,278
Other long-term assets	2,228	2,687	1,610	1,881
Other assets	\$ 101,447	\$ 109,739	\$ 102,382	\$ 105,289

See Notes 9 and 20 for further explanation on right-of-use assets and long-term non-current taxes receivable, respectively.

## 9. LEASES:

The Company has entered into operating leases to facilitate the expansion of its manufacturing, research and development, and selling, general and administrative activities. For purposes of calculating operating lease liabilities, lease terms may be deemed to include options to extend or terminate

the lease when those events are reasonably certain to occur. The interest rate implicit in lease contracts is typically not readily determinable and as such the Company uses the appropriate incremental borrowing rate based on information available at the lease commencement date in determining the present value of the lease payments. Current lease agreements do not

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contain any residual value guarantees or material restrictive covenants. As of September 30, 2023 March 31, 2024, the Company did not have any finance leases and had one no additional operating lease leases that has have not yet commenced.

The following table presents the Company's operating lease cost and supplemental cash flow information related to the Company's operating leases (in thousands):

	Three Months Ended		Nine Months Ended		Three Months Ended March 31,	
	September 30,		September 30,			
	2023	2022	2023	2022	2024	2023
Operating lease cost	\$ 1,094	\$ 1,067	\$ 3,538	\$ 3,238	\$ 1,103	\$ 1,221
Non-cash activity:						
Right-of-use assets obtained in exchange for lease obligations	\$ —	\$ 867	\$ —	\$ 867	\$ —	\$ —

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The following table presents the Company's operating lease right-of-use assets and liabilities (in thousands):

	September 30, 2023	December 31, 2022	March 31, 2024	December 31, 2023
Right-of-use assets	\$ 25,321	\$ 31,486	\$ 23,998	\$ 24,910
Short-term lease liabilities	3,376	3,737	3,582	3,533
Long-term lease liabilities	23,380	29,039	21,945	22,855

The decrease in right-of-use assets and long-term lease liabilities during the nine months ended September 30, 2023 was primarily due to the purchases of two facilities, which were previously accounted for as operating lease obligations.

The following table presents weighted average assumptions used to compute the Company's right-of-use assets and lease liabilities:

	September 30, 2023	March 31, 2024
Weighted average remaining lease term (in years)	7.1	6.5
Weighted average discount rate		3.7 %

As of September 30, 2023 March 31, 2024, current operating leases had remaining terms between two monthsthree and eight years with options to extend the lease terms.

Undiscounted future minimum lease payments as of September 30, 2023 March 31, 2024, by year and in the aggregate, having non-cancelable lease terms in excess of one year were as follows (in thousands):

	Maturities of Operating Lease Liabilities	Maturities of Operating Lease Liabilities
2023 <sup>(1)</sup>	\$ 1,040	
2024	4,119	
2024 <sup>(1)</sup>		\$ 3,210
2025	4,155	4,315
2026	4,235	4,395
2027	4,317	4,317
2028		4,026
Thereafter	12,077	8,052
Total lease payments	29,943	28,315
Less: Imputed interest	(3,187)	(2,788)
Present value of lease payments	\$ 26,756	\$ 25,527

(1) Scheduled maturities of lease liabilities represent the period from **October 1, 2023** **April 1, 2024** to **December 31, 2023** **December 31, 2024**.

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#### 10. ACCRUED EXPENSES:

Accrued expenses consist of the following (in thousands):

	September 30, 2023	December 31, 2022	March 31, 2024	December 31, 2023
PPG Industries, Inc. agreement			\$ 14,620	\$ 11,962
Compensation	\$ 22,685	\$ 31,751	14,174	29,456
PPG Industries, Inc. agreement	6,090	9,864		
Royalties			2,225	647
Consulting	1,832	910	2,116	2,121
Professional fees	1,049	906	1,258	1,124
Research and development agreements	513	662	687	822
Royalties	414	877		
Other	5,917	6,032	7,019	5,948
Accrued expenses	\$ 38,500	\$ 51,002	\$ 42,099	\$ 52,080

#### 11. RESEARCH AND LICENSE AGREEMENTS WITH ACADEMIC PARTNERS:

The Company has long-standing relationships with a number of academic institutions that undertake funded research projects, including Princeton University (Princeton) and the University of Southern California (USC).

Under the current license agreement among the Company, Princeton and USC, the universities have granted the Company worldwide, exclusive license rights, with rights to sublicense, to make, have made, use, lease and/or sell products and to practice processes based on patent applications and issued patents arising out of research performed by the universities for the Company. The Company recorded royalty expense in connection with this agreement of **\$60,000** **1.6 million** and **\$261,000** **159,000** for the three months ended **September 30, 2023** **March 31, 2024** and **2022**, respectively, and **\$358,000** and **\$596,000** for the nine months ended **September 30, 2023** and **2022**, **2023**, respectively.

The Company also makes payments under the current research agreement with USC on a quarterly basis as actual expenses are incurred. As of September 30, 2023 March 31, 2024, the Company was obligated to pay USC up to \$2.4 1.7 million for work to be performed during the remaining term of the research agreement term. The Company recorded research and development expense in connection with work performed under the agreement of \$251,000 267,000 and \$245,000 282,000 for the three months ended September 30, 2023 March 31, 2024 and 2022, respectively, and \$666,000 and \$695,000 for the nine months ended September 30, 2023 and 2022, 2023, respectively.

## 12. OTHER LIABILITIES:

Other liabilities consist of the following (in thousands):

	September 30, 2023	December 31, 2022	March 31, 2024	December 31, 2023
Long-term lease liabilities	\$ 23,380	\$ 29,039	\$ 21,945	\$ 22,855
Long-term taxes payable	15,749	14,592	15,749	15,749
Other long-term liabilities	54	54	282	54
Other liabilities	\$ 39,183	\$ 43,685	\$ 37,976	\$ 38,658

See Notes 9 and 20 for further explanation on long-term lease liabilities and long-term taxes payable, respectively.

## 13. EQUITY AND CASH COMPENSATION UNDER THE PPG AGREEMENT:

On September 22, 2011, the Company entered into an Amended and Restated OLED Materials Supply and Service Agreement with PPG (the New OLED Materials Agreement), which, effective as of October 1, 2011, replaced the original OLED Materials Agreement with PPG. The term of the New OLED Materials Agreement, by amendment in February 2021, runs through December 31, 2024, and thereafter is automatically renewed for additional one-year terms, unless terminated by the Company by providing prior notice of one year or terminated by PPG by providing prior notice of two years. The New OLED Materials Agreement contains provisions that are substantially similar to those of the original OLED Materials Agreement. Under the New OLED Materials Agreement, PPG continues to assist the Company in developing its proprietary OLED materials and supplying the Company with those materials for evaluation purposes and for resale to its customers.

Under the New OLED Materials Agreement, the Company compensates PPG on a cost-plus basis for the services provided during each calendar quarter. The Company is required to pay for some of these services in all cash. Up to 50% of the remaining services are payable, at the Company's sole discretion, in cash or shares of the Company's common stock, with the balance payable in cash. The

actual number of shares of common stock issuable to PPG is determined based on the average closing price for the Company's common stock during a specified number of days prior to the end of each calendar half-year period ending on March 31 and September 30. If, however, this average closing price is less than \$20.00, the Company is required to compensate PPG in cash. No shares have been issued for services rendered by PPG since the inception of the contract.

The Company is also required to reimburse PPG for raw materials used for research and development. The Company records the purchases of these raw materials as a current asset until such materials are used for research and development efforts.

In February 2021, the Company entered into an amendment to the New OLED Materials Agreement extending the term of the agreement and specifying operation and maintenance services that will to be provided by PPG affiliate, PPG SCM Ireland Limited (PPG SCM), to UDC Ireland, at the Company's manufacturing site in Shannon, Ireland currently being leased by that UDC Ireland's wholly-owned subsidiary, OMM, OLED Material Manufacturing Limited (OMM), began leasing at such time for the production of OLED materials. OMM purchased the site in September 2023 and the Company amended and restated the February 2021 amendment to reflect OMM's ownership and PPG SCM's updated operation and maintenance services after such purchase. Facility improvements have been completed and operations commenced in June 2022. As with the initial New OLED Materials Agreement, the Company will compensate compensates PPG on a cost-plus basis for the services provided at the Shannon manufacturing facility.

The Company recorded research and development expense of \$1.54.5 million and \$2.62.0 million for the three months ended September 30, 2023 March 31, 2024 and 2022, respectively, and \$6.1 million and \$4.9 million for the nine months ended September 30, 2023 and 2022, 2023, respectively, in relation to the cash portion of the reimbursement of expenses and work performed by PPG, excluding amounts paid for commercial chemicals.

#### 14. SHAREHOLDERS' EQUITY:

##### *Preferred Stock*

The Company's Amended and Restated Articles of Incorporation authorize it to issue up to 5,000,000 shares of \$0.01 par value preferred stock with designations, rights and preferences determined from time-to-time by the Company's Board of Directors.

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Accordingly, the Company's Board of Directors is empowered, without shareholder approval, to issue preferred stock with dividend, liquidation, conversion, voting or other rights superior to those of shareholders of the Company's common stock.

In 1995, the Company issued 200,000 shares of Series A Nonconvertible Preferred Stock (Series A) to American Biomimetics Corporation (ABC) pursuant to a certain Technology Transfer Agreement between the Company and ABC. The Series A shares have a liquidation value of \$7.50 per share. Series A shareholders, as a single class, have the right to elect two members of the Company's Board of Directors. This right has never been exercised. Holders of the Series A shares are entitled to one vote per share on matters which shareholders are generally entitled to vote. The Series A shareholders are not entitled to any dividends.

As of September 30, 2023 March 31, 2024, the Company had issued 200,000 shares of preferred stock, all of which were outstanding.

##### *Common Stock*

The Company's Amended and Restated Articles of Incorporation authorize it to issue up to 200,000,000 shares of \$0.01 par value common stock. Each share of the Company's common stock entitles the holder to one vote on all matters to be voted upon by the shareholders.

As of September 30, 2023 March 31, 2024, the Company had issued 48,720,530 48,804,964 shares of common stock, of which 47,354,882 47,439,316 were outstanding. During the three and nine months ended September 30, 2023 March 31, 2024 and 2022, 2023, the Company repurchased no shares of common stock.

##### *Dividends*



During the three months ended **September 30, 2023** **March 31, 2024**, the Company declared and paid cash dividends of **\$0.35** **0.40** per common share, or \$16.7 million, and during the nine months ended September 30, 2023, the Company declared and paid cash dividends of \$1.05 per common share, or **\$50.1** **19.5** million, on the Company's outstanding common stock.

