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JMAR TECHNOLOGIES, INC.



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FINANCIAL

THE SOURCE OF ADVANCED LITHOGRAPHY

**A MESSAGE FROM RONALD A. WALROD  
PRESIDENT AND CHIEF EXECUTIVE OFFICER**

To Our Valued Shareholders,

To be sure, 2002 was a year in which JMAR Technologies faced significant market-related challenges. It also was a year in which your Company took strong steps in several areas of vital importance to its future.



During the year, the ongoing downturn in the market for the standard chip products produced by JMAR Semiconductor, Inc., and the retrenchment of traditional buyers of precision motion and metrology equipment supplied by JMAR Precision Systems, Inc., combined to create the large losses that are reflected in our financials for the year. We moved decisively, and effectively during 2002 and into 2003 to alleviate the source of those losses, while at the same time improving JMAR's ability to access new markets, execute its business plan and achieve that plan's objectives for long-term profitability.

Most significant among the actions we took was a Company-wide restructuring. To preclude continuing losses, we discontinued JSI's unprofitable standard chip operation, while retaining its profitable services business, and we announced our intention to sell JPSI. We streamlined operations under three new divisions — Research, Systems, and Microelectronics — whose efforts are now focused on areas with the greatest potential for growth going forward. Each division now reports directly to Daniel J. Fleming, Ph.D., JMAR's Chief Operating Officer and a proven leader with more than 30 years of semiconductor industry experience. To ensure that our divisional resources are fully utilized, in February 2003 we hired John P. Ricardi, an executive with more than 25 years of experience in sales and marketing for high-technology products, as Vice President of Business Development. Scott H. Bloom, Ph.D., joined JMAR as General Manager of its Research Division in March 2003, bringing his 20 years of experience in laser physics research, laser free space communications product development, and management of entrepreneurial technology teams to the organization.

While our financials will continue to reflect the negative impact of the discontinued operations over the first two quarters of 2003, our restructuring plan calls for the sale of JPSI by the end of the second quarter so that the losses generated by discontinued operations will not be ongoing. JMAR's newly restructured divisions are viable entities in their own right, but are also working smoothly in concert to make JMAR more productive in the years ahead. Posting a 42% increase in continuing operations revenues for 2002, we look for revenue from these units to continue to grow in 2003, with earnings unhindered by our unprofitable discontinued operations in the second half of the year.

Regrettably, the challenges we faced with our semiconductor and precision equipment operations during 2002 overshadowed what truly was an exceptional year of progress in our effort to commercialize JMAR's Collimated Plasma Lithography (CPL™)

1973

Programs in X-ray lithography initiated at IBM and ATT Bell Labs; first devices fabricated with X-ray lithography

1989

First installation of a commercial stepper on a commercial X-ray synchrotron

1996

Delivery of mask for line monitor (180nm technology, 130nm test sites)

technology. CPL, developed over the last 13 years by JMAR's scientific and engineering team, and supported with \$60 million of Department of Defense funding, is now nearing fruition, as evidenced by our recent success in interfacing the JMAR-designed CPL light source with our proprietary stepper at our facilities in Burlington, Vermont. Today, that Beta system has demonstrated sub-90 nanometer resolution, pointing the way toward our near term goal of delivering CPL systems to compound semiconductor customers.

In addition to accelerating the commercialization of CPL, one of our key objectives in restructuring JMAR was to make the company more agile to enhance its ability to rapidly access new markets and thereby increase profitability. This newfound flexibility was quickly rewarded in 2003 when we won a \$1 million contract from FemtoTrace, Inc., a NASA/JPL spin-off company, to design and develop alpha and beta test models of an advanced PCB sensor. Based on their breakthrough "READ" detector technology, these compact, real-time sensors have both commercial and military applications in the areas of environmental pollutants, explosives, and narcotics detection. FemtoTrace and JMAR are exploring Homeland Security applications as a major source of future growth. With the prospect of high-volume sensor production beginning in 2004, this is a promising new business area for JMAR.

At this writing, it is clear that 2003 is shaping up to be a very exciting year for JMAR. In addition to our work with FemtoTrace, the semiconductor industry will, for the first time, see CPL in operation. We also will be working to further expand our profit opportunities by leveraging our expertise in advanced laser design to develop other new commercial products.

Looking beyond 2003, we will be working toward the following milestones, each of which we expect will have a highly positive impact on our financial results:

- ..... 2004: Ship the first commercial CPL system for the compound semiconductor industry
- ..... 2004: Begin READ sensor full-scale production
- ..... 2005: Expand READ sensor production into markets for Homeland Security and drug interdiction
- ..... 2005: Ship a CPL system for specialty silicon wafer applications
- ..... 2006: Introduce CPL sources into mainstream silicon chip production

As we pursue these objectives, you can be assured that each member of JMAR's management team is solidly committed to helping your Company realize its full potential. We remain grateful for your support as we work toward that goal to steadily improve the value of your investment in JMAR.

Sincerely,



Ronald A. Walrod  
President and Chief Executive Officer

1997

1Gb SiC X-ray mask,  
180nm image size.  
Industry sets standards  
for mask production

2000

80nm features  
demonstrated by  
the ASET collaboration

2003

JMAR CPL Source  
produces 100nm  
dense lines, 70nm  
isolated features on  
test wafers

RESEARCH DIVISION

JMAR is a leading developer of compact, high-intensity, short-wavelength Collimated Plasma Lithography (CPL) systems for



advanced gallium arsenide

and next generation

lithography (NGL) silicon

semiconductors. Over the years,

the U.S. Government has been

strongly supportive of JMAR's

effort to develop CPL, investing

more than \$60 million in the

program to date.

Staffed by a team of world-class scientists and engineers, JMAR's San Diego, California-based Research Division is focused on developing advanced laser-based products, by harnessing the great potential of the Company's



Scott Bloom General Manager

proprietary Britelight™ lasers that power their CPL system. In recent tests, JMAR's CPL Source generated more than 20 watts of power and was able to achieve line density of 100 nanometers (nm)\* and 70nm feature sizes on test wafers. The Research Division is now refining the Source to increase its power for greater wafer throughput.

The product of more than ten years of intensive research and development, JMAR's Britelight™ lasers are short-pulse, solid-state lasers with picosecond pulse capability. When integrated with JMAR's patented conversion systems,



Britelight lasers generate breakthrough X-ray rates that could have application to a broad range of new, high-value industrial and scientific product areas beyond advanced semiconductor lithography. These include the increasingly important markets for high-resolution imaging, radiobiology, fluorescence analysis, and micromachining.

\*100 nanometers is 1/1000th the diameter of a human hair.

The following is an excerpt from the Company's 2002 Form 10-K Annual Report filed by the Company with the Securities and Exchange Commission on March 31, 2003. It excludes the cover pages (page 1 and 2), certain parts of the Business Section (pages 7 to 15), quantitative and qualitative disclosures about market risk (page 30), Part III (page 30), Part IV (pages 30 and 31) and Exhibits, Financial Statement Schedules and Reports on Form 8-K (page 31).

The Company's entire Form 10-K Annual Report (including the above pages) is available to shareholders at no charge and copies of any of the exhibits listed on pages 32 and 33 of the Form 10-K may be obtained at a charge of \$2.00 per exhibit to cover handling and mailing charges. Written requests should be sent to Investor Relations at the Company's Corporate office located at 5800 Armada Drive, Carlsbad, CA 92008.

JMAR Technologies, Inc. (the "Company" or "JMAR") is a leader in the development of advanced lasers, laser produced plasma ("LLP") sources, and X-ray lithography ("XRL") steppers for semiconductor fabrication. The Company's Collimated Plasma Lithography ("CPL™") system is a cost effective alternative to the complex optical methods proposed for next generation lithography ("NGL").

JMAR's Mission is to create the high value Laser Produced Plasma Sources and Lithography Systems that enable its semiconductor industry customers to meet their critical lithography needs.

## **BACKGROUND**

Founded in 1987, JMAR is a semiconductor industry-focused company. JMAR is the originator of Collimated Plasma Lithography, a next-generation lithography alternative designed to deliver affordable, sub-100 nanometer chip-making capability in a compact format to the semiconductor industry. In addition to CPL™, JMAR develops other products for the public and private sectors based on its proprietary Britelight™ laser light source. JMAR's operations include its Research Division in San Diego, California, where research and development of lasers and laser produced plasma generators is performed; its Systems Division in Burlington, Vermont, where CPL™ Stepper Systems are designed and manufactured; and its Microelectronics Division, based in Sacramento, California, where JMAR provides process integration and maintenance support for the U.S. Government's Defense Microelectronics Activity semiconductor fabrication facility.

## **BUSINESS SEGMENT EVOLUTION**

Through December 31, 2001, the Company operated in three segments as follows: Front-end Semiconductor Equipment and Services, Precision Equipment, and Semiconductor Products and Processes. In the first quarter of 2002, the Company decided to discontinue the standard semiconductor products business of its JMAR Semiconductor, Inc. ("JSI") subsidiary and shift more of its resources to accelerate the market entry of its CPL products. The standard semiconductor products portion of JMAR's business had been a developmental effort, involving the design, manufacture and introduction of new standard product semiconductor chips. With the severe downturn in the worldwide semiconductor market beginning in 2000 and continuing into 2002, the Company had little success in selling its new standard product chips. The Company determined that substantial additional capital would have been required for these new chips to become established in what became an over-supplied chip market, as well as to develop newer, higher value chips. The Company concluded that it would not continue to invest its resources in this business.

In furtherance of its efforts to focus its resources on its CPL business, the Company concluded during the latter half of 2002 that the Precision Equipment segment business did not fit with the strategic direction of the Company's CPL business area and that the markets for that segment's products would continue to be slow in the near term. Therefore, in December, 2002, the Company decided to initiate the process of selling that business.

## **CURRENT BUSINESS SEGMENTS**

As a result of these decisions, and to streamline the Company's operations and better support the commercialization of its emerging CPL semiconductor manufacturing systems and related technologies, the Company now operates in the following three business segments:

Research Division (formerly JMAR Research) – This segment's role is as an innovator of laser and laser-produced plasma technologies for the Company's CPL Source, EUV generators, and related products such as high-brightness lasers. During 2002, this segment accounted for approximately 38% of the Company's revenues.

Systems Division (formerly JMAR/SAL NanoLithography) – This segment encompasses the development of X-ray lithography steppers, and the product engineering, production and integration of

CPL light sources and complete CPL stepper systems. During 2002, this segment accounted for approximately 41% of the Company's revenues.

Microelectronics Division – In 2002, JMAR discontinued the standard products business of JSI and the assets of its Sacramento operations were transferred to JSI Microelectronics, Inc., a wholly-owned subsidiary of the Company, operating as the Microelectronics Division. This segment provides process integration and maintenance support for the Defense Microelectronics Activity semiconductor fabrication facility in Sacramento, California, and ASIC design and production capability for the military and commercial markets. During 2002, this segment accounted for approximately 21% of the Company's revenues.

## BUSINESS SUMMARY

*Advanced Semiconductor Lithography.* Semiconductors are the engines that drive the technology industry. While the economics of many industries are driven by consumption or deterioration, the economics of the semiconductor industry are driven by continuous innovation to satisfy demanding performance and cost reduction goals. Achieving this innovation requires continuing advances in the ability of the industry to produce ever-smaller circuit feature sizes which make it possible to produce more compact, higher density, faster-operating semiconductors.

Lithography is one of the most critical steps, if not the most critical step, in the production of semiconductors. It is a photographic process that uses precision light sources to fabricate intricate computer-generated electronic circuit designs onto semiconductor chips. A typical lithography system consists of an illumination source integrated into a printing apparatus known as a "stepper" or an "aligner". The combined system is installed in the semiconductor fabrication line. In order to make the smaller circuit feature sizes needed to meet the future needs of the rapidly growing microelectronics industry, next-generation lithography (NGL) systems, employing shorter wavelength illumination sources, will be required.

JMAR is the originator of Collimated Plasma Lithography ("CPL™"), a compact high-intensity lithography source that addresses the need for next generation lithography.

CPL™ illumination is provided by a laser produced plasma ("LPP") X-ray source. JMAR's LPP X-ray point source utilizes the Company's patented Britelight™ high-power, picosecond-class, diode-pumped solid state laser technology to generate the X-rays required to print microscopic circuits finer than 100 nanometer feature sizes (one hundred nanometers is about one-one millionth of the thickness of a human hair).

As the semiconductor industry moves toward printing more and more circuits onto each chip, uncertainty exists as to whether current optical lithography technologies will remain either feasible or economically viable. Major reasons to develop and adopt new advanced lithography technologies include the need for new light sources that can efficiently deliver the shorter wavelengths required, and the lack of availability and high cost of appropriate optical materials. Extensive process development work at several leading centers around the world has demonstrated the viability of X-ray lithography to produce these smaller feature sizes using large immobile X-ray sources known as "synchrotrons". The Company believes that most of the semiconductor industry considers these synchrotron sources to be overly cumbersome, too expensive and extremely inflexible for anything other than scientific feasibility and proof-of-principle demonstrations.

The goal of JMAR's CPL™ program has been to provide an acceptable alternative to the synchrotron and an alternative to other proposed NGL technologies, such as extreme ultraviolet ("EUV"), for semiconductor manufacturing applications, by developing a proprietary compact point source that is expected to be economically competitive with, and no larger than, conventional optical lithography sources. JMAR's Source consists of several individual modules, each powered by the Company's patented Britelight™ laser. These modules produce a succession of powerful light pulses having intensities of many hundreds of trillions of watts per square centimeter that are focused into a microwave-

oven-size chamber to produce X-rays. The Company believes that once these cost effective X-ray lithography systems become commercially available, they will be well received by the semiconductor industry.

Semiconductors are manufactured using a variety of substances, with the predominant substrate being silicon. Other substances, often referred to as "compound semiconductors," are used for certain, specific applications, such as for ultra-high speed communications semiconductors. The compound semiconductor material used most frequently for these high-speed chips is Gallium Arsenide (GaAs). GaAs is used principally for military communications applications, but it also finds applications in the telecommunications industry. Critical circuits on many of these high-speed chips are currently made using very low throughput electron beam ("e-beam") systems. Although GaAs chip production has not increased as rapidly as expected due to the telecom industry slowdown, the Company believes that since CPL is capable of higher throughput than conventional e-beam writers, it can play a key role in enabling the cost-effective manufacture of these high performance chips when demand picks up.