On **October 31, 2023** **April 30, 2024**, the Company's Board of Directors declared a **fourth** **second** quarter dividend of **\$0.35** **0.40** per share to be paid on **December 29, 2023** **June 28, 2024** to all shareholders of record of the Company's common stock as of the close of business on **December 15, 2023** **June 14, 2024**. All future dividends will be subject to the approval of the Company's Board of Directors.

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## 15. ACCUMULATED OTHER COMPREHENSIVE LOSS:

Amounts related to the changes in accumulated other comprehensive loss were as follows (in thousands):

	Unrealized Gain (Loss)		Change in Cumulative		Affected Line Items in the Consolidated Statements of Income
	on	Net Unrealized Gain	Foreign Currency	Total	
	Available-for-Sale	(Loss) on	Translation Adjustment		
	Securities	Retirement Plan <sup>(2)</sup>			
Balance December 31, 2022, net of tax	\$ (7,887)	\$ (10,011)	\$ (554)	\$ (18,452)	
Other comprehensive gain					
before reclassification	2,706	—	22	2,728	
Reclassification to net income <sup>(1)</sup>	—	759	—	759	Selling, general and administrative, research and development and cost of sales
Change during period	2,706	759	22	3,487	
Balance September 30, 2023, net of tax	\$ (5,181)	\$ (9,252)	\$ (532)	\$ (14,965)	

	Unrealized Gain (Loss)		Change in Cumulative		Affected Line Items in the Consolidated Statements of Income
	on	Net Unrealized Gain	Foreign Currency	Total	
	Available-for-Sale	(Loss) on	Translation Adjustment		
	Securities	Retirement Plan <sup>(2)</sup>			
Balance December 31, 2023, net of tax	\$ 858	\$ (1,808)	\$ (136)	\$ (1,086)	
Other comprehensive (loss) gain					
before reclassification	(2,666)	—	(50)	(2,716)	
Reclassification to net income <sup>(1)</sup>	—	8	—	8	Selling, general and administrative, research and development and cost of sales
Change during period	(2,666)	8	(50)	(2,708)	
Balance March 31, 2024, net of tax	\$ (1,808)	\$ (1,800)	\$ (186)	\$ (3,794)	

	Unrealized Gain (Loss) on		Change in Cumulative		Affected Line Items in the Consolidated Statements of Income
	Available-for-Sale	Net Unrealized Gain	Foreign Currency	Total	
	Securities	(Loss) on	Translation Adjustment		
		Retirement Plan <sup>(2)</sup>			
Balance December 31, 2021, net of tax	\$ (142)	\$ (18,019)	\$ (74)	\$ (18,235)	
Other comprehensive loss					
before reclassification	(7,231)	—	(601)	(7,832)	

Reclassification to net income <sup>(1)</sup>	—	1,511	—	1,511	Selling, general and administrative, research and development and cost of sales
Change during period	(7,231)	1,511	(601)	(6,321)	
Balance September 30, 2022, net of tax	<u>\$ (7,373)</u>	<u>\$ (16,508)</u>	<u>\$ (675)</u>	<u>\$ (24,556)</u>	

	Unrealized Gain (Loss) on Available-for-Sale Securities	Net Unrealized Gain (Loss) on Retirement Plan <sup>(2)</sup>	Change in Cumulative Foreign Currency Translation Adjustment	Total	Affected Line Items in the Consolidated Statements of Income
Balance December 31, 2022, net of tax	<u>\$ (7,887)</u>	<u>\$ (10,011)</u>	<u>\$ (554)</u>	<u>\$ (18,452)</u>	
Other comprehensive gain before reclassification	2,627	—	95	2,722	
Reclassification to net income <sup>(1)</sup>	—	253	—	253	Selling, general and administrative, research and development and cost of sales
Change during period	<u>2,627</u>	<u>253</u>	<u>95</u>	<u>2,975</u>	
Balance March 31, 2023, net of tax	<u>\$ (5,260)</u>	<u>\$ (9,758)</u>	<u>\$ (459)</u>	<u>\$ (15,477)</u>	

- (1) The Company reclassified amortization of prior service cost and actuarial loss for its retirement plan from accumulated other comprehensive loss to net income of \$759,000 8,000 and \$1.5 253,000 million for the nine three months ended September 30, 2023 March 31, 2024 and 2022, 2023, respectively.
- (2) Refer to Note 17: Retirement Plan Benefit Liability.

## 16. STOCK-BASED COMPENSATION:

### Equity Compensation Plan

On June 15, 2023, the shareholders of the Company voted to approve the Universal Display Corporation 2023 Equity Compensation Plan (the "Equity Compensation Plan"), which replaced the Universal Display Corporation 2014 Equity Compensation Plan. The Equity Compensation Plan provides for the granting of incentive and nonqualified stock options, shares of common stock, stock appreciation rights and performance units to employees, directors and consultants of the Company. Stock options are exercisable over periods determined by the Company's Human Capital Committee, but for no longer than 10 years from the grant date. The total number of shares that may be subject to awards under the Equity Compensation Plan is equal to the shares that were available for issuance and not subject to an award under the 2014 Equity Compensation Plan at the time it was replaced by the Equity Compensation Plan, subject to adjustment with respect to shares underlying any outstanding award granted under the Equity Compensation Plan or the 2014 Equity Compensation Plan that may expire, or be terminated, surrendered or forfeited for any reason, without issuance of such shares. As of September 30, 2023 March 31, 2024, there were 1,520,274 1,347,660 shares that remained available to be granted under the Equity Compensation Plan. The Equity Compensation Plan will terminate on June 15, 2033.

## Restricted Stock Awards and Units

The Company has issued restricted stock awards and units to employees and non-employees with vesting terms of one to five years. The fair value is equal to the market price of the Company's common stock on the date of grant for awards granted to employees. Consistent with the accounting for equity-classified awards issued to employees, and equal to the market price our equity-classified nonemployee share-based awards are measured at the end of the reporting period for unvested non-employee awards or upon the grant date of vesting for vested non-employee awards. fair value. Expense for restricted stock awards and units is amortized ratably over the vesting period for the awards issued to employees and using a graded vesting method for the awards issued to non-employees.

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During the nine three months ended September 30, 2023 March 31, 2024, the Company granted 110,279 84,089 shares of restricted stock awards and restricted stock units to employees and non-employees, which had a total fair value of \$16.4 13.8 million on the respective dates of grant, and will vest over three to five years from the date of grant, provided that the grantee is still an employee of the Company or is still providing services to the Company on the applicable vesting date.

For the three months ended September 30, 2023 March 31, 2024 and 2022, 2023, the Company recorded, as compensation charges related to all restricted stock awards and units granted to employees and non-employees, selling, general and administrative expense of \$2.4 2.2 million and \$3.4 3.1 million, respectively, research and development expense of \$1.4 million and \$1.5 million, respectively, and cost of sales of \$454,000 436,000 and \$573,000 531,000, respectively. For the nine months ended September 30, 2023 and 2022, the Company recorded, as compensation charges related to all restricted stock awards and units granted to employees and non-employees, selling, general and administrative expense of \$7.8 million and \$10.8 million, respectively, research and development expense of \$4.4 million and \$4.6 million, respectively, and cost of sales of \$1.4 million and \$1.7 million, respectively.

In connection with the vesting of restricted stock awards and units during the three months ended September 30, 2023 March 31, 2024 and 2022, 2023, 3,190 31,669 and 2,852 46,353 shares, respectively, with aggregate fair values of \$465,000 and \$305,000, respectively, were withheld in satisfaction of tax withholding obligations and are reflected as a financing activity within the Consolidated Statements of Cash Flows. In connection with the vesting of restricted stock awards and units during the nine months ended September 30, 2023 and 2022, 51,154 and 54,252 shares, respectively, with aggregate fair values of \$7.1 5.6 million and \$8.3 6.4 million, respectively, were withheld in satisfaction of tax withholding obligations and are reflected as a financing activity within the Consolidated Statements of Cash Flows.

For the three months ended September 30, 2023 March 31, 2024 and 2022, 2023, the Company recorded as compensation charges related to all restricted stock units granted to non-employee members of the Scientific Advisory Board, whose unvested shares are marked to market each reporting period, research and development expense of \$60,000 62,000 and \$32,000 68,000, respectively. Such compensation charges to research and development expense were \$188,000 and \$183,000, respectively, for the nine months ended September 30, 2023 and 2022.

The Company has granted restricted stock units to non-employee members of the Board of Directors with quarterly vesting over a period of approximately one year. year. The fair value is equal to the market price of the Company's common stock on the date of grant. The restricted stock units are issued and expense is recognized ratably over the vesting period. For the three months ended September 30, 2023 March 31, 2024 and 2022, 2023, the Company recorded compensation charges for services performed, related to all restricted stock units granted to non-employee members of the Board of Directors, selling, general and administrative expense of \$363,000 395,000 and \$315,000 355,000, respectively. Such compensation charges to selling, general and administrative expense were \$1.1 million and \$937,000, respectively, for the nine months ended September 30, 2023 and 2022. In connection with the vesting of the restricted stock, the Company issued to non-employee members of the Board of Directors 9,712 2,392 and 6,588 3,104 shares, respectively, during the nine three months ended September 30, 2023 March 31, 2024 and 2022, 2023.

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## Performance Unit Awards

Each performance unit award is subject to either both a performance-vesting requirement (either performance-based or market-based vesting market-based) and a service-vesting requirement. The performance-based vesting requirement is tied to the Company's achievement of specified financial metrics such as earnings before interest, taxes, depreciation EBITDA and amortization (EBITDA), cash flow and/or gross margin, achievement, as measured over a specific performance period. The market-based vesting requirement is tied to the Company's total shareholder return (TSR) relative to the TSR of companies comprising the Nasdaq Electronics Components Index, as measured over a three-year performance period. The maximum number of performance units that may vest based on performance is three times the shares granted. Further, if the Company's performance falls below certain thresholds, the performance units will not vest at all.

During the nine three months ended September 30, 2023 March 31, 2024, the Company granted 84,448 69,600 performance units, of which 42,222 34,798 units are subject to performance-based vesting requirements based on three-year cumulative adjusted EBITDA, 21,113 17,401 units are subject to performance-based vesting requirements based on three-year cumulative gross margin and 21,113 17,401 units are subject to market-based, TSR vesting requirements. The grant date fair value of the performance unit awards granted was \$12.6 11.4 million for the nine three months ended September 30, 2023 March 31, 2024, as determined by the Company's common stock on date of grant for the units with performance-based vesting and a Monte Carlo simulation model used for the units with market-based vesting.