Following planned increases in the throughput capability of its CPL sources, JMAR believes they will play a significant role in silicon semiconductor manufacturing in the future. These increases will require significant additional R&D investment by the Company. See "Market" below and "Factors That May Affect Future Results" in the Management's Discussion and Analysis below.

JMAR's advanced lithography source development program has benefited from the investment of in excess of \$50 million in Company and government funds over the past decade and an additional approximately \$22 million investment in government funds for stepper development prior to JMAR owning the Systems Division for stepper development. These contracts were issued by the U.S. Army Research Laboratory and are sponsored by the Defense Advanced Research Projects Agency ("DARPA") of the Department of Defense. In 2002, JMAR received a contract from the Department of the Army supported by the Defense Advanced Research Projects Agency (DARPA) valued at up to \$34.5 million. The contract directs JMAR to proceed immediately to deliver "with all diligence" JMAR's patented X-ray point source CPL system to produce high-performance semiconductor integrated circuits needed to support a wide range of critical military missions. During 2002, the Company received \$13 million in funds related to this contract. The Company expects to receive another approximately \$5.3 million in funding under this contract in 2003.

In addition, in May 2002, the Systems Division was awarded a \$10 million contract for sub-100nm X-ray masks for NGL systems. The contract, awarded by DARPA, is an effort that will produce X-ray masks used in the development and production of high performance GaAs Monolithic Microwave Integrated Circuits ("MMICs"). With the awarding of this contract, the Company granted to the IBM Microelectronics Division a \$3 million subcontract to design, produce and deliver up to 50 masks during the first year of the contract. The Company expects another approximately \$3.3 million in funding under this contract in 2003.

In recent tests, the Company's CPL Source produced 100nm-dense lines, and 70nm isolated features on test wafers. Those tests also confirmed that JMAR's source was able to support printing sub-80nm contact 2D arrays on 200nm pitch on the same exposure fields. The Company's beta CPL Source was delivered to the Systems Division in February, 2003 for integration with the Company's stepper system. The Systems Division is now set up with the integrated source and stepper, a materials transport system, environmental chamber, and applications lab. During 2003, the Company will use this CPL test facility to fully characterize the integrated CPL System and to demonstrate CPL to potential customers and partners. In early 2004, the System will be moved to a fabrication facility where chips will be fabricated and where we believe the System will demonstrate the performance, simplicity and cost effectiveness of CPL.

Although 130nm resolution is adequate for our CPL steppers targeted at the compound semiconductor industry, the sub-100nm results are important to our mainstream silicon applications. Concurrent with our effort to further demonstrate the source resolution capability, our Research Division is

working to increase Source X-ray power to increase wafer throughput. We plan to upgrade the Source with those high-power modifications by the end of this year.

Since July, 2002, the Company has been working actively to establish strong alliances with the semiconductor industry to deliver CPL to the mainstream silicon market. In December, 2002, SG Cowen Securities Corporation was retained to advise the Company on identifying, contacting and negotiating transactions with prospective alliance partners with a strategic interest in Next Generation Lithography ("NGL"). We are convinced that alliances with complementary partners will accelerate the introduction of CPL products into semiconductor facilities.

JMAR's high-power X-ray point source is also unique among NGL technologies in its ability to accommodate an X-ray collimator at close proximity, and hence with large collection efficiency. JMAR has subcontracted this collimator development to other DARPA-sponsored companies and national laboratories. The source includes a collimator developed by X-ray Optical Systems, Inc., under contract with the Research Division. This effort has produced the world's first full-field illumination collimators, with a measured lithography exposure "gain" of 12 at a point source-to-mask/wafer exposure distance equal to that used in the NanoPulsar. A gain of 12 means that the exposure of the wafer is 12 times faster than without the collimator while the illuminated field is free from the distortions which are associated with an uncollimated point source.

Combining the high X-ray power output with the expected gain enhancement from the X-ray collimator, JMAR believes that its CPL Source is able to meet a throughput performance that is sufficient for initial GaAs commercial needs, and far exceeds the performance of any other existing X-ray point source. The Company believes it represents a significant advance in the Company's drive to develop a compact, lower-cost alternative to the large, costly synchrotrons for advanced semiconductor lithography and other applications.

*EUV Source Development.* During 2001, the Company was granted an exclusive license by the University of Central Florida Research Foundation (UCFRF) to make, use and sell products, processes or systems which incorporate patented and other proprietary technology developed by the University of Central Florida to convert laser beams into Extreme Ultraviolet (EUV). JMAR has also developed proprietary technology in this field that is the subject of a pending patent. JMAR is positioned to combine the licensed technology and its own technology with its patented high-power Britelight™ lasers to demonstrate the efficiency of its EUV technology to the semiconductor industry.

JMAR believes that development of an EUV source based on the UCFRF and its own technology is complementary to the Company's current X-ray lithography activities. Although EUV is generally considered to be the leading technology for the 32nm lithography node, its high projected cost and difficult technical challenges are pushing its projected introduction date out to 2009 and beyond. JMAR is therefore looking for partners willing to invest in EUV source development over the long term to support its EUV research.

*Semiconductor Process Integration Services.* The Microelectronics Division provides technology development and high-value technology services to other semiconductor producers in the aerospace and defense industries. This area of the business is based largely on a contract originally awarded to the Company by General Dynamics Advanced Information Systems ("GDAIS") in 1998. Work under this contract includes the development, construction and operation of a semiconductor wafer fabrication facility at McClellan Air Force Base in Sacramento for the Defense Microelectronics Activity ("DMEA"). This facility was completed in 1999 with facility qualification and process development, and new process integration continuing throughout 2002.

Under these ongoing programs, the Microelectronics Division uses its unique semiconductor industry experience and existing relationships to define and/or acquire the technologies and semiconductor equipment needed to support its customers' missions. New long-term programs have been captured for the placement, implementation and maintenance of these new state-of-the-art technologies. In a unique arrangement, the Microelectronics Division maintains access to use these

facilities to support certain commercial design and wafer fabrication needs. The Microelectronics Division has expanded its relationship in this area by entering into a Cooperative Research and Development Agreement (CRADA) with the DMEA that designates the Microelectronics Division as the commercial interface for the use of the DMEA capabilities by other aerospace contractors. The CRADA is due for renewal in June, 2003. The Company expects it to be renewed on the same terms.

In addition to a \$1.6 million contract awarded in June, 2002, the Microelectronics Division recently received \$5 million in new contracts to enhance the performance of the semiconductor fabrication process at the DMEA installation. GDAIS, a prime contractor for DMEA, issued these contracts to the Microelectronics Division in February, 2003. We believe the Microelectronics Division's business will continue to grow over time as we support the DMEA's mission and will allow us to apply the unique foundry access the agency has given us so we can enhance the foundry's semiconductor processes and leverage their use for commercial product development.

#### SECURITIES INFORMATION

The Company's Common Stock is traded on the Nasdaq National Market tier of the Nasdaq Stock Market ("NASDAQ-NMS") under the symbol JMAR. The 2002 and 2001 high and low transaction prices for the common stock as reported by NASDAQ-NMS are set forth in the following table.

Common Stock Price		
	High	Low
<b>2002</b>		
First Quarter .....	3.53	2.00
Second Quarter .....	2.52	1.65
Third Quarter .....	2.20	1.27
Fourth Quarter .....	1.65	0.92
<b>2001</b>		
First Quarter .....	7.61	2.97
Second Quarter .....	5.49	2.63
Third Quarter .....	4.47	1.75
Fourth Quarter .....	3.77	1.90

As of March 17, 2003, there are approximately 12,000 holders of JMAR's common stock.

The Company has never paid cash dividends on its Common Stock. The Company currently intends to retain earnings for use in the operation and expansion of its business and therefore does not anticipate paying any cash dividends in the foreseeable future. The payment of dividends in the future by the Company on its Common Stock will be dependent on its earnings and financial condition and such other factors considered relevant by the Company's Board of Directors.

Pursuant to the Director Compensation Program adopted by the Company in August, 1997, the Company issued a total of 2,946 shares of Common Stock in December, 2002 to its outside directors as compensation for services as a director. These transactions were exempt under Section 4(2) of the Securities Act of 1933.

In connection with the hiring of Mr. Walrod as the President and Chief Executive Officer of the Company in October, 2002, the Company issued an option exercisable into 500,000 shares of Common Stock at an exercise price of \$1.33 per share. The option expires October 11, 2012 with vesting of one-third of the options each year commencing with the first anniversary of the grant. The shares were issued in a transaction exempt under Section 4(2) of the Securities Act of 1933.

In October 2002, the Company's Board of Directors approved the issuance of 2,000 shares of Common Stock to a consultant of the Company. The shares were issued in a transaction exempt under Section 4(2) of the Securities Act of 1933.

**FIVE YEAR SELECTED FINANCIAL DATA**  
**Consolidated Statements of Operations Data - For the Years Ended December 31,**

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Revenues .....	\$8,559,293	\$14,452,054	\$9,114,357	\$12,903,811	\$18,383,810
Gross profit .....	2,765,963	3,433,171	2,328,406	3,499,243	3,413,492
Operating expenses .....	3,517,347	3,714,334	3,222,903	4,989,402	6,523,346
Loss from operations	(751,384)	(281,163)	(894,497)	(1,490,159)	(3,109,854)
Realized gain on sale of marketable securities .....	-	-	2,184,476	1,189,273	1,349,721
Interest and other income .....	243,654	87,519	273,626	252,282	67,404
Interest and other expense .....	(362,918)	(192,905)	(106,466)	(107,950)	(284,174)
Income (loss) from continuing operations before income taxes ...	(870,648)	(386,549)	1,457,139	(156,554)	(1,976,903)
Income tax expense .....	(32,204)	-	-	-	(484,423)
Income (loss) from continuing operations .....	(902,852)	(386,549)	1,457,139	(156,554)	(2,461,326)
Income (loss) from operations of discontinued operations .....	1,659,693	(1,862,445)	(2,681,904)	(14,544,980)	(5,839,367)
Loss on disposal of discontinued operations .....	-	-	-	-	(3,200,000)
Net income (loss) .....	756,841	(2,248,994)	(1,224,765)	(14,701,534)	(11,500,693)
Basic income (loss) per share:					
Income (loss) per share from continuing operations .....	(.05)	(.02)	.06	(.01)	(.11)
Income (loss) per share from discontinued operations .....	.09	(.10)	(.12)	(.64)	(.38)
Net income (loss) per share .....	.04	(.12)	(.06)	(.65)	(.49)
Basic shares used in computation of net income (loss) per share .....	18,046,860	18,045,914	21,468,763	22,484,905	23,618,169

**Consolidated Balance Sheet Data - December 31,**

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Working capital (deficit) .....	\$9,213,134	\$7,468,743	\$21,543,381	\$7,843,465	\$(1,285,004)
Total assets .....	22,874,833	20,673,768	34,191,574	26,618,625	15,121,660
Short-term debt .....	2,693,975	5,195,490	1,291,178	3,007,152	1,556,405
Long-term liabilities .....	475,362	642,913	339,908	1,419,632	1,203,917
Stockholders' equity .....	13,253,179	10,909,461	28,444,669	14,299,655	3,677,994

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

### Overview

JMAR Technologies, Inc. is a developer of collimated laser plasma lithography (CPL™) sources and stepper systems for the making of advanced semiconductor chips. These systems are based on the Company's proprietary and patented solid state laser systems and its expertise in laser plasma-generated X-rays. The development of the Company's CPL source and stepper systems has been principally funded by the U.S. Defense Advanced Research Projects Agency (DARPA). The strategy of the Company's CPL business is to initially sell advanced lithography systems to manufacturers of Gallium Arsenide-based semiconductors (which are used in high performance electronics required for military systems and the growing commercial market for high speed communications applications). With planned investments from strategic partners and other sources, the Company's goal is to introduce higher throughput lithography systems to the multi-billion dollar silicon-based semiconductor manufacturing industry in a timeframe sooner than competing Next Generation Lithography technologies, such as Extreme Ultraviolet technologies.

The Company also provides semiconductor process integration services under contracts that support the Department of Defense's mission to ensure a supply of semiconductor products for military systems.

Through December 31, 2001, the Company operated in three segments as follows: Front-end Semiconductor Equipment and Services, Precision Equipment, and Semiconductor Products and Processes. In the first quarter of 2002, the Company decided to discontinue its standard semiconductor products business and shift more of its resources to accelerate the market entry of its CPL products. The standard semiconductor products portion of JMAR's business had been a developmental effort, involving the design, manufacture and introduction of new standard product semiconductor chips. With the severe downturn in the worldwide semiconductor market beginning in 2000 and continuing into 2002, the Company had little success in selling its new standard product chips. The Company determined that substantial additional capital would have been required for these new chips to become established in what became an over-supplied chip market, as well as to develop newer, higher value chips. The Company concluded that it would not continue to invest its resources in this business.

In furtherance of its efforts to focus its resources on its CPL business, the Company concluded during the latter half of 2002 that the Precision Equipment segment business did not fit with the strategic direction of the Company's CPL business area and that the markets for that segment's products would continue to be slow in the near term. Therefore, in December, 2002, the Company decided to initiate the process of selling that business.

The standard semiconductor products business and the Precision Equipment segment business have been accounted for in the accompanying consolidated financial statements as discontinued operations and the statement of operations for the years ending December 31, 2001 and 2000 have been restated to reflect the discontinuation of these businesses.

As a result of these decisions, and to streamline the Company's operations and better support the commercialization of its emerging CPL semiconductor manufacturing systems and related technologies, the Company now operates in three business segments, the Research Division, the Systems Division and the Microelectronics Division .

### Results of Consolidated Operations

Total revenues for the years ended December 31, 2002, 2001 and 2000 were \$18,383,810, \$12,903,811 and \$9,114,357, respectively, of which contract revenues accounted for \$17,543,334, \$12,033,271 and \$8,780,205, respectively. The net loss for the years ended December 31, 2002, 2001 and 2000 was \$(11,500,693), \$(14,701,534) and \$(1,224,765), respectively. The income (loss) from

continuing operations for those same periods was \$(2,461,326), \$(156,554) and \$1,457,139 respectively, while the loss from operations for those same periods was \$(3,109,854), \$(1,490,159) and \$(894,497), respectively.

Included in the net loss and loss from continuing operations before income taxes for the years ended December 31, 2002, 2001 and 2000 is a gain on the sale of marketable securities of \$1,349,721, \$1,189,273 and \$2,184,476, respectively. Included in the net loss and loss from continuing operations for the year ended December 31, 2002 is \$1,074,324 for severance charges recorded related to the retirement in August, 2002 of the Company's Chairman and Chief Executive Officer. Also included in the net loss and loss from continuing operations for the year ended December 31, 2002 is an income tax expense of \$484,423 resulting from an increase in the valuation allowance against the Company's deferred tax assets. Included in the net loss and loss from operations for the year ended December 31, 2001 are asset writedowns of \$226,899. Also, included in the net loss for the years ended December 31, 2002, 2001 and 2000 is a loss from operations of discontinued operations of \$(5,839,367), \$(14,544,980) and \$(2,681,904), respectively, and a loss on disposal of discontinued operations of \$(3,200,000) for 2002.

The increase in revenues for the year ended December 31, 2002 compared to the prior year was primarily attributable to other contract revenues from the Systems Division of \$3,779,133 along with an increase in CPL revenue of \$921,323. The Systems Division was acquired in August, 2001. In 2002, the Systems Division received an approximately \$10 million contract from Naval Air Warfare Center AD (the "Navair Contract") which accounted for approximately \$2,435,168 in revenues in 2002.

The increase in total revenues for the year ended December 31, 2001 compared to the prior year was attributable to a significant increase in X-ray lithography contract revenues of \$3,864,260 as well as other contract revenues from the Systems Division of \$724,884, acquired in August 2001 offset in part by a decrease in semiconductor process technology services sales of approximately \$800,000.

Gross margins for the fiscal years ended December 31, 2002, 2001 and 2000 were 18.6%, 27.1% and 25.5%, respectively. The Company's margins are low because the majority of its revenues are from contracts, which inherently generate lower margins than product revenues. The decrease in the gross margin in 2002 was primarily due to the contract with Navair for sub-100nm X-ray masks for NGL systems ("Navair Contract") having lower margins due to its high subcontract component, and the Company's absorption of some of the costs incurred due to limited funding on that contract. In addition, the Company recorded a \$245,000 reserve in 2002 for another contract at the Systems Division related to estimated cost overruns on that contract. The majority of the Company's revenues in 2003 will also be derived from contracts, so gross margins will continue at similar levels.

Selling, general and administrative ("SG&A") expenses for the fiscal years ended December 31, 2002, 2001 and 2000 were \$4,594,716, \$4,159,523 and \$2,882,676, respectively. The increase in SG&A expenses in 2002 is primarily due to an increase of approximately \$1,090,693 related to the Systems Division, which the Company acquired in August 2001 offset by lower legal costs of approximately \$325,000 in 2002, a reduction of approximately \$138,000 at the Research Division primarily related to higher allocation of resources to research and development activities in 2002, and an overall reduction in SG&A costs at the Microelectronics Division of approximately \$129,000. The increase in SG&A expenses in 2001 compared to 2000 is primarily due to \$562,327 related to the Systems Division and higher legal costs.

The Company's research, development and engineering program (RD&E) consists of two types: Customer-Funded RD&E (U.S. government and other companies) and Company-Funded RD&E. Both types of RD&E are expensed when incurred. Customer-Funded RD&E costs incurred, included in "Contract Costs of Sales", totaled \$11,600,854, \$7,035,286 and \$3,811,540 for the fiscal years ended December 31, 2002, 2001 and 2000, respectively. The increase in Customer-Funded RD&E expenditures for 2002 is related to an increase of approximately \$933,880 in the collimated plasma lithography program contract funding provided by the Defense Advanced Research Projects Agency, which is directed toward development of JMAR's CPL technology for the commercial semiconductor market, and an increase in

contract costs of \$3,631,688 incurred by the Systems Division (approximately \$2,346,000 of which is related to the Navair contract) which was acquired in August 2001. The increase in Customer-Funded RD&E expenditures for 2001 compared to 2000 is related to an increase of approximately \$2,432,936 in the X-ray lithography program contract funding provided by the Defense Advanced Research Projects Agency, most of which is directed toward development of JMAR's X-ray lithography source technology for the commercial semiconductor market, and contract costs of \$579,434 incurred by JSAL. These increases were offset, in part, by a decrease of \$307,438 related to the Company's contract for the development of a unique microcircuit architecture and devices for the replacement of obsolete integrated circuits for the Defense Microelectronics Activity. Company-Funded RD&E costs are shown in "Operating Expenses" and totaled \$854,306, \$602,980 and \$340,227 for the fiscal years ended December 31, 2002, 2001 and 2000, respectively. Hence, total RD&E expenditures for those three years were \$12,455,160, \$7,638,266 and \$4,151,767, respectively. Total RD&E expenditures as a percentage of sales were 67.8%, 59.2% and 45.6% for the years ended December 31, 2002, 2001 and 2000, respectively. These expenditures are primarily related to the continued development of CPL systems for the semiconductor industry and the development of a high efficiency EUV generation system for advanced semiconductor lithography.

The standard semiconductor products business and the Precision Equipment segment business have been accounted for in the accompanying consolidated financial statements as discontinued operations and the statement of operations for the years ending December 31, 2001 and 2000 have been restated to reflect the discontinuation of these businesses.

The loss from operations of discontinued operations of \$5,839,367 for the year ended December 31, 2002 includes \$1,856,381 related to the standard semiconductor products business and \$3,982,986 related to the Precision Equipment segment business. The loss on disposal of discontinued operations of \$3,200,000 for the year ended December 31, 2002 is net of the expected proceeds from the sale of the Precision Equipment segment business. The Company is in discussions with a number of potential buyers, however, it has not yet received an offer from any of the potential purchasers of this business. If the sales price of this business is different from the estimate that the Company has made, the difference will be reflected in the Company's 2003 Statement of Operations. Also, if the Company is unable to find a buyer on satisfactory terms, the Company will have to take alternative actions regarding this business, which may result in further charges. The results of operations of the Precision Equipment Segment business for 2003 through the sale date will be reported in discontinued operations in 2003.

In September 2000, JSI moved into a significantly larger facility in anticipation of realizing its growth plans. Prior to December 31, 2001, the Company decided to attempt to sublease the facility and move JSI into a smaller facility. Accordingly, in the fourth quarter of 2001, the Company accrued \$547,000, its estimated loss under the September 2000 lease. In 2002, the Company accrued an additional \$300,000 in estimated losses under this lease. These amounts are included in the loss from operations of discontinued operations. The lease provides for rent and related expenses of approximately \$34,000 per month through August 2005. The Company does not yet have a subtenant for that facility and, if it is unsuccessful in obtaining a subtenant on acceptable terms, there could be further losses related to that lease.

The gain on sale of marketable securities of \$1,349,721, \$1,189,273 and \$2,184,476 for 2002, 2001 and 2000, respectively, is related to the sale of 545,500 shares, 500,000 shares and 890,000 shares, respectively, of the Company's investment in Bede plc in January 2002, April 2001 and December 2000, respectively.

Interest and other income is lower for 2002 versus 2001 due to lower average cash balances and lower interest rates.

Interest and other expense for the fiscal years ended December 31, 2002, 2001 and 2000 was \$284,174, \$107,950 and \$106,466, respectively. Interest and other expense is higher for 2002 versus 2001 due to interest on the \$1.2 million notes issued to the former shareholders of SAL and higher average borrowings in 2002 of the Company's working capital line with Comerica Bank. Interest expense

will be significantly higher in 2003 due to financing transactions the Company entered into in March 2003 (see "Consolidated Liquidity and Financial Condition" below).

Following the discontinuance of JSI's standard chip business in the first quarter of 2002, JSI sought to negotiate debt reductions from the creditors associated with the discontinued portion of its business. JSI was a party to a Distributor Agreement with All American Semiconductor, Inc. ("All American") under which All American had purchased approximately \$700,000 of JSI chips for resale to its customers. In accordance with generally accepted accounting principles, that transaction was reflected as deferred revenue (a liability) and not as revenue pending sale to the ultimate customer. Under the terms of the Distributor Agreement, if All American properly terminated the Distributor Agreement, it had the right to require JSI to repurchase those chips for the \$700,000 paid by All American. Soon after the announcement by JMAR that JSI had discontinued its standard chip business, All American gave notice of termination of the Distributor Agreement and returned the chips it held, creating an obligation on JSI's part to repay approximately \$700,000 to All American. The \$700,000 claim of All American is included in the total of approximately \$3.1 million of net current discontinued liabilities that are included on JMAR's Consolidated Balance Sheet.

In September, 2002, a Complaint was filed by All American against JSI and JMAR in San Diego Superior Court. The Complaint alleges that JSI owes All American approximately \$700,000. The Complaint also alleges that All American was induced to refrain from terminating the agreement until after the JSI business had been discontinued. All American claims that such actions constituted fraud and that it is entitled to treble (triple) damages. All American has also alleged that JMAR is the "alter ego" of JSI and based on that theory should be held responsible for the obligations of JSI. While recognizing that the approximately \$700,000 in indebtedness may be owed by JSI to All American under the agreement, JSI asserts that the obligations are merely of a contractual nature and strongly disputes that any of the actions taken constitute fraud. JMAR also disputes that it is the "alter ego" of JSI in light of the facts that JSI is a separately incorporated entity that has been more than adequately capitalized over its years of operations and that JSI, and not JMAR, was a party to the Distributor Agreement and was the sole contact with All American. JMAR believes there is insufficient evidence to support the alter ego theory and believes that it will ultimately prevail on this issue. JMAR and JSI intend to vigorously contest any claims by All American that it is owed more than \$700,000.

After unsuccessfully engaging in efforts to sell the standard chip portion of JSI, in the fourth quarter of 2002, JSI transferred all of its assets to a third party fiduciary in an assignment for the benefit of creditors. Under this state law procedure, the assignee liquidates the assets and the proceeds from the sale of those assets are equitably distributed among the creditors of JSI and the claims of creditors of JSI are limited to those proceeds. Following the assignment of those assets, the fiduciary sold those assets to JSI Microelectronics, Inc., a wholly-owned subsidiary of the Company, at a price equal to a 10% premium over an independently appraised value of those assets, with the purchase price consisting of cash, assumption of certain trade debt owed to suppliers who are critical to the ongoing operations and the credit bid of debt held by the Company.

Pursuant to an Employment Agreement dated September, 2001 with Dr. Martinez, the Company's former Chairman and Chief Executive Officer, if the Company delivered notice of its intention not to renew or discontinued his status of Chairman or CEO, or both, other than for cause, then Dr. Martinez's employment was to continue for three years at the highest total compensation rate (including bonuses, director fees and similar payments) he had received in any previous 12 month period. This amount is approximately \$375,000 per annum. In such event, the Company also agreed to maintain comparable medical insurance benefits for such three year period.

In May, 2002, Dr. Martinez informed the Board of Directors of his desire to retire. The Board and Dr. Martinez engaged in discussions regarding Dr. Martinez's future role with the Company. In order to set a definite date for the transition to a new CEO, in July, 2002, the Board of Directors exercised the Company's rights under the Employment Agreement to discontinue Dr. Martinez's status as CEO effective August 16, 2002. Following negotiations between Dr. Martinez and the Board, an agreement was reached to restructure this payment obligation to spread the payments over six years to reduce the impact of the

original agreement on the Company's cash flow. In consideration for this modification, the Company will provide comparable medical insurance benefits for six years, and modified 942,242 of the options and warrants held by Dr. Martinez to (1) vest all unvested options and warrants (141,269 options), (2) provide that, in those options that have an expiration date within the next six years, the early termination provision that would otherwise have resulted in the termination of the options and warrants 60 days after termination of his employment was waived, and (3) provide that all remaining options and warrants will expire on the later of August 15, 2008 or 60 days after Dr. Martinez ceases to be a director. The Company recorded a charge in 2002 in the amount of \$1,074,324 resulting from this event. The charge includes \$561,517 for the discounted post-employment payments over six years and \$512,807 for the intrinsic value of Dr. Martinez's options and warrants resulting from the modification of those options and warrants.

#### Results of Segment Operations

The results of segment operations (excluding corporate) for the years ending December 31, 2002 and 2001 are as follows:

	Revenues		Operating Income (Loss)	
	2002	2001	2002	2001
Research Division .....	\$6,951,114	\$7,701,840	\$228,963	\$228,329
Systems Division .....	7,602,336	2,151,154	(1,498,007)	(158,197)
Microelectronics Division.....	3,830,360	3,050,817	268,018	(133,003)
	<u>\$18,383,810</u>	<u>\$12,903,811</u>	<u>\$(1,001,026)</u>	<u>\$(62,871)</u>

The \$750,726 decrease in revenues for the Research Division for the year ended December 31, 2002 as compared to the year ended December 31, 2001 is due to more work under the DARPA contract being performed by the Systems Division in 2002. During 2002, the Company received \$13 million in CPL contract funding. As of December 31, 2002, the Company had approximately \$2.7 million of this funding in backlog and expects another approximately \$5.3 million in CPL contract funding in 2003.

The \$5,451,182 increase in revenues for the Systems Division for the year ended December 31, 2002 as compared to the year ended December 31, 2001 is due to the 2002 receipt of \$3 million in funding for the Navair Contract, more work under the DARPA contract being performed by the Systems Division in 2002, the receipt of a \$1.2 million contract with a major aerospace firm in November 2001 for semiconductor X-ray lithography system support, and the receipt of a \$1.7 million order from the University of Wisconsin on October 31, 2001 to upgrade an X-ray lithography stepper to produce sub-50 nanometer microcircuits. The Systems Division was acquired in August, 2001. As of December 31, 2002, the Company had approximately \$2.5 million in backlog and expects another approximately \$3.3 million in funding under the Navair contract in 2003.

The \$779,543 increase in revenues for the Microelectronics Division for the year ended December 31, 2002 as compared to the year ended December 31, 2001 is due to the receipt in 2002 of approximately \$3.2 million in contracts from General Dynamics Advanced Information Systems ("General Dynamics") for the development, construction and operation of a semiconductor wafer fabrication facility at McClellan Air Force Base in Sacramento for the Defense Microelectronics Activity. As of December 31, 2002, the Company had approximately \$600,000 in backlog from these contracts and received approximately \$5 million in additional contracts from General Dynamics in February 2003.