For the three months ended September 30, 2023 March 31, 2024 and 2022, 2023, the Company recorded selling, general and administrative expense of \$1.5 2.5 million and reduction in expense of \$1.9 890,000 million, respectively, research and development expense of \$607,000 1.2 million and reduction in expense of \$488,000 231,000, respectively, and cost of sales expense of \$376,000 748,000 and reduction in expense of \$303,000 143,000, respectively, related to the performance units. For the nine months ended September 30, 2023 and 2022, the The reduction of expense was primarily due to current expectations of future vesting as they relate to Company recorded selling, general and administrative expense of \$1.7 million and \$3.7 million, respectively, research and development expense of \$982,000 and \$873,000, respectively, and cost of sales expense of \$609,000 and \$539,000, respectively, related to the performance units.

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performance.

In connection with the vesting of performance units during the nine three months ended September 30, 2023 March 31, 2024 and 2022, 2023, 5,350 8,160 and 5,082 5,350 shares, respectively, with an aggregate fair value of \$775,000 1.4 million and \$826,000 750,000, respectively, were withheld in satisfaction of tax withholding obligations and are reflected as a financing activity within the Consolidated Statements of Cash Flows.

## Employee Stock Purchase Plan

On April 7, 2009, the Board of Directors of the Company adopted an Employee Stock Purchase Plan (ESPP). The ESPP was approved by the Company's shareholders and became effective on June 25, 2009. The Company has reserved 1,000,000 shares of common stock for issuance under the ESPP. Unless terminated by the Board of Directors, the ESPP will expire when all reserved shares have been issued.

Eligible employees may elect to contribute to the ESPP through payroll deductions during consecutive three-month purchase periods, the first of which began on July 1, 2009. Each employee who elects to participate will be deemed to have been granted an option to purchase shares of the Company's common stock on the first day of the purchase period. Unless the employee opts out during the purchase period, the option will automatically be exercised on the last day of the period, which is the purchase date, based on the employee's accumulated contributions to the ESPP. The purchase price will equal 85% of the lesser of the closing price per share of common stock on the first business day of the period or the last business day of the period.

Employees may allocate up to 10% of their base compensation to purchase shares of common stock under the ESPP; however, each employee may purchase no more than 12,500 shares on a given purchase date, and no employee may purchase more than \$25,000 of common stock under the ESPP during a given calendar year.

During the **nine** **three** months ended **September 30, 2023** **March 31, 2024** and **2022, 2023**, the Company issued **13,915** **4,463** and **13,026** **5,639** shares, respectively, of its common stock under the ESPP, resulting in proceeds of **\$1.5** **639,000** **million** and **\$1.2** **518,000** **million**, respectively.

For the three months ended **September 30, 2023** **March 31, 2024** and **2022, 2023**, the Company recorded charges of **\$36,000** **37,000** and **\$3,000** **40,000**, respectively, to selling, general and administrative expense, **\$61,000** **76,000** and **\$19,000** **71,000**, respectively, to research and development expense, and **\$46,000** **51,000** and **\$14,000**, respectively, to cost of sales related to the ESPP equal to the amount of the discount and the value of the look-back feature. For the nine months ended **September 30, 2023** and **2022** the Company recorded charges of **\$105,000** and **\$86,000**, respectively, to selling, general and administrative expense, **\$186,000** and **\$183,000**, respectively, to research and development expense, and **\$121,000** and **\$110,000** **41,000**, respectively, to cost of sales related to the ESPP equal to the amount of the discount and the value of the look-back feature.

#### Scientific Advisory Board Awards

During the **nine** **three** months ended **September 30, 2023** **March 31, 2024** and **2022, 2023**, the Company granted a total of **2,366** **1,616** and **2,024** **2,366** shares, respectively, of fully vested common stock to non-employee members of the Scientific Advisory Board for services performed in **2022** **2023** and **2021** **2022**, respectively. The fair value of shares issued to members of the Scientific Advisory Board was \$300,000 for both **nine-month** **three-month** periods.

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#### 17. RETIREMENT PLAN BENEFIT LIABILITY:

On March 18, 2010, the Human Capital Committee and the Board of Directors of the Company approved and adopted the Universal Display Corporation Supplemental Executive Retirement Plan (SERP). The SERP is currently unfunded and includes salary and bonus as part of the plan. The purpose of the SERP is to provide certain of the Company's key employees with supplemental pension benefits following a cessation of their employment and to encourage their continued employment with the Company. As of **September 30, 2023** **March 31, 2024**, there were eight participants in the SERP. In December 2022, one of the participants retired and monthly SERP benefit payments commenced in January 2023. The total SERP benefit payments for the **nine** **three** months ended **September 30, 2023** **March 31, 2024** were **\$1.5** **504,000** **million**.

The Company records amounts relating to the SERP based on calculations that incorporate various actuarial and other assumptions, including discount rates, rate of compensation increases, retirement dates and life expectancies. The net periodic costs are recognized as employees render the services necessary to earn the SERP benefits.

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The components of net periodic pension cost were as follows (in thousands):

	Three Months Ended		Nine Months Ended		Three Months Ended March 31,	
	September 30,		September 30,			
	2023	2022	2023	2022	2024	2023
Service cost	\$ 238	\$ 282	\$ 713	\$ 1,005	\$ 212	\$ 238
Interest cost	725	346	2,174	1,038	610	724
Amortization of prior service cost	203	280	611	839	11	204

Amortization of loss	120	372	360	1,116	—	120
Total net periodic benefit cost	\$ 1,286	\$ 1,280	\$ 3,858	\$ 3,998	\$ 833	\$ 1,286

## 18. COMMITMENTS AND CONTINGENCIES:

### Commitments

Under the current research agreement with USC, the Company is obligated to make certain payments to USC based on work performed by it under that agreement, and by the University of Michigan (Michigan) under a subcontractor agreement that Michigan has with USC.

Under the terms of the current license agreement among the Company, Princeton and USC, the Company makes royalty payments to Princeton. See Note 11 for further explanation.

The Company has agreements with five executive officers and 121 senior level employees which provide for certain cash and other benefits upon termination of employment of the officer or employee in connection with a change in control of the Company. If a covered person's employment is terminated in connection with the change in control, the person is entitled to a lump-sum cash payment equal to two times (in the case of the executive officers) or either one or two times (in the case of the senior level employees) the sum of the average annual base salary and bonus of the person and immediate vesting of all stock options and other equity awards that may be outstanding at the date of the change in control, among other items.

In order to manage manufacturing lead times and help ensure adequate material supply, the Company entered into the New OLED Materials Agreement (see Note 13) that allows PPG to procure and produce inventory based upon criteria as defined by the Company. These purchase commitments consist of firm, noncancelable and unconditional commitments. In certain instances, this agreement allows the Company the option to reschedule and adjust the Company's requirements based on its business needs prior to firm orders being placed. As of September 30, 2023 March 31, 2024 and December 31, 2022 December 31, 2023, the Company had purchase commitments for inventory of \$26.2 29.7 million and \$31.9 29.8 million, respectively.

### Patent Related Challenges and Oppositions

Each major jurisdiction in the world that issues patents provides both third parties and applicants an opportunity to seek a further review of an issued patent. The process for requesting and considering such reviews is specific to the jurisdiction that issued the patent in question, and generally does not provide for claims of monetary damages or a review of specific claims of infringement. The conclusions made by the reviewing administrative bodies tend to be appealable and generally are limited in scope and applicability to the specific claims and jurisdiction in question.

The Company believes that opposition proceedings are frequently commenced in the ordinary course of business by third parties who may believe that one or more claims in a patent do not comply with the technical or legal requirements of the specific jurisdiction in which the patent was issued. The Company views these proceedings as reflective of its goal of obtaining the broadest legally permissible patent coverage permitted in each jurisdiction. Once a proceeding is initiated, as a general matter, the issued patent continues

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to be presumed valid until the jurisdiction's applicable administrative body issues a final non-appealable decision. Depending on the jurisdiction, the outcome of these proceedings could include affirmation, denial or modification of some or all of the originally issued claims. The Company believes that as OLED technology becomes more established and its patent portfolio increases in size, so will the number of these proceedings.

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**19. CONCENTRATION OF RISK:**

Revenues and accounts receivable from the Company's largest customers were as follows (in thousands):

Customer	% of Total Revenue for the Three Months Ended September 30,					% of Total Revenue for the Three Months Ended March 31,				Accounts Receivable as of	
	% of Total Revenue for the Three Months Ended September 30,		% of Total Revenue for the Three Months Ended September 30,		Accounts Receivable as of	% of Total Revenue for the Three Months Ended March 31,			Accounts Receivable as of		
	September 30,		September 30,		September 30,	September 30,			September 30,		
	September 30,		September 30,		September 30,	September 30,			September 30,		
	September 30,		September 30,		September 30,	September 30,			September 30,		
er	2023	2022	2023	2022	30, 2023	2024	2023	March 31, 2024			
A	45%	46%	37%	42%	\$ 12,525	41%	30%	\$	40,021		
B	20%	23%	23%	26%	\$ 32,879	25%	26%	\$	40,165		
C	12%	12%	15%	14%	\$ 43,314	16%	21%	\$	15,289		
D	8%	4%	10%	4%	\$ 20,442						

Revenues from outside of North America represented approximately 98% and 97% of consolidated revenue for the three months ended September 30, 2023, March 31, 2024 and 2022, respectively, and 98% and 97% for the nine-month periods ended September 30, 2023 and 2022, respectively. Revenues by geographic area are as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,		Three Months Ended March 31,			
Country	2023	2022	2023	2022	2024		2023	
South Korea	87,2	100,	235,	269,	\$	102,398	\$	66,060
China	\$ 31	\$ 555	\$ 320	\$ 338				
Japan	48,6	52,9	163,	159,		57,470		57,427
	87	06	634	486				
Other non-U.S. locations	2,01	2,01	5,17	4,45		1,254		1,647
	9	1	5	6				
Total non-U.S. locations			3,85	1,99		1,665		1,337
	541	976	6	1				
United States	138,	156,	407,	435,		162,787		126,471
	478	448	985	271				
Total revenue	2,59	4,10	10,1	12,3	\$	165,259	\$	130,467
	9	8	24	16				
	141,	160,	418,	447,				
	\$ 077	\$ 556	\$ 109	\$ 587				

The Company attributes revenue to different geographic areas on the basis of the location of the customer.