The \$1,339,810 increase in the operating loss of the Systems Division for the year ended December 31, 2002 as compared to the year ended December 31, 2001 is due to 1) the Navair Contract having lower margins due to its high subcontract component, and the Company's absorption of some of the costs incurred due to the limited funding on the contract; 2) the recording of a \$245,000 reserve in 2002 for the contract with the University of Wisconsin related to estimated cost overruns on that contract; and 3) costs associated with the Company's CPL commercialization efforts.

The \$401,021 increase in the operating income of the Microelectronics Division is due to higher revenues and higher gross margins.

### **Consolidated Liquidity and Financial Condition**

Unrestricted cash and cash equivalents at December 31, 2002 was \$2,246,264. The decrease in unrestricted cash and cash equivalents from 2001 to 2002 of \$1,830,630 resulted primarily from cash used in continuing operations of \$475,515 primarily related to operating losses (exclusive of the gain on the sale of the Bede stock), cash used in discontinued operations of \$3,895,597 and payments under the Company's working capital bank lines of \$1,450,000, offset in part by net proceeds from the issuance of common stock of \$1,779,920, proceeds for the sale of marketable securities of \$1,399,746 and a decrease in restricted cash of \$1,450,000. At December 31, 2002, the Company had a working capital deficit of \$1,285,004.

JMAR's operations will continue to require the use of working capital in 2003 for, among other requirements, 1) certain CPL commercialization costs not covered by existing contracts; 2) cash requirements of JPSI until its sale; 3) temporary funding delays related to government contracts; and 4) corporate costs, primarily related to the cost of being a public company. Working capital (deficit) as of December 31, 2002 and December 31, 2001 was \$(1,285,004) and \$7,843,465, respectively. The decrease in working capital is primarily due to 1) the Company's losses; 2) decrease in receivables; 3) increase in net current liabilities of assets held for sale; and 4) accrued severance costs. The working capital of the Company had generally been funded through its working capital line (the "Comerica Debt") with Comerica Bank (the "Bank") with interest at prime rate and through third-party contracts. Due to the Company's continued losses, in November 2001, the Bank reduced the amount of the Comerica Debt to \$3 million and required up to a \$3 million compensating balance. Pursuant to this debt, there were no financial covenants or ratios.

In March 2003, the Company entered into a \$3 million Revolving Fixed Price Convertible 3 Year Note (the "Working Capital Line") with Laurus Master Fund ("Laurus"). Advances under the Working Capital Line are at an advance rate up to 85% of eligible accounts receivable of the Company. The Company can convert any portion of the principal outstanding to common stock at \$.92 per share (the "Conversion Price") if the market price of the Company's common stock averages 118% of the Conversion Price or higher for 22 consecutive trading days. Laurus can convert any portion of the principal outstanding to common stock at the Conversion Price any time the Company's common stock is in excess of the Conversion Price. After the first \$2 million of conversions into equity, the Conversion Price will be adjusted upward. The interest rate on the Working Capital Line is prime plus .75 percent, subject to a floor of 5 percent. Accrued interest is payable monthly. This Working Capital Line replaced the Comerica Debt.

In addition, in March 2003, the Company issued \$1 million in 8 percent Series A Convertible Preferred (the "Series A Preferred") to Laurus at a fixed conversion price of \$.88 per share. Accrued interest is payable monthly. The Series A Preferred must be redeemed in two years, if not previously converted. The conversion terms of the Series A Preferred are the same as those pursuant to the Working Capital Line. The proceeds received under the Series A Preferred are initially restricted, however, the funds are released as the Preferred Stock is converted to Common Stock.

The Company also issued \$1 million in shares of 3 percent Series B Convertible Preferred Stock (the "Series B Preferred") to Laurus at a fixed conversion price of \$.88 per share. Accrued interest is payable monthly. Principal is payable in cash or stock in twelve equal monthly installments starting October 1, 2003. The conversion terms of the Series B Preferred Stock are the same as those pursuant to the Working Capital Line. Any conversions to equity will offset the requirements to make principal repayments.

In connection with all of the above financing transactions with Laurus, the Company issued to Laurus warrants to purchase 550,000 shares of common stock at prices ranging from \$1.058 to \$1.33. In addition, Laurus was granted the right to receive a warrant to purchase one share of common stock for

every \$20 of principal of the Working Capital Line converted to equity, up to a total of 150,000 shares, at an exercise price of \$1.15.

In February, 2003, under the Universal Blank Shelf Registration Statement, the Company sold 100,000 shares of its Common Stock and a Warrant for 20,000 shares, exercisable at \$1.25 per share, for gross proceeds of \$100,000. The Series A and B Convertible Preferred Stock and 300,000 of the Warrants described above were also sold under the Universal Blank Shelf Registration Statement.

Management believes that, including the above financing, the Company has adequate resources to fund operations and working capital requirements at least through December 31, 2003. However, the Company has determined that it will require additional financing to complete or accelerate the development of some of its high value emerging new products, including its patented CPL systems for the manufacture of high-performance semiconductors. However, there can be no assurance that additional financings will be available when needed, on favorable terms, or at all.

The Company's stockholders' equity was \$3,677,994 as of December 31, 2002. The continued listing requirement of the Nasdaq National Market System requires the maintenance of no less than \$10 million of stockholders' equity. The Company intends to transfer to the Nasdaq Small-Cap Market in the second quarter of 2003, where the continued listing requirement is the maintenance of no less than \$2.5 million of stockholders' equity. Continued losses without increases in equity would cause the Company to fall below this NASDAQ requirement which would require it to come into compliance or face delisting. The delisting of the Company's stock could adversely affect its ability to raise funds in the future. The Company believes that it has available to it several potential sources of capital to meet NASDAQ listing standards, particularly the above described financings. The Company is also pursuing opportunities for strategic relationships with semiconductor industry partners, one of the goals of which would involve receipt of additional funding, in order to accelerate the commercialization of its emerging CPL products.

In October, 2001, the Company's "Universal Blank Shelf" Registration Statement with respect to \$25 million of Company securities was declared effective by the Securities and Exchange Commission. The securities that may be sold under this registration statement included common stock, preferred stock, debt, warrants or rights. This Form S-3 Registration Statement will no longer be available for the sale of securities after March 31, 2003 because the Company's market capitalization does not exceed \$75 million. The Company is considering whether to amend this Form S-3 to a Form S-1 Registration Statement to allow for the future sale of securities from time to time on a registered basis.

On August 7, 2001, the Company's wholly owned subsidiary, JMAR/SAL NanoLithography, Inc. ("Subsidiary") acquired (the "Acquisition") all of the outstanding equity of Semiconductor Advanced Lithography, Inc. ("SAL"), in a merger of SAL with and into Subsidiary ("Merger"). Consideration for the Merger consisted of an aggregate of 603,051 shares of the Company's Common Stock, \$1.2 million in cash and \$1.2 million in notes (the "Notes"). The Notes are convertible into shares of the Company's Common Stock at a price of \$4.302. The Notes are convertible by the holders at any time and the Company can force conversion if the average price, as defined, of the Company's Common Stock during any ten day trading period exceeds \$6.45. Interest on the Notes is payable quarterly, with the entire principal amount due, if not converted, on February 7, 2004. The resale by the holders of the conversion shares is registered, however, the holders have agreed to restrictions on their sale of those JMAR shares to no more than 25% of their JMAR holdings in any quarter and to refrain from selling any shares for 60 days upon notice from JMAR of its intention to negotiate an underwritten public offering.

Under the Merger Agreement, SAL's former shareholders and creditors could earn up to three contingent earnout payments upon the satisfaction of three earnout conditions. For the first earnout, the SAL creditors were eligible to receive \$500,000 in Convertible Notes upon the satisfaction of a "stepper limited" throughput test (without the CPL light source) by June 30, 2002. This requirement was not met by the June 30, 2002 deadline, and, therefore, the Company did not have to issue the \$500,000 in Convertible Notes. For the second earnout, the SAL shareholders can earn \$500,000 in Convertible Notes upon the satisfaction of a lithography demonstration milestone. This milestone must be met 90 days after the CPL light source is integrated with the stepper at the Systems Division in Vermont and

satisfies certain source performance criteria. The third earnout condition can result in payment of up to 354,736 JMAR shares and up to \$1.2 million in Convertible Notes upon receipt by the Company of a qualifying order for a CPL system from a commercial customer and delivery to the customer. Under the Merger Agreement, the deadline for receipt of this order is 180 days after the CPL source is integrated with the stepper at the Systems Division in Vermont and satisfies certain source performance criteria.

In February 2003 the Company received approximately \$5 million in additional contracts from General Dynamics. In addition, JMAR expects to receive another approximately \$5.3 million in CPL contract funding from DARPA by June 30, 2003 and another \$3.3 million in funds from NAVAIR by June 30, 2003.

### Commitments

Future minimum annual commitments under bank and other debt agreements, non-cancellable operating leases and post-employment benefits as of December 31, 2002 are as follows (unaudited):

	2003	2004	2005	2006	2007	Thereafter	Total
Bank and other debt .....	\$1,556,405	\$1,203,917	\$ -	\$ -	\$ -	\$ -	\$2,760,322
Operating leases...	1,020,630	940,228	641,029	39,970	-	-	2,641,857
Post-employment benefits.....	211,172	211,172	211,172	211,172	211,172	138,074	1,193,934
	<u>\$2,788,207</u>	<u>\$2,355,317</u>	<u>\$852,201</u>	<u>\$251,142</u>	<u>\$211,172</u>	<u>\$138,074</u>	<u>\$6,596,113</u>

Pursuant to the acquisition of SAL, its former shareholders and creditors can earn up to two earnout payments upon the satisfaction of certain earnout conditions (see page 24).

At December 31, 2002, the Company had approximately \$44 million of Federal net operating loss carryforwards subject to certain annual limitations, which expire from 2004 through 2022. To the extent the Company has taxable income in the future, these carryforwards may be used by the Company to reduce its cash outlay for taxes.

### Critical Accounting Policies and Estimates

Management's Discussion and Analysis of Financial Condition and Results of Operations discusses JMAR's consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the 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.

On an ongoing basis, management evaluates its estimates and judgments, including those related to revenues, allowances for doubtful accounts, inventory reserves, goodwill and intangible assets, deferred taxes, litigation accrual, warranty reserve and stock based compensation. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Management believes the following critical accounting policies, among others, affect its more significant judgments and estimates used in the preparation of its consolidated financial statements.

### Revenues

Product revenues are recognized when the product is shipped FOB shipping point, all risks of ownership have passed to the customer and the Company has performed all obligations in accordance with Staff Accounting Bulletin No 101, "Revenue Recognition in Financial Statements" ("SAB No. 101"). Contract revenues are recognized based on the percentage of completion method wherein income is

recognized pro-rata over the life of the contract based on the ratio of total incurred costs to anticipated total costs of the contract. The program manager prepares a statement of work, schedule and budget for each contract. At least monthly, actual costs are compared to budget and technical progress is compared to the planned schedule. The Company prepares an estimate of costs to complete for each contract at least quarterly. Estimated losses based on this review are fully charged to operations when identified. Actual costs could differ from these estimated costs.

#### **Allowances for Doubtful Accounts**

JMAR maintains allowances for doubtful accounts for estimated losses resulting from the inability of its customers to make required payments. If the financial condition of JMAR's customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances may be required. Management reviews delinquent accounts at least quarterly to identify potential doubtful accounts, and together with customer follow-up estimates the amount of potential losses. Historically, the Company's losses from bad debts has been minimal.

#### **Inventory Reserves**

At each year-end, the Company prepares a report which indicates the date that each inventory part was last used. Any inventory parts that have not been used in the past two years are isolated and reviewed for possible excess and/or obsolescence based on current and future requirements. The inventory reserve is adjusted based upon that review. In addition, any known excess and/or obsolete inventory not meeting the above requirement is evaluated for inclusion in the reserve. Obsolete inventory is disposed of after a thorough investigation. Quarterly, any known excess and/or obsolete inventory based on changes in the business or other factors are evaluated and the reserve adjusted accordingly.

#### **Goodwill and Intangible Assets**

In accordance with SFAS No. 142, "Goodwill and Other Intangible Assets," effective January 1, 2002, the Company has established reporting units and applies a two-step fair value approach to evaluating goodwill impairment, using at least an annual assessment. The Company compares the fair value of the business unit with the carrying amount of the assets associated with the business unit. The fair value of each business unit is determined using a risk adjusted discount rate to compute a net present value of estimated future cash flows and a consideration of market capitalization of the Company. The second step measures the amount of the impairment, if any.

#### **Deferred Taxes**

JMAR records a valuation allowance to reduce its deferred tax assets to the amount that management believes is more likely than not to be realized in the foreseeable future, based on estimates of foreseeable future taxable income and taking into consideration historical operating information. In the event management estimates that it will not be able to realize all or part of its net deferred tax assets in the foreseeable future, a valuation allowance is recorded through a charge to income in the period such determination is made. Likewise, should management estimate that it will be able to realize its deferred tax assets in the future in excess of its net recorded asset, an adjustment to reduce the valuation allowance would increase income in the period such determination is made.

#### **Litigation Accrual**

Estimated amounts for litigation reserves that are probable and can be reasonably estimated are recorded as liabilities. Estimates are based upon the facts and circumstances of each case and, in part, on advice from legal counsel regarding probable outcomes, if determinable. Management reviews its estimates on a quarterly basis.

## **Warranty Reserve**

The Company records a warranty reserve based on 1% of product sales. Warranty costs are offset against the reserve. Each quarter the reserve is analyzed based on actual warranty costs incurred to ensure that the reserve is adequate for estimated future warranty activity.

## **Stock-Based Compensation Plans**

The Company accounts for its stock option and warrant plans under APB Opinion No. 25, using the intrinsic value method, under which no compensation cost has been recognized for issuances to employees. Options issued to non-employees (other than directors) are accounted for based on the fair value of the equity instrument issued. The fair value is determined based on the Black-Scholes method. The resulting value is amortized over the service period.