Property and equipment, net by geographic area are as follows (in thousands):

	September 30, 2023	December 31, 2022	March 31, 2024	December 31, 2023
United States	\$ 119,458	\$ 117,255	\$ 117,389	\$ 118,250
Ireland	40,860	20,270	43,703	42,203
Other	14,320	5,920	14,804	14,697
Property and equipment, net	\$ 174,638	\$ 143,445		
Total property and equipment, net			\$ 175,896	\$ 175,150

Substantially all chemical materials were purchased from one supplier. See Note 13 for further explanation.

## 20. INCOME TAXES:

The Company is subject to income taxes in both the United States and foreign jurisdictions. The effective income tax rate was 4.4% and 23.7% for the three months ended September 30, 2023 and March 31, 2024, respectively. The Company recorded an income tax expense of \$13.6 million and \$16.8 million for the three months ended September 30, 2023 and March 31, 2024, respectively. The discrepancy between the statutory tax rate and the effective tax rate is primarily due to nondeductible employee compensation and U.S. international tax (GILTI and Subpart F), partially offset by the benefit of income taxed in foreign jurisdictions. The reduction in the effective income tax rate for the three and nine months ended September 30, 2023 compared to the three and nine months ended September 30, 2022, was primarily decreased due to a change in IRS U.S. tax regulations issued in July 2023, that permit associated with the ability to credit Chinese withholding taxes, to be credited against U.S. taxable income for the tax years 2022 and 2023, recorded as well as a discrete tax adjustment change in the three months ended September 30, 2023. The Company recorded an income tax expense of \$2.4 million capitalization rules for research and \$16.6 million for the three months ended September 30, 2023 and 2022, respectively, and \$28.5 million and \$42.7 million for the nine months ended September 30, 2023 and 2022, respectively, development expenses.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent on the Company's ability to generate future taxable income to obtain benefit from the reversal of temporary differences, net operating loss carryforwards and tax credits. Included in other current assets as of September 30, 2023 is \$18.0 million of income tax receivable, which was previously classified as a deferred tax asset. This was the result of a change in guidance issued under IRS Notice 2023-63 which clarified that certain research and development costs do not need to be capitalized and amortized over future periods. As part of its assessment, management considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies. At this time there is not sufficient evidence to release the valuation allowance that has been recorded for the New Jersey research and development credit credits and unrealized loss on investments, and investments. There are no indicators against the realizability of the remaining net deferred tax asset.

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The U.S.-Korean Mutual Agreement Procedure (MAP) for the years ended December 31, 2010 to December 31, 2017 was closed in September 2022, resulting in a refund of the Korean withholding taxes previously withheld. In July 2023, the Company amended its U.S. federal tax returns to reflect the refund and to redetermine the foreign tax credit amount. In November 2022, the Company prepaid \$18.8 million to the IRS under Rev. Proc. 2005-18 to offset the tax payable amount.

On December 27, 2018, regarding the withholding taxes for the years 2018 to 2022, the Korean Supreme Court, citing prior cases, held that only royalties paid with respect to Korean registered patents are considered Korean source income and subject to Korean withholding tax under the



applicable law and interpretation of the Korea-U.S. Tax Treaty. The Company has incurred Korean withholding tax of \$14.9 million for each of the years ended December 31, 2018 to, through December 31, 2022. Based on the Korean Supreme Court decision, a tax refund request on behalf of the Company was filed with the Korean National Tax Service (KNTS) for the entire period from January 1, 2018, to December 31, 2022. The Company received a formal rejection from the KNTS; and has in May 2022 filed an appeal with the Korean Tax Tribunal. On December 18th, 2023, the Company received a formal rejection from the Tax Tribunal. Anticipating the rejection of the appeal, in September 2023 the Company filed a petition to the Korean Tax Tribunal to reverse the decision of the tax office. District Court and is awaiting its decision. The Company has been advised by a prominent Korean law firm that there is a more-likely-than-not chance of success. As a result, the Company has recorded a long-term asset of \$57.6 million and \$60.9 million as of September 30, 2023 March 31, 2024, and December 31, 2022 December 31, 2023, respectively, respectively for the receipt of the Korean withholding tax. The Company also recorded foreign exchange loss of \$1.5 million during and \$1.0 million for the three months ended September 30, 2023 March 31, 2024 and \$3.3 million during the nine months ended September 30, 2023 2023 due to the fluctuation of the Korean Won to the U.S. Dollar and resulting remeasurement of this Won-denominated receivable.

The Company will also amend U.S. federal tax returns for the 2018 to 2020 2022 years when the anticipated refund from KNTS is received to offset the additional tax liability and to redetermine the research and development credit utilization. In November 2022, the Company prepaid \$16.0 million to the IRS under Rev. Proc. 2005-18 that relates to the anticipated tax payable. liability. The Company has recorded a long-term liability of \$15.7 million and \$14.6 million as of September 30, 2023 March 31, 2024, and December 31, 2022 December 31, 2023, respectively, for the estimated amounts due to the U.S. federal government based on the amendment of the Company's U.S. tax returns, indicating that lower withholding amounts were required.

The Company's Company is not subject to examinations by the federal income tax returns authority for the years 2018 prior to 2021 are open and subject to examination. 2020. The Company's state and foreign tax returns are open for a period of generally three to four years. The Company is under California tax audit for 2019 and 2020 years, which is in the information-collecting stage.

The above estimates may change in the future and upon settlement.

## 21. REVENUE RECOGNITION:

The Company recognizes revenue in accordance with ASC Topic 606, Revenue from Contracts with Customers (Topic 606). The standard establishes the principles that an entity shall apply to report useful information to users of financial statements about the nature, amount, timing, and uncertainty of revenue and cash flows from a contract with a customer.

For the three months ended September 30, 2023 March 31, 2024 and 2022, 2023, the Company recorded 98% and 97 96%, respectively, of its revenue from OLED related sales and 2% and 3 4%, respectively, from the providing of services through Adesis. For both nine-month periods ended September 30, 2023 and 2022, the Company recorded 97% of its revenue from OLED related sales and 3% from the providing of services through Adesis.

### Contract Balances

The following table provides information about assets and liabilities associated with our contracts from customers (in thousands):

	As of September 30, 2023	As of March 31, 2024
Accounts receivable	\$ 122,192	\$ 119,584
Short-term unbilled receivables	21,896	22,440
Long-term unbilled receivables		10,278
Short-term contract assets	2,585	2,747
Long-term unbilled receivables	6,379	
Long-term contract assets	9,938	8,688
Short-term deferred revenue	66,828	19,157

Long-term deferred revenue	8,859	13,292
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Short-term and long-term unbilled receivables and contract assets are classified as other current assets and other assets, respectively, on the Consolidated Balance Sheets. Contract assets represent consideration related to the renewal of customer contracts which is recognized over the contract term based on material units sold. The deferred revenue balance as of September 30, 2023 March 31, 2024 will be recognized as materials are shipped to customers over the remaining contract periods. As of September 30, 2023 March 31, 2024, the Company had \$30.5 35.9 million of backlog associated with committed purchase orders from its customers for phosphorescent emitter material. These orders are anticipated to be fulfilled within the next 90 days.

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Significant changes in the assets and liabilities balances associated with the Company's contracts from customers for the nine three months ended September 30, 2023 March 31, 2024 and 2022 2023 are as follows (in thousands):

	Nine Months Ended September 30, 2023	
	Assets	Liabilities
Balance at December 31, 2022	\$ 38,457	\$ (63,878)
Revenue recognized that was previously included in deferred revenue, net	—	143,064
Increases due to cash received	—	(159,989)
Cumulative catch-up adjustment arising from changes in estimates of transaction price, net	—	5,116
Unbilled receivables recorded, net	29,094	—
Contract assets recorded, net	(1,860)	—
Transferred to receivables from unbilled receivables	(24,893)	—
Net change	2,341	(11,809)
Balance at September 30, 2023	\$ 40,798	\$ (75,687)

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	Nine Months Ended September 30, 2022	
	Assets	Liabilities
Balance at December 31, 2021	\$ 8,127	\$ (157,081)
Revenue recognized that was previously included in deferred revenue, net	—	178,737
Increases due to cash received	—	(132,961)
Cumulative catch-up adjustment arising from changes in estimates of transaction price, net	—	17,290
Unbilled receivables recorded, net	5,502	—
Net change	5,502	63,066
Balance at September 30, 2022	\$ 13,629	\$ (94,015)
Three Months Ended March 31, 2024		

	Assets	Liabilities
Balance at December 31, 2023	\$ 42,134	\$ (59,719)
Revenue recognized that was previously included in deferred revenue, net	—	61,095
Increases due to cash received	—	(33,323)
Cumulative catch-up adjustment arising from changes in estimates of transaction price, net	—	(502)
Unbilled receivables recorded, net	2,560	—
Contract assets recorded, net	(541)	—
Net change	2,019	27,270
Balance at March 31, 2024	\$ 44,153	\$ (32,449)
Three Months Ended March 31, 2023		
	Assets	Liabilities
Balance at December 31, 2022	\$ 38,457	\$ (63,878)
Revenue recognized that was previously included in deferred revenue, net	—	41,086
Increases due to cash received	—	(38,153)
Cumulative catch-up adjustment arising from changes in estimates of transaction price, net	—	5,683
Unbilled receivables recorded, net	11,878	—
Contract assets recorded, net	(520)	—
Transferred to receivables from unbilled receivables	(19,983)	—
Net change	(8,625)	8,616
Balance at March 31, 2023	\$ 29,832	\$ (55,262)

The cumulative catch-up adjustment recorded to revenue arising from changes in estimates of transaction price, net was a reduction of \$5.1 502,000 for three months ended March 31, 2024 as compared to an increase of \$5.7 million for the nine three months ended September 30, 2023 as compared to \$17.3 million for March 31, 2023. For the nine three months ended September 30, 2022. These adjustments March 31, 2023, the adjustment resulted from an increase in the average price per gram that was primarily due to the decrease in anticipated demand by several of the Company's customers over the remaining lives of their contracts, resulting from changes in global macroeconomic factors.

## 22. NET INCOME PER COMMON SHARE:

The Company computes earnings per share in accordance with ASC Topic 260, *Earnings per Share*, which requires earnings per share (EPS) for each class of stock to be calculated using the two-class method. The two-class method is an allocation of income between the holders of common stock and the Company's participating security holders. Under the two-class method, income for the reporting period is allocated between common shareholders and other security holders based on their respective participation rights in undistributed income. Unvested share-based payment awards that contain non-forfeitable rights to dividends or dividend equivalents are participating securities and, therefore, are included in computing earnings per share pursuant to the two-class method.