## **Factors That May Affect Future Results**

Certain statements contained in this Form 10-K which are not related to historical results, including statements regarding JMAR's future sales or profit growth, competitive position or products, projects or processes currently under development, the ability of the Company to successfully introduce those products into the commercial marketplace or to apply those products, projects or processes to alternative applications and the availability of future bank or equity investor financing are forward-looking statements that necessarily are based on certain assumptions and are subject to certain risks and uncertainties that could cause actual future performance and results to differ materially from those stated or implied in the forward-looking statements. These risks and uncertainties include the lack of funds to continue development and commercialization of our CPL products in accordance with our proposed schedule of product introductions, due to delays in funding of government contracts and delays in securing, or inability to secure other financing, whether from the public or private debt or equity markets or from commercial lenders or otherwise. Other risks include concentration of sales to certain markets and customers, such as the semiconductor industry, delays in shipments or cancellations of orders, failure of expected orders to materialize, fluctuations in margins, timing of future orders, lack of availability of critical components, customer reorganizations, failure of advanced technology and new intellectual property to perform as predicted, the failure of pending patents to be issued, delays in development, introduction and acceptance of new products, changing business and economic conditions in various geographic regions, technical obsolescence of existing products, technical problems in the development or modification of current products or manufacturing processes, the impact of competitive products and pricing, including the risk that current lithography technologies can continue to economically produce smaller feature sizes or that the EUV LLC is successful in developing an acceptable next generation lithography process that becomes the process of choice for the semiconductor industry or that the semiconductor industry fails to adopt CPL as the lithography alternative, the degree of success of technology transfer (e.g., advanced lithography sources, etc.) to commercial products, availability of working capital to support growth, continued government funding of advanced lithography, successful integration of acquisitions, declining credit markets, the adverse effect of selling JPSI on its operating results, less than expected sales proceeds realized for the sale of JPSI, other competitive factors and temporary cessation of operations at one or more of its division facilities due to natural events such as floods, earthquakes and fires.

JMAR's future operating results are dependent on its ability to develop, manufacture and market, in a timely manner, innovative products that meet customers' needs and the continued growth of the semiconductor and microelectronics industries. Inherent in this process are a number of risks that the Company must successfully manage in order to achieve favorable operating results. The process of developing new high technology products is complex and uncertain and requires innovations that anticipate customer needs and technological trends. After the products are developed, the Company must quickly manufacture them in sufficient volumes at acceptable costs to meet demand and establish the necessary sales and marketing capabilities to assure adequate and timely sales volume.

Achieving market acceptance for our new and proposed Collimated Plasma Lithography (CPL) products requires a significant effort to convince semiconductor manufacturers to adopt the Company's

CPL technology over other alternative next generation lithography technologies. This will require substantial technical, marketing and sales efforts and the expenditure of significant funds to create customer awareness of and demand for our products. We cannot assure you that our CPL product lines will achieve significant market acceptance or result in significantly increased levels of revenues.

The development of sophisticated laser systems and microelectronics manufacturing products is a lengthy and capital intensive process and is subject to unforeseen risks, delays, problems and costs. We were unsuccessful in establishing the semiconductor products portion of JSI's business and have been unsuccessful in profitably operating the JPSI business. We cannot assure you that we will be able to successfully develop our CPL products or any additional products, or that unanticipated technical or other problems will not occur which would result in delays in our development program.

Our CPL source development program, intended to produce CPL sources for semiconductor lithography and for semiconductor inspection and related processes, has been a technologically challenging effort that has taken several years to achieve its current results. We have integrated our CPL source into a JSAL stepper and anticipate conducting wafer exposures using this integrated system in 2003. Additional efforts are ongoing to increase the X-ray power output of our CPL sources to meet commercially viable requirements for the Gallium Arsenide chip manufacturing industry, with a goal of receiving an order for a commercial system by the end of 2003. Although we believe we will resolve these challenges, the failure to do so within the time demanded by potential customers could have a material adverse impact on the success of our efforts to manufacture and sell our CPL equipment. The failure to sell significant amounts of our newly developed CPL equipment within our announced timeframes could have a material adverse impact on our stock price.

Our Research Division and Systems Division are dependent on third party suppliers for components used in the development and manufacture of our products. If certain key components are delayed or unavailable, we might have to reengineer our products, resulting in delays and increased costs, or we may have to pay other suppliers more to obtain those components, which could adversely affect our business.

In the case of our CPL development program, we have subcontracted portions of the development effort to third party suppliers, who may initially be sole suppliers for the prototype unit, but we anticipate having multiple sources of supply for the components used in our future production systems. In particular, our CPL light source requires a component called a collimator, which collects the X-ray output from our CPL source and directs the X-rays to the wafer. We have received collimators in the past from a single supplier and are using one of their current collimators on the CPL system currently integrated with a JSAL stepper. We have engaged that supplier to develop a higher-efficiency collimator in 2003 to be used with our first commercial systems. This higher-efficiency collimator and future improvements are needed to increase the X-ray power of our lithography equipment in order to achieve our goal of entering the high volume silicon lithography market by 2005. If we cannot obtain these high-efficiency collimators when needed then we will need to rely on other alternatives to increase the X-ray power of our systems, which would involve additional re-engineering and related delays and additional costs which could adversely affect our business.

The markets for our products are highly competitive and are characterized by rapid technological change and evolving industry standards. Development by others of new or improved products, processes or technologies may make our products obsolete or less competitive. Our ability to compete is dependent on our ability to continually enhance and improve our products and to successfully develop and market new products. Many of our competitors have greater financial, managerial and technical resources than we have. We cannot assure you that we will successfully differentiate ourselves from our competitors, that the market will consider our products to be superior to our competitors' products or that we will be able to adapt to evolving markets and technologies, develop new products or achieve and maintain technological advantages.

Our success is substantially dependent on the efforts of certain key personnel. In particular, our CPL business area relies on the skill of several key laser and laser plasma scientists and engineers. The loss of such key personnel would adversely affect our business and prospects. In such event, we cannot assure you that we would be able to employ qualified persons on terms favorable to us. In seeking and retaining qualified personnel, we are required to compete with companies having greater financial and other resources than we have. Since our future success is dependent upon our ability to retain or attract qualified personnel, our failure to do so could have an adverse impact on our business.

Our CPL program conducted by our Research and Systems divisions has been funded primarily by government contracts from the Defense Advanced Research Projects Agency and our Microelectronics Division's business has received other government funding in the past and may receive similar funding in the future. These businesses are subject to various government regulations in connection with their government R&D contract work. In addition, these portions of our business are subject to audit by the U.S. Government of the costs incurred under U.S. Government contracts and to safety audits by various U.S. Government agencies. Our failure to comply with these government regulations could jeopardize existing and future funding.

We rely, to a significant extent, on patents, trade secrets and confidentiality agreements to protect our proprietary technology. We cannot assure you as to the breadth or degree of protection which existing or future patents, if any, may afford us, or that patents will not be circumvented or invalidated, or that our products do not and will not infringe on patents or violate proprietary rights of others. In the event a patent infringement claim is asserted against us, or we are required to enforce our rights under an issued patent, the cost of such actions may be very high, whether or not we are successful. While we are unable to predict what such costs, if any, will be if we are obligated to pursue patent litigation, our ability to fund our operations and to pursue our business goals may be substantially impaired.

Along with some of the risks discussed in the preceding paragraph, there is no assurance that the Company will market its Britelight™ lasers as stand-alone products or that, if the Company should do so, they will be accepted in the marketplace.

As is the case for a large number of California-based companies, a significant portion of the Company's operations are located near major earthquake faults. The ultimate impact on the Company, significant suppliers and the general infrastructure is unknown, but operating results could be materially affected in the event of a major earthquake in close proximity to the Company's facilities. The Company is predominantly self-insured for losses and interruptions caused by earthquakes.

The operations of the Company involve the use of substances regulated under various federal, state and international laws governing the environment. It is the Company's policy to apply strict standards for environmental protection even if not subject to regulations imposed by local governments. The liability for environmental remediation and related costs is accrued when it is considered probable and the costs can be estimated. Environmental costs are presently not material to JMAR's operations or financial position.

Although JMAR believes that it has the necessary product offerings and resources for continuing success, future revenue and margin trends cannot be reliably predicted and may cause the Company to adjust its operations. Factors external to the Company can result in volatility of the Company's common stock price. Because of the foregoing factors, recent trends should not be considered reliable indicators of future stock prices or financial results.

The Company denominates its foreign sales in U.S. dollars and the Company does not believe that foreign currency fluctuations will have a material adverse impact on its ability to compete with its domestic-based competitors. Foreign currency fluctuations, however, could make the Company's products less affordable in foreign markets and thus, reduce the demand for such products.

## REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

Board of Directors and Shareholders  
JMAR Technologies, Inc.:

We have audited the accompanying consolidated balance sheets of JMAR Technologies, Inc. (a Delaware corporation) as of December 31, 2002 and 2001, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2002. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of JMAR Technologies, Inc. as of December 31, 2002 and 2001, and the consolidated results of its operations and its consolidated cash flows for each of the three years in the period ended December 31, 2002, in conformity with accounting principles generally accepted in the United States of America.

GRANT THORNTON LLP

Irvine, California  
March 27, 2003

**JMAR TECHNOLOGIES, INC.**  
**CONSOLIDATED BALANCE SHEETS**  
**As of December 31, 2002 and 2001**

<u>ASSETS</u>	<u>December 31,</u>	
	<u>2002</u>	<u>2001</u>
<b>Current Assets:</b>		
Cash and cash equivalents .....	\$2,246,264	\$4,076,894
Restricted cash .....	1,550,000	3,000,000
Accounts receivable, net .....	2,894,393	4,201,634
Inventories .....	389,467	294,482
Marketable securities available for sale.....	-	1,474,889
Net current assets of assets held for sale .....	1,349,758	5,248,883
Prepaid expenses and other .....	524,863	446,021
<b>Total current assets .....</b>	<b>8,954,745</b>	<b>18,742,803</b>
Property and equipment, net .....	1,248,198	1,252,738
Intangible assets, net .....	930,056	1,118,020
Other assets .....	197,754	667,436
Net non-current assets of assets held for sale .....	-	1,059,630
Goodwill, net .....	3,790,907	3,777,998
<b>TOTAL ASSETS .....</b>	<b>\$15,121,660</b>	<b>\$26,618,625</b>
<b><u>LIABILITIES AND STOCKHOLDERS' EQUITY</u></b>		
<b>Current Liabilities:</b>		
Accounts payable.....	\$1,864,405	\$1,781,277
Accrued liabilities .....	1,558,307	1,019,383
Accrued payroll and related costs .....	1,302,874	846,056
Customer deposits .....	832,607	1,480,386
Line of credit and notes payable .....	1,556,405	3,007,152
Net current liabilities of assets held for sale, including notes payable .....	3,125,151	2,765,084
<b>Total current liabilities .....</b>	<b>10,239,749</b>	<b>10,899,338</b>
Notes payable and other long-term liabilities, net of current portion .....	1,203,917	1,244,632
Notes payable of assets held for sale, net of current portion .....	-	175,000
Commitments and contingencies .....	-	-
<b>Stockholders' equity:</b>		
Preferred stock, \$.01 par value; 5,000,000 shares authorized; none issued and outstanding as of December 31, 2002 and 2001 .....	-	-
Common stock, \$.01 par value; 40,000,000 shares authorized; Issued and outstanding 23,852,024 shares as of December 31, 2002 and 22,840,392 shares as of December 31, 2001 .....	238,520	228,404
Additional paid-in capital .....	56,636,991	54,343,211
Accumulated other comprehensive income .....	-	1,424,864
Accumulated deficit .....	(53,197,517)	(41,696,824)
<b>Total stockholders' equity.....</b>	<b>3,677,994</b>	<b>14,299,655</b>
<b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY .....</b>	<b>\$15,121,660</b>	<b>\$26,618,625</b>

The accompanying notes to these consolidated financial statements are an integral part of these consolidated balance sheets.

**JMAR TECHNOLOGIES, INC.**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**  
For the Years Ended December 31, 2002, 2001 and 2000

	Year ended December 31,		
	2002	2001	2000
Contract sales.....	\$17,543,334	\$12,033,271	\$8,780,205
Product sales.....	840,476	870,540	334,152
Total revenues.....	<u>18,383,810</u>	<u>12,903,811</u>	<u>9,114,357</u>
Contract costs of sales.....	14,548,712	9,092,586	6,593,953
Product costs of sales.....	421,606	311,982	191,998
Total costs of sales.....	<u>14,970,318</u>	<u>9,404,568</u>	<u>6,785,951</u>
Gross profit.....	<u>3,413,492</u>	<u>3,499,243</u>	<u>2,328,406</u>
Operating expenses:			
Selling, general and administrative.....	4,594,716	4,159,523	2,882,676
Research and development.....	854,306	602,980	340,227
Asset writedowns and special items.....	1,074,324	226,899	-
Total operating expenses.....	<u>6,523,346</u>	<u>4,989,402</u>	<u>3,222,903</u>
Loss from operations.....	(3,109,854)	(1,490,159)	(894,497)
Realized gain on sale of marketable securities.....	1,349,721	1,189,273	2,184,476
Interest and other income.....	67,404	252,282	273,626
Interest and other expense.....	(284,174)	(107,950)	(106,466)
Income (loss) from continuing operations before income taxes.....	(1,976,903)	(156,554)	1,457,139
Income tax expense.....	(484,423)	-	-
Income (loss) from continuing operations.....	<u>(2,461,326)</u>	<u>(156,554)</u>	<u>1,457,139</u>
Discontinued operations:			
Loss from operations of discontinued operations.....	(5,839,367)	(14,544,980)	(2,681,904)
Loss on disposal of discontinued operations.....	(3,200,000)	-	-
Net loss.....	<u><u>\$(11,500,693)</u></u>	<u><u>\$(14,701,534)</u></u>	<u><u>\$(1,224,765)</u></u>
Basic and diluted income (loss) per share:			
Income (loss) per share from continuing operations.....	\$(.11)	\$(.01)	\$.06
Loss per share from discontinued operations.....	(.38)	(.64)	(.12)
Basic and diluted net loss per share.....	<u><u>\$(.49)</u></u>	<u><u>\$(.65)</u></u>	<u><u>\$(.06)</u></u>
Shares used in computation of basic and diluted income (loss) per share:			
Basic.....	<u>23,618,169</u>	<u>22,484,905</u>	<u>21,468,763</u>
Diluted.....	<u>23,618,169</u>	<u>22,484,905</u>	<u>25,331,177</u>

The accompanying notes to these consolidated financial statements are an integral part of these consolidated statements.

**JMAR TECHNOLOGIES, INC.**  
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)**  
**For the Years Ended December 31, 2002, 2001 and 2000**

	2002	2001	2000
Net Loss .....	<u>\$(11,500,693)</u>	<u>\$(14,701,534)</u>	<u>\$(1,224,765)</u>
Other comprehensive income (loss):			
Holding gains (losses).....	(75,143)	24,797	4,773,816
Reclassification adjustment for gains included in net loss .....	<u>(1,349,721)</u>	<u>(1,189,273)</u>	<u>(2,184,476)</u>
Other comprehensive income (loss).....	<u>(1,424,864)</u>	<u>(1,164,476)</u>	<u>2,589,340</u>
Comprehensive income (loss).....	<u>\$(12,925,557)</u>	<u>\$(15,866,010)</u>	<u>\$1,364,575</u>

The accompanying notes to these consolidated financial statements are an integral part of these consolidated statements.

**JMAR TECHNOLOGIES, INC.**  
**CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY**  
For the Years Ended December 31, 2002, 2001 and 2000

	Common Stock		Preferred Stock		Additional Paid-in	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Equity
	Shares	Amount	Shares	Amount				
Balance, December 31, 1999.....	18,074,836	\$180,748	-	\$ -	\$36,499,238	\$ -	\$(25,770,525)	\$10,909,461
Stock issued upon exercise of warrants and options.....	4,151,824	41,519	-	-	16,142,801	-	-	16,184,320
Issuance of stock for services .....	1,628	16	-	-	5,984	-	-	6,000
Issuance of stock related to acquisition of Continuum Engineering.....	5,062	51	-	-	5,818	-	-	5,869
Repurchase of stock .....	(8,700)	(87)	-	-	(25,469)	-	-	(25,556)
Unrealized gain on marketable securities .....	-	-	-	-	-	2,589,340	-	2,589,340
Net loss .....	-	-	-	-	-	-	(1,224,765)	(1,224,765)
Balance, December 31, 2000.....	22,224,650	222,247	-	-	52,628,372	2,589,340	(26,995,290)	28,444,669
Stock issued upon exercise of warrants and options.....	26,013	260	-	-	44,652	-	-	44,912
Issuance of stock for services.....	1,571	16	-	-	4,884	-	-	4,900
Issuance of stock related to acquisition of Continuum Engineering.....	807	8	-	-	3,808	-	-	3,816
Repurchase of stock .....	(18,700)	(187)	-	-	(55,456)	-	-	(55,643)
Change in unrealized gain on marketable securities .....	-	-	-	-	-	(1,164,476)	-	(1,164,476)
Issuance of stock related to legal settlement.....	3,000	30	-	-	10,316	-	-	10,346
Issuance of stock related to acquisition of SAL .....	603,051	6,030	-	-	1,706,635	-	-	1,712,665
Net loss.....	-	-	-	-	-	-	(14,701,534)	(14,701,534)
Balance, December 31, 2001.....	22,840,392	228,404	-	-	54,343,211	1,424,864	(41,696,824)	14,299,655
Issuance of stock for services.....	11,632	116	-	-	11,053	-	-	11,169
Change in unrealized gain on marketable securities .....	-	-	-	-	-	(1,424,864)	-	(1,424,864)
Issuance of common stock and warrants .....	1,000,000	10,000	-	-	1,769,920	-	-	1,779,920
Modification to existing option and warrant terms .....	-	-	-	-	512,807	-	-	512,807
Net loss.....	-	-	-	-	-	-	(11,500,693)	(11,500,693)
Balance, December 31, 2002.....	<u>23,852,024</u>	<u>\$238,520</u>	<u>-</u>	<u>\$ -</u>	<u>\$56,636,991</u>	<u>\$ -</u>	<u>\$(53,197,517)</u>	<u>\$3,677,994</u>

The accompanying notes to these consolidated financial statements are an integral part of these consolidated statements.

**JMAR TECHNOLOGIES, INC.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
For the Years Ended December 31, 2002, 2001 and 2000

	Year Ended December 31,		
	2002	2001	2000
<b>Cash flows from operating activities:</b>			
Income (loss) from continuing operations .....	\$(2,461,326)	\$(156,554)	\$1,457,139
Adjustments to reconcile income (loss) from continuing operations to net cash provided by (used in) continuing operating activities:			
Depreciation and amortization .....	777,317	478,042	402,156
Services received in exchange for common stock or warrants .....	11,169	15,246	6,000
Gain on sale of marketable securities .....	(1,349,721)	(1,189,273)	(2,184,476)
Modification of options and warrants .....	512,807	-	-
Asset writedowns .....	-	226,899	-
Change in assets and liabilities, net of effects from acquisitions, asset writedowns and non-recurring items:			
Accounts receivable, net .....	1,307,241	(425,747)	(194,891)
Inventories .....	(94,983)	(9,908)	71,800
Prepaid expenses and other .....	(93,534)	(44,970)	(264,937)
Other assets .....	484,423	(86,450)	(88,993)
Customer deposits .....	(647,779)	1,480,386	-
Accounts payable and accrued liabilities .....	1,078,871	344,091	(256,562)
Net cash provided by (used in) continuing operations operating activities .....	(475,515)	631,762	(1,052,764)
Loss from discontinued operations .....	(9,039,367)	(14,544,980)	(2,681,904)
Changes in net assets and liabilities of assets held for sale .....	5,143,770	10,474,627	(3,186,671)
Net cash used in discontinued operations .....	(3,895,597)	(4,070,353)	(5,868,575)
Net cash used in operating activities .....	(4,371,112)	(3,438,591)	(6,921,339)
<b>Cash flows from investing activities:</b>			
Proceeds from sale of marketable securities .....	1,399,746	1,207,923	2,224,337
Investment in marketable securities .....	-	-	(107,939)
Capital expenditures .....	(393,564)	(394,255)	(626,528)
Intangible assets, other assets and goodwill .....	(204,157)	(128,872)	(116,213)
Payments received on notes receivable .....	-	7,738	-
Payment for purchase of JSAL, net of cash acquired .....	-	(1,112,309)	-
Net cash provided by (used in) investing activities .....	802,025	(419,775)	1,373,657
<b>Cash flows from financing activities:</b>			
Net proceeds from the issuance of common stock .....	1,779,920	-	-
Net borrowings (payments) under line of credit .....	(1,450,000)	1,900,000	(3,890,000)
(Increase) decrease in restricted cash .....	1,450,000	(3,000,000)	-
Payments of notes payable and other long-term liabilities .....	(41,463)	(1,386)	(6,447)
Increase in notes payable and other long-term liabilities .....	-	35,000	32,861
Repurchases of stock .....	-	(55,643)	(25,556)
Net proceeds from the exercise of options and warrants .....	-	44,912	16,184,320
Net cash provided by (used in) financing activities .....	1,738,457	(1,077,117)	12,295,178
Net increase (decrease) in cash and cash equivalents .....	(1,830,630)	(4,935,483)	6,747,496
Cash and cash equivalents, beginning of period .....	4,076,894	9,012,377	2,264,881
Cash and cash equivalents, end of period .....	\$2,246,264	\$4,076,894	\$9,012,377
Cash paid for interest .....	\$183,466	\$106,176	\$123,943

**SUPPLEMENTAL DISCLOSURE OF NON-CASH ACTIVITY:** On December 7, 1998, the Company acquired 100% of the outstanding common stock of Continuum Engineering, Inc. As consideration for the acquisition, the Company issued an aggregate of 92,160 shares of its common stock and an additional 5,062 (\$5,869) and 807 (\$3,816) earn-out shares were issued in 2000 and 2001, respectively (See Note 3). In April 2000, the Company entered into a series of agreements with Bede plc (Bede), including a loan with various equity rights. In November 2000, the Company exercised its equity rights into 1,935,500 shares of Bede. In January 2002, April 2001 and December 2000, the Company sold 545,500, 500,000 and 890,000 shares, respectively, of Bede for net proceeds of approximately \$1.4 million, \$1.2 million and \$2.2 million, respectively.

The accompanying notes to these consolidated financial statements are an integral part of these consolidated statements.

JMAR TECHNOLOGIES, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
December 31, 2002 and 2001

1. Description of the Company

The accompanying consolidated financial statements include the accounts of JMAR Technologies, Inc. (the "Company" or "JMAR") and its subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

Founded in 1987, we are a semiconductor industry-focused company. JMAR is the originator of Collimated Plasma Lithography ("CPL"), a next-generation lithography (NGL) alternative designed to deliver affordable, sub-100 nanometer chip-making capability in a compact format to the semiconductor industry. In addition to CPL™, JMAR develops other products for the public and private sectors based on its proprietary Britelight™ laser light source. JMAR's operations include its Research Division in San Diego, California, where research and development of lasers and laser produced plasma generators is performed; its Systems Division in Burlington, Vermont, where CPL Stepper Systems are designed and manufactured; and its Microelectronics Division, based in Sacramento, California, where JMAR provides process integration and maintenance support for the U.S. Government's Defense Microelectronics Activity semiconductor fabrication facility.

In the first quarter of 2002, the Company decided to discontinue and sell its standard semiconductor products business and shift more of its resources to accelerate the market entry of its CPL products. The standard semiconductor products portion of JMAR's business had been a developmental effort, involving the design, manufacture and introduction of new standard product semiconductor chips. With the severe downturn in the worldwide semiconductor market beginning in 2000 and continuing into 2002, the Company had little success in selling its new standard product chips. The Company determined that substantial additional capital would have been required for these new chips to become established in what became an over-supplied chip market, as well as to develop newer, higher value chips. The Company concluded that it would not continue to invest its resources in this business.

In furtherance of its efforts to focus its resources on its CPL business, during the later half of 2002, the Company concluded that the Precision Equipment segment business did not fit with the strategic direction of the Company's CPL business area and that the markets for that segments' products would continue to be slow in the near term. Therefore, in December, 2002, the Company decided to initiate the process of selling this business.

The standard semiconductor products business and the Precision Equipment segment business have been accounted for in the accompanying consolidated financial statements as discontinued operations and the statement of operations for the years ending December 31, 2001 and 2000 have been restated to reflect the discontinuation of these businesses (See Note 9).

The Company has incurred significant losses for the years ended December 31, 2002 and 2001. As of December 31, 2002, the Company has stockholders' equity of approximately \$3.7 million and a deficit working capital of approximately \$1.3 million. Management has taken steps to reduce its future cash flow requirements through the discontinuance of its standard semiconductor products and Precision Equipment segment businesses mentioned above. Additionally, management has completed additional debt and equity financings subsequent to December 31, 2002 (see Note 17). Management believes that the Company has adequate resources to fund its operations and working capital requirements through December 31, 2003. However, additional financing may be required to complete or accelerate the development of its CPL systems. There can be no assurance that additional financings will be available when needed, on favorable terms, or at all.

JMAR TECHNOLOGIES, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2. Summary of Significant Accounting Policies

a. *Cash and Cash Equivalents*

The Company defines cash and cash equivalents to include cash on hand and cash invested in short-term securities that have original maturities of less than 90 days. Restricted cash at December 31, 2002 and 2001 includes \$1,550,000 and \$3,000,000 as compensating balance for the Company's line of credit (see Note 8).

b. *Fair Value of Financial Instruments*

The carrying value of certain of the Company's financial instruments, including accounts receivable, accounts payable and accrued expenses, approximates fair value due to their short maturities. Based on borrowing rates currently available to the Company for loans with similar terms, the carrying value of its notes payable, capital lease obligations and borrowings under the Company's line of credit approximates fair value.

c. *Pervasiveness of Estimates*

The preparation of financial statements in conformity with accounting principles generally accepted in the United States 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. Actual results could differ from those estimates.

d. *Inventories*

Inventories are carried at the lower of cost on the first-in, first-out basis or market and are comprised of materials, direct labor and applicable manufacturing overhead. At each year-end, the Company prepares a report which indicates the date that each inventory part was last used. Any inventory parts that have not been used in the past two years are isolated and reviewed for possible excess and/or obsolescence based on current and future requirements. The inventory reserve is adjusted based upon that review. In addition, any known excess and/or obsolete inventory not meeting the above requirement is evaluated for inclusion in the reserve. Obsolete inventory is disposed of after a thorough investigation. Quarterly, any known excess and/or obsolete inventory based on changes in the business or other factors are evaluated and the reserve adjusted accordingly.

e. *Income Taxes*

The Company accounts for income taxes in accordance with Statement of Financial Accounting Standards ("SFAS") No. 109. Under the asset and liability method of SFAS No. 109, deferred tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases.

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. Under SFAS No. 109, 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. Valuation allowances are established for net deferred tax assets when it is uncertain that such tax assets will be realized.

f. *Property and Equipment*

Property and equipment are recorded at cost. Depreciation and amortization are provided over the asset's estimated useful life of three to ten years, using the straight-line method. Maintenance and

JMAR TECHNOLOGIES, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

repairs are expensed as incurred. Costs capitalized for self-constructed assets include direct material, labor and applicable overhead. Leasehold improvements are amortized over the shorter of the asset's estimated useful life or the life of the related lease.

*g. Capitalized Software Development Costs*

The Company accounts for software development costs in accordance with SFAS No. 86, "Accounting for the Costs of Computer Software to be Sold, Leased or Otherwise Marketed." Under SFAS No. 86, costs incurred internally in creating a computer software product are charged to expense when incurred until technological feasibility has been established, at which time such costs are capitalized. Technological feasibility is established upon completion of a detail program design. Thereafter, the Company reports the costs at the lower of amortized cost or net realizable value. The Company annually compares the unamortized cost to the net realizable value and writes-off the amount by which the unamortized capitalized costs exceed the net realizable value. Capitalization of software development costs cease when the product is available for general release to customers. General release is typically when the product is first shipped to a distributor and available for sale.

Amortization is calculated based on the greater of the amount capitalized as a percentage of estimated revenues over the total estimated revenues for the software as a whole, or on a straight line basis, based on the estimated useful life of the products. Software development costs are currently being amortized using the straight line basis over three years. Accumulated amortization of capitalized software development costs is included in net non-current assets of discontinued operations and was \$723,880 as of December 31, 2001. During the year ended December 31, 2001, the Company wrote down \$4,650,000 of capitalized software costs to fair value related to the Company's semiconductor standard products based on an impairment analysis pursuant to SFAS No 86. Subsequent to December 31, 2001, the Company decided to discontinue this line of business (see Note 9).