Basic net income per common share is computed by dividing net income allocated to common shareholders by the weighted-average number of shares of common stock outstanding for the period excluding unvested restricted stock units and performance units. Net income allocated to the holders of the Company's unvested restricted stock awards is calculated based on the shareholders proportionate share of weighted average shares of common stock outstanding on an if-converted basis.

For purposes of determining diluted net income per common share, basic net income per share is further adjusted to include the effect of potential dilutive common shares outstanding, including restricted stock units, performance units and the impact of shares to be issued under the Company's

The following table is a reconciliation of net income and the shares used in calculating basic and diluted net income per common share for the three and nine months ended September 30, 2023 March 31, 2024 and 2022 2023 (in thousands, except share and per share data):

	Three Months Ended September 30,		Nine Months Ended September 30,		Three Months Ended March 31,	
	2023	2022	2023	2022	2024	2023
<b>Numerator:</b>						
Net income	51,5	53,4	141,	144,9		
	\$ 16	\$ 55	\$ 033	\$ 27	\$ 56,853	\$ 39,839
<b>Adjustment for Basic EPS:</b>						
Earnings allocated to unvested shareholders	(243)	(289)	(709)	(849)	(201)	(213)
Adjusted net income	51,2	53,1	140,	144,0		
	\$ 73	\$ 66	\$ 324	\$ 78	\$ 56,652	\$ 39,626
<b>Denominator:</b>						
Weighted average common shares outstanding – Basic	47,5	47,3	47,5			
	70,0	96,4	55,7	47,38		
	99	95	34	6,426	47,557,959	47,523,593
<b>Effect of dilutive shares:</b>						
Common stock equivalents arising from ESPP	499	729	4	1,814		
Common stock equivalents arising from stock options and ESPP					462	940
Restricted stock awards and units and performance units	61,8	69,7	52,1	67,65		
	33	10	94	3	70,071	42,474
Weighted average common shares outstanding – Diluted	47,6	47,4	47,6			
	32,4	66,9	09,6	47,45		
	31	34	92	5,893	47,628,492	47,567,007
<b>Net income per common share:</b>						
Basic	\$ 1.08	\$ 1.12	\$ 2.95	\$ 3.04	\$ 1.19	\$ 0.83
Diluted	\$ 1.08	\$ 1.12	\$ 2.95	\$ 3.04	\$ 1.19	\$ 0.83

For the three months ended September 30, 2023 March 31, 2024 and 2022 2023, the combined effects of unvested restricted stock awards, restricted stock units, and performance unit awards and stock options of 39,426 27,453 and 173,707, respectively, were excluded from the calculation of diluted EPS as their impact would have been antidilutive. For the nine months ended September 30, 2023 and 2022, the combined effects of unvested

restricted stock awards, restricted stock units and performance unit awards of 34,291 and 121,962 41,505, respectively, were excluded from the calculation of diluted EPS as their impact would have been antidilutive.

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## ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the unaudited Consolidated Financial Statements and related notes above.

### CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

This discussion and analysis contains some "forward-looking statements." Forward-looking statements concern possible or assumed future results of operations, including descriptions of our business strategies and customer relationships. These statements often include words such as "believe," "expect," "anticipate," "intend," "plan," "estimate," "seek," "will," "may" or similar expressions. These statements are based on assumptions that we have made in light of our experience in the industry, as well as our perceptions of historical trends, current conditions, expected future developments and other factors that we believe are appropriate in these circumstances.

As you read and consider this discussion and analysis, you should not place undue reliance on any forward-looking statements. You should understand that these statements involve substantial risk and uncertainty and are not guarantees of future performance or results. They depend on many factors that are discussed further in the sections entitled (Risk Factors) in our Annual Report on Form 10-K for the year ended December 31, 2022 December 31, 2023, as supplemented by disclosures in Item 1A of Part II below. Changes or developments in any of these areas could affect our financial results or results of operations and could cause actual results to differ materially from those contemplated in the forward-looking statements.

All forward-looking statements speak only as of the date of this report or the documents incorporated by reference, as the case may be. We do not undertake any duty to update any of these forward-looking statements to reflect events or circumstances after the date of this report or to reflect the occurrence of unanticipated events.

## OVERVIEW

We are a leader in the research, development and commercialization of organic light emitting diode (OLED) technologies and materials for use in display applications, such as mobile phones, televisions, monitors, wearables, tablets, portable media devices, notebook computers, personal computers and automotive applications, as well as specialty and general lighting products. Since 1994, we have been engaged and expect to continue to be primarily engaged, in funding and performing research and development activities relating to OLED technologies and materials, and commercializing these technologies and materials. We derive our revenue primarily from the following:

- sales of OLED materials for evaluation, development and commercial manufacturing;
- intellectual property and technology licensing;
- technology development and support, including third-party collaboration efforts and providing support to third parties for commercialization of their OLED products; and
- contract research services in the areas of chemical materials synthesis research, development and commercialization for non-OLED applications.

Material sales relate to our sale of OLED materials for incorporation into our customers' commercial OLED products or for their OLED development and evaluation activities. Material sales are generally recognized at the time title passes, which is typically at the time of shipment or at the

time of delivery, depending upon the contractual agreement between the parties.

We receive license and royalty payments under certain commercial, development and technology evaluation agreements, some of which are non-refundable advances. These payments may include royalty and license fees made pursuant to license agreements and also license fees included as part of certain commercial supply agreements. These payments are included in the estimate of total contract consideration by customer and recognized as revenue over the contract term based on material units sold at the estimated per unit fee over the life of the contract.

On December 2, 2022, we entered into a commercial patent license agreement with Samsung Display Co., Ltd. (SDC), replacing a previous license agreement that had been in place since 2018. This agreement, which covers the manufacture and sale of specified OLED display materials, was effective as of January 1, 2023 and lasts through the end of 2027 with an additional two-year extension option for SDC. Under this agreement, we are being paid a license fee, which includes quarterly and annual payments over the agreement

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term of five years. The agreement conveys to SDC the non-exclusive right to use certain of our intellectual property assets for a limited period of time that is less than the estimated life of the assets.

At the same time that we entered into the current commercial patent license agreement with SDC, we also entered into a material purchase agreement with SDC, which lasts for the same term as the license agreement and is subject to the same extension option. This new material purchase agreement replaced a previous purchase agreement that had been in place since 2018. Under the material purchase agreement, SDC agrees to purchase from us a minimum amount of red and green phosphorescent emitter materials for use in the manufacture of licensed products. This minimum commitment is subject to SDC's requirements for phosphorescent emitter materials and our ability to meet these requirements over the term of the supplemental agreement.

In 2015, we entered into an OLED patent license agreement and an OLED commercial supply agreement with LG Display Co., Ltd. (LG Display), which were effective as of January 1, 2015. The terms of these agreements were extended by a January 1, 2021 amendment through the end of 2025. The patent license agreement provides LG Display a non-exclusive, royalty bearing portfolio license to make and sell OLED displays under our patent portfolio. The patent license calls for license fees, prepaid royalties and running royalties on licensed products. The OLED commercial supply agreement provides for the sales of materials for use by LG Display, which may include phosphorescent emitters and host materials. The agreements provide for certain other minimum obligations relating to the volume of material sales anticipated over the life of the agreements as well as minimum royalty revenue.

In 2016, 2023, we entered into long-term, multi-year OLED patent license and material purchase agreements with Tianma Micro-electronics Co., Ltd. (Tianma). Under the license agreement, we have granted Tianma non-exclusive license rights under various patents owned or controlled by us to manufacture and sell OLED display products. The license agreement calls for license fees and running royalties on Tianma's sales of licensed products. Additionally, we supply phosphorescent OLED materials to Tianma for use in its licensed products. In 2021, we mutually agreed to extend the terms of both the patent license and material purchase agreements for an additional multi-year term.

In 2017, we entered into new long-term, multi-year agreements with BOE Technology Group Co., Ltd. (BOE). Under these agreements, we have granted BOE non-exclusive license rights under various patents owned or controlled by us to manufacture and sell OLED display products. We also supply phosphorescent OLED materials to BOE for use in its licensed products.

In 2019, we entered into an evaluation and commercial supply relationship with Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd. (CSOT). In 2020, we entered into long-term, multi-year agreements with CSOT. Under these agreements, we have granted CSOT

non-exclusive license rights under various patents owned or controlled by us to manufacture and sell OLED display products. We also supply phosphorescent OLED materials to CSOT for use in its licensed products.

In 2018, we entered into long-term, multi-year OLED patent license and material purchase agreements with Visionox Technology, Inc. (Visionox). Under the license agreement, we have granted certain of Visionox's affiliates non-exclusive license rights under various patents owned or controlled by us to manufacture and sell OLED display products. The license agreement calls for license fees and running royalties on licensed products. Additionally, we supply phosphorescent OLED materials to Visionox for use in its licensed products. In 2021, we announced an extension of the Visionox agreement by entering into new five-year OLED material supply and license agreements with a new affiliate of Visionox, Visionox Hefei Technology Co. Ltd.

In 2019, we entered into an evaluation and commercial supply relationship with Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd. (CSOT). In 2020, 2016, we entered into long-term, multi-year OLED patent license and material purchase agreements with CSOT, Tianma Micro-electronics Co., Ltd. (Tianma). Under these agreements, the license agreement, we have granted CSOT, Tianma non-exclusive license rights under various patents owned or controlled by us to manufacture and sell OLED display products. We also The license agreement calls for license fees and running royalties on Tianma's sales of licensed products. Additionally, we supply phosphorescent OLED materials to CSOT, Tianma for use in its licensed products. In 2021, we mutually agreed to extend the terms of both the patent license and material purchase agreements for an additional multi-year term.

In 2016, we acquired Adesis, Inc. (Adesis), which has operations in New Castle and Wilmington, Delaware. Adesis is a contract research development and manufacturing organization (CRO) (CDMO) that provides support services on a contractual basis to third-party customers in the OLED, pharma, biotech, catalysis and other industries. As of September 30, 2023, March 31, 2024, Adesis employed a team of 138, 142 research scientists, chemists, engineers and laboratory technicians. Prior to our acquisition of Adesis, we utilized more than 50% of Adesis' technology service and production output. We continue to utilize a significant portion of its technology research capacity for the benefit of our OLED technology development, and Adesis uses the remaining capacity to operate as a CRO in the above-mentioned industries CDMO by providing contract research services for non-OLED applications to those third-party customers, customers in the above-mentioned industries. Contract research services revenue is earned by providing chemical materials synthesis research, development and commercialization for non-OLED applications on a contractual basis for those third-party customers.

In June 2020, a wholly-owned subsidiary, OVJP Corporation (OVJP Corp), was formed as a Delaware corporation. Based in California, OVJP Corp was founded to advance the commercialization of our proprietary Organic Vapor Jet Printing (OVJP) technology. As of September 30, 2023, March 31, 2024, 2024, OVJP Corp employed a team of 28, 27 research, mechanical, electrical and software engineers and laboratory technicians. As a direct printing technique, OVJP technology has the potential to offer high deposition rates for large-area OLEDs. In addition, OVJP technology reduces OLED material waste associated with use of a shadow mask (i.e., the waste of material that deposits on the shadow mask itself when fabricating an OLED). By comparison to inkjet printing, an OVJP process does not use liquid solvents and therefore the OLED materials utilized are not limited by their viscosity or solvent solubility. OVJP also avoids generation of solvent wastes and eliminates the additional step of removing residual solvent from the OLED device. We believe the successful implementation

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of the OVJP technology has the potential to increase the addressable market for large-size OLED panels while also serving another potential growth market for our proprietary PHOLED materials and technologies.

In February 2021, we announced the establishment of a new manufacturing site in Shannon, Ireland and an agreement between UDC Ireland Limited and PPG for the production of our OLED materials. We purchased the site during September 2023. When fully operational, the new facility is

expected to double our production capacity and allow for the diversification of our manufacturing base for phosphorescent emitters. The first phase of facility improvements has been completed and operations commenced in June 2022.

We also generate technology development and support revenue earned from development and technology evaluation agreements and commercialization assistance fees.

We anticipate fluctuations in our annual and quarterly results of operations due to uncertainty regarding, among other factors:

- the timing, cost and volume of sales of our OLED materials;
- the timing of our receipt of license fees and royalties, as well as fees for future technology development and evaluation;
- the timing and magnitude of expenditures we may incur in connection with our ongoing research and development and patent-related activities; and
- the timing and financial consequences of our formation of new business relationships and alliances.

## RESULTS OF OPERATIONS

Comparison of the Three Months Ended **September 30, 2023** **March 31, 2024** and **2022** **2023**

	Three Months Ended			Three Months Ended March 31,		
	September 30,		Increase			Increase (Decrease)
	2023	2022	(Decrease)	2024	2023	
REVENUE:						
Material sales	\$ 92,492	\$ 84,182	\$ 8,310	\$ 93,284	\$ 70,190	\$ 23,094
Royalty and license fees	45,915	71,450	(25,535)	68,268	55,210	13,058
Contract research services	2,670	4,924	(2,254)	3,707	5,067	(1,360)
Total revenue	141,077	160,556	(19,479)	165,259	130,467	34,792
COST OF SALES	34,248	37,396	(3,148)	36,969	32,970	3,999
Gross margin	106,829	123,160	(16,331)	128,290	97,497	30,793
OPERATING EXPENSES:						
Research and development	33,099	30,414	2,685	37,985	31,423	6,562
Selling, general and administrative	18,084	18,442	(358)	19,252	15,396	3,856
Amortization of acquired technology and other intangible assets	4,557	3,562	995	4,548	2,891	1,657
Patent costs	2,572	2,018	554	1,982	2,255	(273)
Royalty and license expense	81	261	(180)	1,651	164	1,487
Total operating expenses	58,393	54,697	3,696	65,418	52,129	13,289
OPERATING INCOME	48,436	68,463	(20,027)	62,872	45,368	17,504
Interest income, net	7,136	2,432	4,704	9,568	6,967	2,601
Other loss, net	(1,693)	(804)	(889)	(1,943)	(703)	(1,240)
Interest and other income, net	5,443	1,628	3,815			
Interest and other loss, net				7,625	6,264	1,361
INCOME BEFORE INCOME TAXES	53,879	70,091	(16,212)	70,497	51,632	18,865
INCOME TAX EXPENSE	(2,363)	(16,636)	14,273	(13,644)	(11,793)	(1,851)



NET INCOME	\$ 51,516	\$ 53,455	\$ (1,939)	\$ 56,853	\$ 39,839	\$ 17,014
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## Revenue

Our total material sales were \$92.5 million \$93.3 million for the three months ended September 30, 2023 March 31, 2024, as compared to \$84.2 million \$70.2 million for the three months ended September 30, 2022 March 31, 2023, an increase of 10% 33% with a commensurate increase in unit material volume of 3% 37%. The increase in material sales was primarily due to strengthened demand for OLED products utilizing our emitter material, as well as improved product mix weighted towards increased demand for our new generation of emitter products. materials.

- Green emitter sales for the three months ended September 30, 2023 March 31, 2024, which include our yellow-green emitters, were \$70.8 million as compared to \$64.0 million \$53.7 million for the three months ended September 30, 2022 March 31, 2023, with material volumes increasing by 1% 33%.

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- Red emitter sales for the three months ended September 30, 2023 March 31, 2024 were \$22.1 million \$20.6 million as compared to \$16.1 million for the three months ended September 30, 2022 March 31, 2023, with unit material volumes increasing by 8% 48%.

Revenue from royalty and license fees was \$45.9 million \$68.3 million for the three months ended September 30, 2023 March 31, 2024 as compared to \$71.5 million \$55.2 million for the three months ended September 30, 2022 March 31, 2023, a decrease an increase of 36% 24%. The decrease increase in royalty and license fees was primarily the result of changes in customer mix, higher unit material volume, partially offset by the decrease change in the cumulative catch-up noted below, adjustment between periods as well as higher estimated future demand for several of our customers over the remaining lives of their contracts, described below.

The cumulative catch-up adjustment recorded to revenue arising from changes in estimates of transaction price, net was a decrease reduction of \$1.5 million \$502,000 for three months ended March 31, 2024 as compared to an increase of \$5.7 million for the three months ended September 30, 2023 March 31, 2023. This For the three months ended March 31, 2023, the adjustment resulted from a decrease an increase in the average selling price per gram that was primarily due to the increase decrease in anticipated OLED materials demand by several of our customers over the remaining lives of their contracts, resulting from changes in global macroeconomic factors. The cumulative catch-up adjustment during the three months ended September 30, 2022 was a net increase of \$6.6 million, resulting in a net reduction in revenue between periods of \$8.1 million related to cumulative catch-ups.

Contract research services revenue was \$2.6 million \$3.7 million for the three months ended September 30, 2023 March 31, 2024 as compared to \$4.9 million \$5.1 million for the three months ended September 30, 2022 March 31, 2023, a decrease of 46% 27%. The decrease in contract research services revenue was primarily due to the timing reduced demand from several customers of the completion of several CRO projects by our subsidiary, Adesis. Adesis, during the three months ended March 31, 2024. Revenue from contract research services consists of revenue earned by Adesis, which provides support services on a contractual basis to third-party customers in the pharma, biotech, catalysis and other industries on a contractual basis for those third-party customers. industries.

## Cost of sales

Cost of sales for the three months ended September 30, 2023 decreased March 31, 2024 increased by \$3.1 million \$4.0 million as compared to the three months ended September 30, 2022 March 31, 2023, primarily due to a reduction in contract manufacturing support costs, a reduction in the underutilization charges of the manufacturing facility in Shannon, Ireland and changes in product mix, offset by an increase in the level of material materials sales, and inventory reserve. For the three months ended September 30, 2023 and 2022, the increase partially offset by a \$3.3 million decrease in inventory reserve was \$2.5 million and \$1.7 million, respectively, due to excess inventory levels in certain products, expense. As a result of the decrease increase in revenue from material sales and royalty and license licenses fees, offset by the increase in material sales, gross margin for the

three months ended September 30, 2023 decreased March 31, 2024 increased by \$16.3 million \$30.8 million as compared to the three months ended September 30, 2022 March 31, 2023, with gross margin as a percentage of revenue decreasing increasing to 76% 78% from 77% 75%.

#### Research and development

Research and development expenses increased to \$33.1 million \$38.0 million for the three months ended September 30, 2023 March 31, 2024, as compared to \$30.4 million \$31.4 million for the three months ended September 30, 2022 March 31, 2023. The increase in research and development expenses was primarily due to higher operating costs, including increased employee-related compensation expenses, PPG development activity and contract research costs, offset by lower costs associated with PPG development activity costs.

#### Selling, general and administrative

Selling, general and administrative expenses decreased increased to \$18.1 million \$19.3 million for the three months ended September 30, 2023 March 31, 2024, as compared to \$18.4 million \$15.4 million for the three months ended September 30, 2022 March 31, 2023. The decrease increase in selling, general and administrative expenses was primarily due to lower an increase in employee-related expenses, including higher stock-based compensation and salaries expenses.

#### Amortization of acquired technology and other intangible assets

Amortization of acquired technology and other intangible assets was \$4.6 million for the three months ended September 30, 2023 March 31, 2024, as compared to \$3.6 million \$2.9 million for the three months ended September 30, 2022 March 31, 2023. The increase was due to the Fujifilm patents becoming fully amortized during July 2022, partially offset by the commencement of amortization expense associated with the Merck KGaA Darmstadt, Germany (Merck KGaA) patent acquisition that was completed on April 28, 2023.

#### Patent costs

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Patent costs increased to \$2.6 million for the three months ended September 30, 2023, as compared decreased to \$2.0 million for the three months ended September 30, 2022 March 31, 2024, as compared to \$2.3 million for the three months ended March 31, 2023. The results in the current quarter year reflected higher lower internal prosecution related costs.

#### Royalty and license expense

Royalty and license expense decreased increased to \$81,000 \$1.7 million for the three months ended September 30, 2023 March 31, 2024, as compared to \$261,000 \$164,000 for the three months ended September 30, 2022 March 31, 2023. The increase was due to a one-time expense of \$1.5 million in connection with an amendment to our existing amended license agreement, effective as of October 9, 1997, with Princeton University and the University of Southern California.

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#### Interest and other loss, net

Interest income, net was \$7.1 million \$9.6 million for the three months ended September 30, 2023 March 31, 2024, as compared to \$2.4 million \$7.0 million for the three months ended September 30, 2022 March 31, 2023. The increase in interest income, net was primarily due to an increase in bond yields on available-for-sale investments held during the three months ended September 30, 2023 March 31, 2024 as compared to the three months ended September 30, 2022 March 31, 2023 as well as higher available-for-sale investment balances. Other loss, net primarily consisted of

net exchange gains and losses on foreign currency transactions, net investment gains and losses, and rental income. We recorded other loss, net of \$1.7 million \$1.9 million for the three months ended September 30, 2023 March 31, 2024 as compared to \$804,000 \$703,000 for the three months ended September 30, 2022 March 31, 2023.