*h. Goodwill and Other Intangible Assets*

In June 2001, the FASB issued SFAS No. 142, "Goodwill and Other Intangible Assets". This statement addresses financial accounting and reporting for acquired goodwill and other intangible assets and supersedes APB Opinion No. 17, *Intangible Assets*. SFAS 142 addresses how intangible assets that are acquired individually or with a group of other assets should be accounted for in financial statements upon their acquisition. This statement also addresses how goodwill and other intangible assets should be accounted for after they have been initially recognized in the financial statements. Upon adoption of SFAS 142 on January 1, 2002, goodwill is no longer subject to amortization. In addition, the Company was required to reassess, including useful lives, existing intangible assets including goodwill, previously recorded in connection with business combinations completed prior to July 1, 2001 that were accounted for using the purchase method. The Company adopted SFAS No. 142 beginning January 1, 2002, and upon adoption the Company did not recognize any impairment of goodwill or other intangible assets.

In accordance with SFAS 142, the Company has established reporting units and applies a two-step fair value approach to evaluating goodwill impairment, using at least an annual assessment. The Company compares the fair value of the business unit with the carrying amount of the assets associated with the business unit. The fair value of each business unit is determined using a risk adjusted discount rate to compute a net present value of estimated future cash flows and a consideration of market capitalization of the Company. The second step measures the amount of the impairment, if any.

*i. Other Assets*

Patent costs are amortized over ten years, and other assets are amortized over not more than five years. Accumulated amortization of other assets was \$604,771 and \$225,559 at December 31, 2002 and 2001, respectively.

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

*j. Long-Lived Assets*

The Company periodically evaluates the carrying value of its long-lived assets and applies the provisions of SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." Under SFAS No. 144, long-lived assets and certain identifiable assets to be held and used in operations are reviewed for impairment whenever events or circumstances indicate that the carrying amount of an asset may not be fully recoverable. An impairment loss is recognized if the sum of the expected long-term, undiscounted cash flows is less than the carrying amount of the long-lived assets being evaluated. Management believes the carrying value of its long-lived assets does not exceed their estimated net realizable value.

The net assets and liabilities of a disposal group classified as held for sale is presented separately in the asset and liability sections of the consolidated balance sheet. The major classes of assets and liabilities classified as held for sale are separately disclosed in the notes to financial statements. In accordance with SFAS No. 144, the Company classifies assets held for sale when management commits to a plan of disposal, the disposal group is available for immediate sale and an active plan to locate a buyer has been initiated.

*k. Marketable Securities*

Marketable securities are accounted for in accordance with SFAS No. 115, "Accounting for Certain Investments in Debt and Equity Securities," which requires that the Company determine the appropriate classification of marketable securities at the time of purchase based on management's intent. Available for sale marketable securities are stated at fair value, with net unrealized gains or losses, if any, net of tax, reported as a separate component of stockholders' equity. Realized gains or losses from the sale of marketable securities are included in the accompanying Statements of Operations while unrealized gains (losses) are presented in the Consolidated Statement of Comprehensive Income (Loss). As of December 31, 2001, the fair value, cost and unrealized gain of marketable securities were \$1,474,889, \$50,025 and \$1,424,864, respectively.

*l. Revenues*

Product revenues are recognized when the product is shipped FOB shipping point, all risks of ownership have passed to the customer and the Company has performed all obligations in accordance with Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements ("SAB No. 101"). Contract revenues are recognized based on the percentage of completion method wherein income is recognized pro-rata over the life of the contract based on the ratio of total incurred costs to anticipated total costs of the contract. Actual costs could differ from these estimated costs. Estimated losses are fully charged to operations when identified.

The majority of the Company's product sales are standard products modified as necessary to be integrated with the customer's manufacturing line while still meeting all of our published vendor specifications regarding performance. The systems are assembled and tested by the Company prior to shipment based on either customer specifications and acceptance criteria and/or in-house specifications and acceptance criteria. Usually, the customer's environment is no different than that at the Company's facility. Large, custom systems are usually inspected, tested and accepted by the customer in the Company's facility. JMAR is ISO 9001 certified, which requires JMAR to have implemented detailed acceptance procedures prior to product shipment, and is in compliance with those procedures. Product revenue is generally recorded at time of shipment when title is transferred (assuming all applicable revenue recognition criteria are met) in accordance with SAB No. 101.

Sales to distributors are recorded as revenue if all revenue recognition criteria are met, including those of SFAS No. 48, "Revenue Recognition When Right of Return Exists," if applicable. Generally, revenue is recorded upon shipment to distributors if 1) there is no right of return, or returns can be estimated; and 2) product shipped is a standard product for which the Company has a history of selling.

JMAR TECHNOLOGIES, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

In contrast to distributors, sales representatives are merely elements of the Company's sales force. Orders are obtained by or through sales representatives, but the product is never sold to a sales representative; rather the product is sold to and shipped directly to customers and recorded as revenue at that time.

Warranty reserve is recorded based on 1% of product sales. Warranty costs are offset against the reserve. Each quarter the reserve is analyzed to ensure that it is adequate based on actual and expected warranty activity.

*m. Earnings Per Share*

The Company presents earnings per share in accordance with the provisions of SFAS No. 128, "Earnings Per Share" (see Note 13).

*n. Stock Options*

The Company accounts for employee stock options in accordance with APB No. 25 using the intrinsic value method. The Company has adopted the disclosure only requirements of SFAS No. 123, "Accounting for Stock-Based Compensation" (see Note 12). Options issued to non-employees (other than directors) are accounted for based on the fair value of the equity instrument issued. The fair value is determined based on the Black-Scholes method. The resulting value is amortized over the service period.

*o. Comprehensive Income (Loss)*

SFAS No. 130, "Reporting Comprehensive Income," establishes standards for reporting and display of comprehensive income and its components (revenues, expenses, gains and losses). This statement requires that an enterprise: (a) classify the items of other comprehensive income by their nature in a financial statement; and (b) display the accumulated balance of other comprehensive income separately from stockholders' equity in the equity section of the balance sheet. The unrealized gain (loss) for the years ended December 31, 2002, 2001 and 2000 represents the Company's investment in Bede plc.

*p. Reclassifications*

Certain reclassifications have been made to the prior year financial statements to conform with the 2002 presentation.

*q. New Accounting Standards*

In June 2001, FASB issued SFAS No. 143, "Accounting for Asset Retirement Obligations" ("SFAS No. 143"). This statement addresses financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. It applies to (a) all entities and (b) legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development and/or normal operation of long-lived assets, except for certain obligations of lessees. This statement amends FASB Statement No. 19, "Financial Accounting and Reporting by Oil and Gas Producing Companies," and is effective for financial statements issued for fiscal years beginning after June 15, 2002. The Company will implement SFAS No. 143 effective January 1, 2003. The impact of such adoption is not anticipated to have a material effect on the Company's financial statements.

In August 2001, the FASB issued SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." SFAS 144 addresses financial accounting and reporting for the impairment or disposal of long-lived assets. SFAS 144 supersedes SFAS No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of," and the accounting and reporting provisions of APB Opinion No. 30, "Reporting the Results of Operations - Reporting the Effects of

JMAR TECHNOLOGIES, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions," for the disposal of a segment of a business (as previously defined in that Opinion). The Company adopted SFAS No. 144 on January 1, 2002. Under the adoption of SFAS No. 144 the Company was unable to accrue for estimated future losses for the period January 1, 2003 to the date of disposal. These losses will be recognized in the period incurred.

In April 2002, the FASB issued Statement of Financial Accounting Standards No. 145 ("SFAS 145"), "Rescission of FASB Statements No. 4, 44, and 64, Amendment of FASB Statement No. 13, and Technical Corrections." The provisions of this Statement generally shall be effective for financial statements issued on or after May 15, 2002. SFAS 145 amends other existing authoritative pronouncements to make various technical corrections, clarify meanings, or describe their applicability under changed conditions. The adoption of SFAS 145 did not have a significant impact on the Company's financial statements.

Statement of Financial Accounting Standards No. 146 ("SFAS 146"), "Accounting for Costs Associated with Exit or Disposal Activities." SFAS 146 addresses accounting and reporting costs associated with exit or disposal activities and nullifies Emerging Issues Task Force (EITF) Issue 94-3, "Liability Recognition for Certain Employee Termination Benefits and Other Costs to Exit an Activity." This statement requires that a liability for a cost associated with an exit or disposal activity shall be recognized and measured initially at its fair value in the period which the liability is incurred. This statement is effective for exit or disposal activities that are initiated after December 31, 2002. The Company will implement SFAS No. 146 on January 1, 2003. The Company does not believe that the adoption of SFAS 146 will have a significant impact on its financial statements.

In December 2002, the FASB issued SFAS No. 148, "Accounting for Stock-Based Compensation – Transition and Disclosure – an amendment of SFAS No. 123." This statement provides alternative methods of transition for a voluntary change to the fair value based method of accounting for stock-based employee compensation. This statement also amends the disclosure requirements of SFAS No. 123 and APB Opinion No. 28, "Interim Financial Reporting," to require prominent disclosures in both annual and interim financial statements about the method of accounting for stock-based employee compensation and the effect of the method used on reported results. The Company will implement SFAS No. 148 effective January 1, 2003 regarding disclosure requirements for condensed financial statements for interim periods.

The FASB has issued Interpretation No. 45, "Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others," – an interpretation of FASB Nos. 5, 57 and 107 and rescission of FASB Interpretation No. 34. This Interpretation elaborates on the disclosures to be made by a guarantor in its interim and annual financial statements about its obligations under certain guarantees that it has issued. It also clarifies that a guarantor is required to recognize, at the inception of a guarantee, a liability for the fair value of the obligation undertaken in issuing the guarantee. The initial recognition and measurement provisions of this Interpretation are applicable on a prospective basis to guarantees issued or modified after December 31, 2002. Implementation of these provisions of the Interpretation is not expected to have a material impact on the Company's consolidated financial statements. The disclosure requirements of the Interpretation are effective for financial statements of interim or annual periods ended after December 15, 2002, and have been adopted in the accompanying consolidated financial statements for December 31, 2002, with no additional disclosure required.

The FASB has issued Interpretation No. 46, "Consolidation of Variable Interest Entities" – an interpretation of Accounting Research Bulletin ("ARB") No. 51. This Interpretation defines a variable interest entity and provides that if a business enterprise has a controlling financial interest in a variable interest entity, the assets, liabilities, and results of the activities of the variable interest entity should be included in consolidated financial statements with those of the business enterprise. Furthermore, the Board indicates that the voting interest approach of ARB No. 51 is not effective in identifying controlling financial interests in entities that are not controllable through voting interest or in which the equity investors do not bear the residual economic risk. This Interpretation applies immediately to variable interest entities created after January 31, 2003, and to variable interest entities in which an enterprise obtains an interest

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

after that date. It applies in the first fiscal year or interim period beginning after June 15, 2003, to variable interest entities in which an enterprise holds a variable interest that it acquired before February 1, 2003. Management believes the implementation of this Interpretation will not have a material effect upon the Company's financial statements.

**3. Acquisitions**

Semiconductor Advanced Lithography, Inc.

On August 7, 2001, the Company's wholly owned subsidiary, JMAR/SAL NanoLithography, Inc. ("Subsidiary") acquired (the "Acquisition") all of the outstanding equity of Semiconductor Advanced Lithography, Inc. ("SAL"), in a merger of SAL with and into Subsidiary ("Merger"). SAL (subsequently renamed JMAR/SAL NanoLithography, Inc. or "JSAL") is a provider of XRL stepper systems and the leading developer of CPL systems. Consideration for the Merger consisted of an aggregate of 603,051 shares of the Company's common stock valued at \$1.7 million, \$1.2 million in cash and \$1.2 million in notes (the "Notes"). The Notes are convertible into shares of the Company's common stock at a price of \$4.302 per share, which exceeded the market value of the Company's common stock at the date of the Merger. The Notes, bearing interest at 8%, are convertible by the holders at any time and, after six months from the closing, the Company can force conversion if the average price, as defined, of the Company's common stock during any ten day trading period exceeds \$6.45. Interest on the Notes is payable quarterly, with the payment due, if not converted, on February 7, 2004. All stock options and warrants issued by SAL which were outstanding immediately prior to the Acquisition were either exercised pursuant to their terms or were terminated. There were no settlements of options or warrants and there was no increase to JMAR's purchase price as a result of the issuance of additional SAL shares upon exercise of the outstanding options and warrants.

The Company has accounted for the Acquisition as a purchase and, accordingly, results of operations of JSAL have been included in the consolidated financial statements since August 7, 2001. The allocation of the purchase price of \$4,297,414 (including transaction costs) is as follows:

Goodwill.....	\$ 3,790,907
Identifiable intangibles.....	785,000
Fair value of tangible assets acquired.....	671,593
Liabilities assumed.....	(950,086)
	\$ 4,297,414

Under the Merger Agreement, SAL's former shareholders and creditors could earn up to three contingent earnout payments upon the satisfaction of three earnout conditions. For the first earnout, the SAL creditors were eligible to receive \$500,000 in Convertible Notes upon the satisfaction of a "stepper limited" throughput test (without the CPL light source) by June 30, 2002. This requirement was not met by the June 30, 2002 deadline, and, therefore, the Company did not have to issue the \$500,000 in Convertible Notes. For the second earnout, the SAL shareholders can earn \$500,000 in Convertible Notes upon the satisfaction of a lithography demonstration milestone. This milestone must be met 90 days after the CPL light source is integrated with the stepper at the Systems Division in Vermont and satisfies certain source performance criteria. The third earnout condition can result in payment of up to 354,736 JMAR shares and up to \$1.2 million in Convertible Notes upon receipt by the Company of a qualifying order for a CPL system from a commercial customer and delivery to the customer. Under the Merger Agreement, the deadline for receipt of this order is 180 days after the CPL source is integrated with the stepper at the Systems Division in Vermont and satisfies certain source performance criteria. The earnout consideration will increase goodwill when and if it is paid.