### Income tax expense

We are subject to income taxes in the United States and foreign jurisdictions. The effective income tax rate was an expense of 4.4% 19.4% and 23.7% 22.8% for the three months ended September 30, 2023 March 31, 2024 and 2022 2023, respectively, and we recorded income tax expense of \$2.4 million \$13.6 million and \$16.6 million \$11.8 million, respectively, for those periods. The reduction in the effective income tax rate was primarily decreased due to the a change in IRS U.S. tax regulations issued in July 2023, that permit associated with the ability to credit Chinese withholding taxes, to be credited against U.S. taxable income for the tax years 2022 and 2023, by applying federal regulations in place prior to changes in 2022.

### Comparison of the Nine Months Ended September 30, 2023 and 2022

	Nine Months Ended September 30,		Increase (Decrease)
	2023	2022	
REVENUE:			
Material sales	\$ 239,789	\$ 242,742	\$ (2,953)
Royalty and license fees	165,524	191,530	(26,006)
Contract research services	12,796	13,315	(519)
Total revenue	418,109	447,587	(29,478)
COST OF SALES	99,357	97,798	1,559
Gross margin	318,752	349,789	(31,037)
OPERATING EXPENSES:			
Research and development	96,840	85,156	11,684
Selling, general and administrative	50,557	59,373	(8,816)
Amortization of acquired technology and other intangible assets	11,442	14,562	(3,120)
Patent costs	7,056	6,075	981
Royalty and license expense	414	596	(182)
Total operating expenses	166,309	165,762	547
OPERATING INCOME	152,443	184,027	(31,584)
Interest income, net	20,301	4,306	15,995
Other loss, net	(3,180)	(749)	(2,431)
Interest and other income, net	17,121	3,557	13,564
INCOME BEFORE INCOME TAXES	169,564	187,584	(18,020)
INCOME TAX EXPENSE	(28,531)	(42,657)	14,126
NET INCOME	\$ 141,033	\$ 144,927	\$ (3,894)

### Revenue

Our total material sales were \$239.8 million for the nine months ended September 30, 2023, as compared to \$242.7 million for the nine months ended September 30, 2022, a decrease of 1% with a decrease in unit material volume of 3%. The decline in material sales was primarily due to reduced demand for our emitter material during the first quarter of 2023, partially offset by the introduction of blue emitter and host sales. This weakness resulted from the continuation of unfavorable macroeconomic conditions that have negatively impacted the OLED display market segment.

- Green emitter sales for the nine months ended September 30, 2023, which include our yellow-green emitters, were \$180.5 million compared to \$185.0 million for the nine months ended September 30, 2022, with unit material volumes decreasing by 5%.
- Red emitter sales for the nine months ended September 30, 2023 were \$54.9 million as compared to \$57.4 million for the nine months ended September 30, 2022, with unit material volumes remaining consistent.

Revenue from royalty and license fees was \$165.5 million for the nine months ended September 30, 2023 as compared to \$191.5 million for the nine months ended September 30, 2022. The decrease in royalty and license fees was primarily the result of higher estimated future demand for several of our customers over the remaining lives of their contracts, as well as the impact of the cumulative catch-up adjustments noted below.

The cumulative catch-up adjustment arising from changes in estimates of transaction price, net was an increase of \$5.1 million for the nine months ended September 30, 2023 as compared to an increase of \$17.3 million for the nine months ended September 30, 2022, resulting in a net reduction in revenue between periods of \$12.2 million, the majority of which was recorded to royalty and license fees. These adjustments resulted from an increase change in the average price per gram that was primarily due to the decrease in anticipated OLED materials demand by several of our customers over the remaining lives of their contracts.

Contract research services revenue was \$12.8 million capitalization rules for the nine months ended September 30, 2023 as compared to \$13.3 million for the nine months ended September 30, 2022, a decrease of 4%. The decrease in contract research services revenue was primarily due to the timing of the completion of several CRO projects by our subsidiary, Adesis, in the three months ended September 30, 2023. Revenue from contract research services consists of revenue earned by Adesis, which provides support services to the pharma, biotech, catalysis and other industries on a contractual basis for those third-party customers.

### **Cost of sales**

Cost of sales for the nine months ended September 30, 2023 increased by \$1.6 million as compared to the nine months ended September 30, 2022, primarily due to underutilization of the manufacturing facility in Shannon, Ireland and changes in product mix offset by a decrease in manufacturing costs and a decrease in the level of material sales. The underutilization charges related to the Shannon facility were \$10.6 million for the nine months ended September 30, 2023 as compared to \$4.5 million for the nine months ended September 30, 2022. Shannon facility costs began to be recorded as cost of sales in June 2022 when the facility was first used for production activities. Shannon facility costs prior to June 2022 were recorded in selling, general and administrative expenses. Included in the cost of sales for the nine months ended September 30, 2023 and 2022 was an increase in inventory reserve of \$6.6 million and \$2.4 million, respectively, due to excess inventory levels in certain products. As a result of the decrease in revenue from royalty and licenses fees and material sales, gross margin for the nine months ended September 30, 2023 decreased by \$31.0 million as compared to the nine months ended September 30, 2022, with gross margin as a percentage of revenue decreasing to 76% from 78%.

### **Research and development**

Research and development expenses increased to \$96.8 million for the nine months ended September 30, 2023, as compared to \$85.2 million for the nine months ended September 30, 2022. The increase in research and development expenses was primarily due to higher operating costs, including increased contract research costs, employee-related compensation expenses and those costs associated with PPG development activity.

### **Selling, general and administrative**

Selling, general and administrative expenses decreased to \$50.6 million for the nine months ended September 30, 2023, as compared to \$59.4 million for the nine months ended September 30, 2022. The decrease in selling, general and administrative expenses was primarily due to lower stock-based compensation expenses and a decrease in pre-production costs associated with the Shannon facility. The Shannon facility became operational during June 2022 and the costs associated with this facility have since been included in cost of sales.

### **Amortization of acquired technology and other intangible assets**

Amortization of acquired technology and other intangible assets was \$11.4 million for the nine months ended September 30, 2023 as compared to \$14.6 million for the nine months ended September 30, 2022. The decrease was due to the Fujifilm patents becoming

fully amortized during July 2022 offset by the commencement of amortization expense associated with the Merck KGaA patent acquisition that was completed on April 28, 2023.

#### **Patent costs**

Patent costs increased to \$7.1 million for the nine months ended September 30, 2023, as compared to \$6.1 million for the nine months ended September 30, 2022. The results in the current year reflected higher internal prosecution related costs.

#### **Royalty and license expense**

Royalty and license expense decreased to \$414,000 for the nine months ended September 30, 2023, as compared to \$596,000 for the nine months ended September 30, 2022.

#### **Interest and other loss, net**

Interest income, net was \$20.3 million for the nine months ended September 30, 2023, as compared to \$4.3 million for the nine months ended September 30, 2022. The increase in interest income, net was primarily due to an increase in bond yields on available-for-sale investments held during the nine months ended September 30, 2023 compared to the nine months ended September 30, 2022 as well as higher available-for-sale investment balances. Other loss, net primarily consisted of net exchange gains and losses on foreign currency transactions and rental income. We recorded other loss, net of \$3.2 million for the nine months ended September 30, 2023 as compared to \$749,000 for the nine months ended September 30, 2022.

#### **Income tax expense**

We are subject to income taxes in the United States and foreign jurisdictions. The effective income tax rate was an expense of 16.8% and 22.7% for the nine months ended September 30, 2023, respectively, and we recorded income tax expense of \$28.5 million and \$42.7 million, respectively, for those periods. The reduction in the effective income tax rate was primarily due to the change in IRS regulations, issued in July 2023, that permit withholding taxes to be credited against U.S. taxable income for the tax years 2022 and 2023, by applying federal regulations in place prior to changes in 2022. expenses.

#### **Liquidity and Capital Resources**

Our principal sources of liquidity are our cash and cash equivalents and short-term investments. As of September 30, 2023 March 31, 2024, we had cash and cash equivalents of \$79.3 million \$74.0 million, short-term investments of \$412.4 million \$465.3 million, and long-term corporate bonds and U.S. Government bonds investments of \$287.1 million \$298.9 million for a total of \$778.8 million \$838.2 million. This compares to cash and cash equivalents of \$93.4 million \$92.0 million, short-term investments of \$484.3 million \$422.1 million, and long-term U.S. Government bonds bond investments of \$247.9 million \$285.5 million for a total of \$825.6 million \$799.6 million as of December 31, 2022 December 31, 2023.

Cash provided by operating activities for the nine three months ended September 30, 2023 March 31, 2024 was \$117.7 million \$72.2 million resulting from \$141.0 million \$56.9 million of net income, and \$50.7 million \$14.5 million from non-cash items including depreciation, stock-based compensation, depreciation and amortization of intangibles, partially offset by \$74.0 million reduction and \$807,000 due to changes in our operating assets and liabilities. Changes in our operating assets and liabilities related to an increase a decrease in accounts receivable of \$29.5 million \$20.3 million, an increase in other assets liabilities of \$29.4 million \$12.1 million, a decrease in inventory of \$2.9 million, and a decrease of other liabilities assets of \$28.7 million \$794,000, partially offset by a decrease in deferred revenue of \$27.3 million and a decrease in accounts payable and accrued expense expenses of \$32,000, partially offset by an increase in deferred revenue of \$11.8 million and a decrease in inventory of \$1.8 million \$8.0 million.

Cash provided by operating activities for the nine three months ended September 30, 2022 March 31, 2023 was \$124.2 million \$47.6 million resulting from \$144.9 million \$39.8 million of net income, \$5.1 million from non-cash items including depreciation, stock-based compensation and \$129.6 million deferred income taxes and \$2.7 million due to changes in our operating assets and liabilities, partially offset by a \$150.3 million reduction due to non-cash items including amortization of deferred revenue, stock-based compensation, depreciation and amortization of intangibles. liabilities. Changes

in our operating assets and liabilities related to an increase in deferred revenue of \$133.0 million, a decrease in accounts receivable other assets of \$29.5 million \$14.1 million, an increase in other liabilities of \$9.6 million \$12.3 million and an increase a decrease in inventory of \$9.0 million, partially offset by a decrease in accounts payable and accrued expenses of \$7.2 million \$24.1 million, partially offset by an increase a decrease in inventory deferred revenue of \$48.4 million \$8.6 million, and an increase in other assets accounts receivable of \$1.3 million. \$13,000.

Cash used in investing activities was \$75.4 million \$64.2 million for the nine three months ended September 30, 2023 March 31, 2024, as compared to \$197.8 million cash provided by investing activities of \$40.7 million for the nine three months ended September 30, 2022 March 31, 2023. The decrease increase was due to the timing of maturities and purchases of investments resulting in net sales and maturities purchases of \$43.4 million \$57.0 million for the nine three months ended September 30, 2023 March 31, 2024, as compared to net purchases sales and maturities of \$161.9 million \$49.8 million for the nine three months ended September 30, 2022 March 31, 2023, partially offset by an increase a decrease in purchases of property plant and equipment and intangibles of \$82.9 million \$1.9 million. The increase in property, plant and equipment and intangibles during the nine months ended September 30, 2023 was primarily due to the Merck KGaA patent acquisition and the purchases of the Shannon facility and the Korean application center.

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Cash used in financing activities was \$56.4 million \$25.9 million for the nine three months ended September 30, 2023 March 31, 2024, as compared to \$50.6 million \$23.4 million for the nine three months ended September 30, 2022 March 31, 2023. The increase was due to an increase in the cash payment of dividends in the current year of \$7.3 million \$2.8 million, partially offset by a decrease in the payment of withholding taxes related to stock-based compensation to employees of \$1.3 million \$123,000 and an increase in the proceeds from issuance of common stock of \$285,000. \$121,000.

Working capital was \$747.4 million \$826.3 million as of September 30, 2023 March 31, 2024, as compared to \$763.8 million \$798.3 million as of December 31, 2022 December 31, 2023. The decrease increase was primarily due to a decrease an increase in short-term investments and an increase a decrease in deferred revenue, partially offset by an increase in other current assets, an increase in accounts receivable and a decrease in other current liabilities. accounts receivable.

We anticipate, based on our internal forecasts and assumptions relating to our operations (including, among others, assumptions regarding our working capital requirements, the progress of our research and development efforts, the availability of sources of funding for our research and development work, and the timing and costs associated with the preparation, filing, prosecution, maintenance, defense and enforcement of our patents and patent applications), that we have sufficient cash, cash equivalents and short-term investments to meet our obligations for at least the next twelve months.

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We believe that potential additional financing sources for us include long-term and short-term borrowings and public and private sales of our equity and debt securities. It should be noted, however, that additional funding may be required in the future for research, development and commercialization of our OLED technologies and materials, to obtain, maintain and enforce patents respecting these technologies and materials, and for working capital and other purposes, the timing and amount of which are difficult to ascertain. There can be no assurance that additional funds will be available to us when needed, on commercially reasonable terms or at all, particularly in the current economic environment.

## Critical Accounting Policies and Estimates

The discussion and analysis of our financial condition and results of operations is based on our Consolidated Financial Statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these Consolidated Financial Statements requires



us to make estimates and judgments that affect our reported assets and liabilities, revenues and expenses, and other financial information. Actual results may differ significantly from our estimates under other assumptions and conditions.

We believe that our accounting policies related to revenue recognition and deferred revenue, inventories, and income taxes are our “critical accounting policies” as contemplated by the SEC.

Refer to our Annual Report on Form 10-K for the year ended **December 31, 2022** **December 31, 2023**, for additional discussion of our critical accounting policies.

### **Contractual Obligations**

Refer to our Annual Report on Form 10-K for the year ended **December 31, 2022** **December 31, 2023** for a discussion of our contractual obligations.

### **Off-Balance Sheet Arrangements**

As of **September 30, 2023** **March 31, 2024**, we had no off-balance sheet arrangements in the nature of guarantee contracts, retained or contingent interests in assets transferred to unconsolidated entities (or similar arrangements serving as credit, liquidity or market risk support to unconsolidated entities for any such assets), or obligations (including contingent obligations) arising out of variable interests in unconsolidated entities providing financing, liquidity, market risk or credit risk support to us, or that engage in leasing, hedging or research and development services with us.

## **ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

We do not utilize financial instruments for trading purposes and hold no derivative financial instruments, other financial instruments or derivative commodity instruments that could expose us to significant market risk other than our investments disclosed in “Fair Value Measurements” in Note 4 to the Consolidated Financial Statements. We generally invest in investment grade financial instruments to reduce our exposure related to investments. Our primary market risk exposure with regard to such financial instruments is to changes in interest rates, which would impact interest income earned on investments. However, based upon the conservative nature of our investment portfolio and current experience, we do not believe a decrease in investment yields would have a material negative effect on our interest income.

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Substantially all our revenue is derived from outside of North America. All revenue is primarily denominated in U.S. dollars and therefore we bear no significant foreign exchange risk.

## **ITEM 4. CONTROLS AND PROCEDURES**

### **Evaluation of Disclosure Controls and Procedures**

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of **September 30, 2023** **March 31, 2024**. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures, as of the end of the period covered by this report, are effective to provide reasonable assurance that the information required to be disclosed by us in reports filed or submitted under the Securities Exchange Act of 1934, as amended, is (i) recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and (ii) accumulated and communicated to our management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding disclosure. However, a controls system, no matter how well designed and operated, cannot provide absolute assurance that the objectives of the controls system are met, and no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within a company have been detected.

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## Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended September 30, 2023 March 31, 2024 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

## PART II – OTHER INFORMATION

### ITEM 1. LEGAL PROCEEDINGS

#### Patent Related Challenges and Oppositions

Each major jurisdiction in the world that issues patents provides both third parties and applicants an opportunity to seek a further review of an issued patent. The process for requesting and considering such reviews is specific to the jurisdiction that issued the patent in question, and generally does not provide for claims of monetary damages or a review of specific claims of infringement. The conclusions made by the reviewing administrative bodies tend to be appealable and generally are limited in scope and applicability to the specific claims and jurisdiction in question.

We believe that opposition proceedings are frequently commenced in the ordinary course of business by third parties who may believe that one or more claims in a patent do not comply with the technical or legal requirements of the specific jurisdiction in which the patent was issued. We view these proceedings as reflective of our its goal of obtaining the broadest legally permissible patent coverage permitted in each jurisdiction. Once a proceeding is initiated, as a general matter, the issued patent continues to be presumed valid until the jurisdiction's applicable administrative body issues a final non-appealable decision. Depending on the jurisdiction, the outcome of these proceedings could include affirmation, denial or modification of some or all of the originally issued claims. We believe that as OLED technology becomes more established and our its patent portfolio increases in size, so will the number of these proceedings.

### ITEM 1A. RISK FACTORS

There have been no material changes to the risk factors previously discussed in Part I, Item 1A "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2022 December 31, 2023.

### ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

### ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

### ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

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### ITEM 5. OTHER INFORMATION

None.

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## ITEM 6. EXHIBITS

The following is a list of the exhibits filed as part of this report. Where so indicated by footnote, exhibits that were previously filed are incorporated by reference. For exhibits incorporated by reference, the location of the exhibit in the previous filing is indicated parenthetically, together with a reference to the filing indicated by footnote.

Exhibit Number	Description
31.1*	<a href="#">Certifications of Steven V. Abramson, Chief Executive Officer, as required by Rule 13a-14(a) or Rule 15d-14(a).</a>
31.2*	<a href="#">Certifications of Brian Millard, Chief Financial Officer, as required by Rule 13a-14(a) or Rule 15d-14(a).</a>
32.1**	<a href="#">Certifications of Steven V. Abramson, Chief Executive Officer, as required by Rule 13a-14(b) or Rule 15d-14(b), and by 18 U.S.C. Section 1350. (This exhibit shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section. Further, this exhibit shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended.)</a>
32.2**	<a href="#">Certifications of Brian Millard, Chief Financial Officer, as required by Rule 13a-14(b) or Rule 15d-14(b), and by 18 U.S.C. Section 1350. (This exhibit shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section. Further, this exhibit shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended.)</a>
101.INS*	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	Inline XBRL Taxonomy Extension Schema <b>Document</b>
101.CAL*	Inline XBRL Taxonomy Extension Calculation <b>with Embedded</b> Linkbase <b>Document</b>
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase <b>Document</b>
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase <b>Document</b>
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase <b>Document Documents.</b>
104	The cover page of this Quarterly Report on Form 10-Q for the quarter ended <b>September 30, 2023</b> <b>March 31, 2024</b> formatted in Inline XBRL (included in Item 101.INS)

Explanation of footnotes to listing of exhibits:

- \* Filed herewith.  
\*\* Furnished herewith.

## SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

## UNIVERSAL DISPLAY CORPORATION

Date: November 2, 2023 May 2,  
2024

By: /s/ Brian Millard

Brian Millard

Vice President, Chief Financial Officer and Treasurer

Exhibit 31.1

CERTIFICATIONS REQUIRED BY  
RULE 13a-14(a)/15d-14(a)

I, Steven V. Abramson, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Universal Display Corporation (the "registrant") for the quarter ended September 30, 2023 March 31, 2024;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities,

particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November May 2, 2023 2024

By: /s/ Steven V. Abramson

Steven V. Abramson

President and Chief Executive Officer

Exhibit 31.2

**CERTIFICATIONS REQUIRED BY  
RULE 13a-14(a)/15d-14(a)**

I, Brian Millard, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Universal Display Corporation (the "registrant") for the quarter ended September 30, 2023 March 31, 2024;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November May 2, 2023 2024

By: /s/ Brian Millard

Brian Millard

Vice President, Chief Financial Officer and Treasurer

Exhibit 32.1

**CERTIFICATIONS REQUIRED BY  
RULE 13a-14(b)/15d-14(b) AND 18 U.S.C. SECTION 1350**

In connection with the quarterly report of Universal Display Corporation (the "Company") on Form 10-Q for the quarter ended September 30, 2023 March 31, 2024 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Steven V. Abramson, President and Chief Executive Officer of the Company, hereby certify, based on my knowledge, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November May 2, 2023 2024

By: /s/ Steven V. Abramson

Steven V. Abramson

President and Chief Executive Officer

Exhibit 32.2

**CERTIFICATIONS REQUIRED BY  
RULE 13a-14(b)/15d-14(b) AND 18 U.S.C. SECTION 1350**

In connection with the quarterly report of Universal Display Corporation (the "Company") on Form 10-Q for the quarter ended September 30, 2023 March 31, 2024, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Brian Millard, Vice President and Chief Financial Officer of the Company, hereby certify, based on my knowledge, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November May 2, 2023 2024

By: /s/ Brian Millard

Brian Millard

Vice President, Chief Financial Officer and Treasurer