The following unaudited proforma information gives effect to the acquisition of SAL as if the acquisition occurred on January 1, 2000. In connection with the Acquisition, SAL entered into agreements with several of its creditors which reduced the related liabilities due those creditors by approximately \$8,000,000 through a combination of debt forgiveness and by payment of the \$1.2 million cash purchase

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

price by the Company. Such debt reductions are not reflected in the statement of operations of the Company. The proforma loss from continuing operations excludes any impact, other than interest expense, from the debt settlements of SAL directly attributable to the Acquisition. The identifiable intangibles acquired in the Acquisition are being amortized over three years using the straight-line method. Identifiable assets include patents and unpatented technology. Patents were valued based on a discounted cash flow model and unpatented technology was valued based on replacement cost of underlying documentation. These statements do not purport to be indicative of the results of operations which actually would have occurred had the acquisition of SAL occurred on January 1, 2000 or which may be expected to occur in the future.

	Year Ended December 31,	
	2001	2000
	(Unaudited)	(Unaudited)
Total revenues.....	\$13,622,000	\$9,958,000
Loss from continuing operations.....	\$ (1,490,000)	\$ (894,000)
Loss per share.....	\$ (.06)	\$ (.04)

Continuum Engineering, Inc.

On December 7, 1998, the Company acquired 100 percent of the outstanding common stock of Continuum Engineering, Inc. ("CEI"). As consideration, the Company issued to the sole shareholder of CEI 92,160 shares of its Common Stock. The purchase price was negotiated at arm's length, and the acquisition was accounted for as a purchase effective December 1, 1998.

In 2000 and 2001, the Company issued 5,062 and 807 earn-out shares, respectively, of common stock to the sole shareholder of CEI, accounted for as additional purchase price. The earn-out related to the CEI acquisition ceased on December 31, 2001.

**4. Inventories**

At December 31, 2002 and 2001, inventories consisted of the following:

	2002	2001
Raw materials, components and sub-assemblies .....	\$222,077	\$150,319
Work-in-process .....	125,315	69,713
Finished goods .....	42,075	74,450
	\$389,467	\$294,482

**5. Accounts Receivable**

At December 31, 2002 and 2001, accounts receivable consisted of the following:

	2002	2001
Trade .....	\$1,384,112	\$810,081
Trade - unbilled .....	920	275,339
U.S. Government - billed.....	1,056,321	27,478
U.S. Government - unbilled.....	453,040	3,088,736
	\$2,894,393	\$4,201,634

All unbilled receivables at December 31, 2002 are expected to be billed and collected within one year. Payment to the Company for performance on certain U.S. Government contracts is subject to progress payment audits by the Defense Contract Audit Agency and are recorded at the amounts expected to be realized.

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**6. Property and Equipment**

At December 31, 2002 and 2001, property and equipment consisted of the following:

	<u>2002</u>	<u>2001</u>
Equipment and machinery .....	\$2,983,443	\$2,678,026
Furniture and fixtures .....	420,188	373,087
Leasehold improvements .....	<u>280,283</u>	<u>275,988</u>
	3,683,914	3,327,101
Less-Accumulated depreciation .....	<u>(2,435,716)</u>	<u>(2,074,363)</u>
	<u>\$1,248,198</u>	<u>\$1,252,738</u>

**7. Commitments and Contingencies**

*a. Leases*

The Company leases its office facilities under various operating leases expiring through April 30, 2006. Minimum future rental payments for non-cancelable leases as of December 31, 2002, are as follows:

<u>Year Ending December 31,</u>	
2003 .....	\$1,020,630
2004 .....	940,228
2005 .....	641,029
2006 .....	<u>39,970</u>
	<u>\$2,641,857</u>

Related rent expense was \$1,185,303, \$981,794 and \$563,800 for the years ended December 31, 2002, 2001 and 2000, respectively.

*b. Litigation*

Following the discontinuance of JSI's standard semiconductor products business in the first quarter of 2002, JSI sought to negotiate debt reductions from the creditors associated with the discontinued portion of its business. JSI was a party to a Distributor Agreement with All American Semiconductor, Inc. ("All American") under which All American had purchased approximately \$700,000 of JSI chips for resale to customers. The Company reflected the proceeds as deferred revenue (a liability) and not as revenue pending sale to the ultimate customer. Under the terms of the Distributor Agreement, if All American properly terminated the Distributor Agreement, it had the right to require JSI to repurchase those chips for the \$700,000 paid by All American. Soon after the announcement by JMAR that JSI had discontinued its standard chip business, All American gave notice of termination of the Distributor Agreement and returned the chips it held, creating an obligation on JSI's part to repay approximately \$700,000 to All American. The \$700,000 claim of All American is included in the total of approximately \$3.1 million of net current liabilities of assets held for sale that are included on JMAR's Consolidated Balance Sheet.

In September, 2002, a Complaint was filed by All American against JSI and JMAR in San Diego Superior Court. The Complaint alleges that JSI owes All American approximately \$700,000. The Complaint also alleges that All American was induced to refrain from terminating the agreement until after the JSI business had been discontinued. All American claims that such actions constituted fraud and that it is entitled to treble (triple) damages. All American has also alleged that JMAR is the "alter ego" of JSI and based on that theory should be held responsible for the obligations of JSI. While recognizing that the approximately \$700,000 in indebtedness may be owed by JSI to All American under the agreement, JSI asserts that the obligations are merely of a contractual nature and strongly disputes that any of the actions

JMAR TECHNOLOGIES, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

taken constitute fraud. JMAR also disputes that it is the "alter ego" of JSI in light of the facts that JSI is a separately incorporated entity that has been more than adequately capitalized over its years of operations and, that JSI, and not JMAR, was the party to the Distributor Agreement and was the sole direct contact with All American. JMAR believes that there is insufficient evidence to support the alter ego theory and believes that it will ultimately prevail on this issue. JMAR and JSI intend to vigorously contest any claims by All American that it is owed more than \$700,000.

After unsuccessfully engaging in efforts to sell the standard chip portion of JSI, in the fourth quarter of 2002, JSI transferred all of its assets and liabilities to a third party fiduciary in an assignment for the benefit of creditors. Under this state law procedure, the assignee liquidates the JSI assets and the proceeds from the sale of those assets are equitably distributed among the creditors of JSI and the claims of creditors of JSI are limited to those proceeds. Following the assignment of those assets, the fiduciary sold those assets to JSI Microelectronics, Inc., a wholly-owned subsidiary of the Company, at a price equal to a 10% premium over an independently appraised value of those assets, with the purchase price consisting of cash, assumption of certain trade debt owed to suppliers who are critical to the ongoing operations and the credit bid of debt held by the Company. The Company has accounted for this transaction by recording the purchase of the assets at the lower of cost or fair value and the remaining amount of the liabilities owed to the unsecured creditors by JSI are reflected in net current liabilities of assets held for sale in the accompanying Consolidated Balance Sheet.

*c. Post-Employment Benefits*

Pursuant to an Employment Agreement dated September, 2001 with Dr. Martinez, the Company's former Chairman and Chief Executive Officer, if the Company delivered notice of its intention not to renew or discontinued his status of Chairman or CEO, or both, other than for cause, then Dr. Martinez's employment was to continue for three years at the highest total compensation rate (including bonuses, director fees and similar payments) he had received in any previous 12 month period. This amount is approximately \$375,000 per annum. In such event, the Company also agreed to maintain comparable medical insurance benefits for such three year period.

In May, 2002, Dr. Martinez informed the Board of Directors of his desire to retire. The Board and Dr. Martinez engaged in discussions regarding Dr. Martinez's future role with the Company. In order to set a definite date for the transition to a new CEO, in July, 2002, the Board of Directors exercised the Company's rights under the Employment Agreement to discontinue Dr. Martinez's status as CEO effective August 16, 2002. Following negotiations between Dr. Martinez and the Board, an agreement was reached to restructure this payment obligation to spread the payments over six years to reduce the impact of the original agreement on the Company's cash flow. In consideration for this modification, the Company will provide comparable medical insurance benefits for six years, and modified 942,242 of the outstanding options and warrants held by Dr. Martinez to (1) vest all unvested options and warrants (141,269 options), (2) provide that, for those options that have an expiration date within the next six years, the early termination provision that would otherwise have resulted in the termination of the options and warrants 60 days after termination of his employment was waived, and (3) provide that all remaining options and warrants will expire on the later of August 15, 2008 or 60 days after Dr. Martinez ceases to be a director. The Company recorded a charge in 2002 in the amount of \$1,074,324 resulting from this event. The charge includes \$561,517 for the discounted post-employment payments over six years, using a discount rate of 30 percent, and \$512,807 for the intrinsic value of Dr. Martinez's options and warrants resulting from the modification of those options and warrants.

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**8. Line of Credit and Notes Payable**

Line of credit and notes payable as of December 31, 2002 and 2001, were as follows:

	<u>2002</u>	<u>2001</u>
Working capital line of credit (the "Line") in the amount of \$3,000,000 with Comerica Bank – California (the "Bank"). At December 31, 2002 and 2001, the line is secured by a \$1.5 million and \$3 million compensating cash balance, respectively. Advances bear interest at prime rate (4.25% at December 31, 2002). Interest on the line is payable monthly. Advances are secured by all assets of the Company. ....	\$1,500,000	\$3,000,000
Convertible notes payable issued to former shareholders and creditors of SAL, Inc. bearing interest at 8% interest due quarterly, principal due February 7, 2004 .....	1,200,000	1,200,000
Other notes payable .....	<u>60,322</u>	<u>51,784</u>
	<u>2,760,322</u>	<u>4,251,784</u>
Less: Current portion .....	<u>(1,556,405)</u>	<u>(3,007,152)</u>
	<u>\$1,203,917</u>	<u>\$1,244,632</u>

In November 2001, the Bank reduced the available amount of the Line from \$5 million to \$3 million and now requires up to a \$3 million compensating balance. Pursuant to this line of credit, there are no financial covenants or ratios. On March 21, 2003, the Company replaced this line of credit with a credit facility with Laurus Master Fund, Ltd. (See Note 17). In addition, the Company has a \$250,000 line of credit with Howard Bank, of which \$50,000 was outstanding at December 31, 2002 and none at December 31, 2001, secured by all assets of JSAL. This line of credit is secured by a \$50,000 compensating cash balance at December 31, 2002.

The convertible notes (the "Notes") were issued to the former shareholders of SAL. The Notes are convertible into shares of the Company's common stock at a price of \$4.302. The Notes are convertible by the holders at any time and, after February 7, 2002, the Company can force conversion if the average price, as defined, of the Company's common stock during any ten day trading period exceeds \$6.45.

The weighted average interest rate on the loan with Comerica Bank-California was 4.69% and 6.64% for 2002 and 2001, respectively. The maximum amount outstanding was \$3,000,000 for 2002 and 2001, and the average amount outstanding was \$1,393,151 and \$1,072,916 during 2002 and 2001, respectively.

Interest paid for the years ended December 31, 2002, 2001 and 2000 was \$183,466, \$106,176 and \$123,943, respectively.

Future principal payments on notes payable as of December 31, 2002 are as follows:

<u>Year Ending December 31,</u>	
2003 .....	\$ 56,405
2004 .....	<u>1,203,917</u>
	<u>\$ 1,260,322</u>

**9. Discontinued Operations/Assets Held for Sale**

The loss from operations of discontinued operations of \$5,839,367 for the year ended December 31, 2002 includes \$1,856,381 related to the standard semiconductor products business and \$3,982,986 related to the Precision Equipment segment business. The loss on disposal of discontinued operations of

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

\$3,200,000 for the year ended December 31, 2002 is net of the expected proceeds from the sale of the Precision Equipment segment business. The Company is talking to a number of potential buyers, however, it has not yet received an offer from any of the potential purchasers of this business. If the sales price of this business is different from the estimate that the Company has made, the difference will be reflected in the Company's 2003 Statement of Operations. Also, if the Company is unable to find a buyer on satisfactory terms, the Company will have to take alternative actions regarding this business, which may result in further charges. In accordance with SFAS No. 144, the results of operations of the Precision Equipment Segment business for 2003 through the sale date will be reported in discontinued operations.

In September 2000, JSI moved into a significantly larger facility in anticipation of realizing its growth plans. Prior to December 31, 2001, the Company decided to sublease the facility and move JSI into a smaller facility. Accordingly, in the fourth quarter of 2001, the Company accrued \$547,000, its estimated loss under the September 2000 lease. In the quarter ended September 30, 2002, the Company accrued an additional \$300,000 of estimated losses under this lease. The lease provides for rent and related expenses of approximately \$34,000 per month through August 2005. The Company does not yet have a subtenant for that facility and, if it is unsuccessful in obtaining a subtenant on acceptable terms, there could be further losses related to that lease.

At December 31, 2002 and December 31, 2001, net assets and liabilities of assets held for sale consisted of the following:

	December 31,	
	2002	2001
<b>Current Assets:</b>		
Cash.....	\$101,238	\$38,235
Accounts receivable.....	454,557	906,830
Inventories, net of reserves of \$2,115,143 at December 31, 2001 ..	727,983	4,215,942
Prepaid expenses and other .....	65,980	87,876
	<u>\$1,349,758</u>	<u>\$5,248,883</u>
<b>Non-Current Assets:</b>		
Property and equipment, net.....	\$ -	\$518,160
Intangible assets, net .....	-	361,737
Goodwill, net .....	-	179,733
	<u>\$ -</u>	<u>\$1,059,630</u>
<b>Current Liabilities:</b>		
Payable to distributor .....	\$ 692,314	\$ 692,314
Facility lease accrual.....	548,374	547,137
Accounts payable.....	1,154,463	1,244,936
Employee related contractual commitments .....	555,000	-
Note payable.....	175,000	280,697
	<u>\$3,125,151</u>	<u>\$2,765,084</u>
<b>Non-Current Liabilities:</b>		
Note payable.....	\$ -	\$175,000

**10. Income Taxes**

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and deferred tax liabilities at December 31, 2002 and 2001 are presented below:

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

	2002	2001
<b>Deferred tax assets:</b>		
Net operating loss carryforwards.....	\$15,022,000	\$13,264,000
Asset writedowns .....	2,523,000	2,705,000
Losses on discontinued operations.....	1,312,000	-
Other .....	1,688,000	636,000
Total gross deferred tax assets.....	20,545,000	16,605,000
Less valuation reserve .....	(20,545,000)	(16,085,000)
Net deferred tax asset.....	\$ -	\$520,000

The valuation reserve as of December 31, 2002 and 2001 represents deferred tax assets which management believes, based on the Company's history of operating losses, may not be realized in future periods. The net deferred tax asset of \$520,000 is included in other non-current assets on the accompanying Consolidated Balance Sheet as of December 31, 2001. In 2002, because of the Company's continued history of operating losses, management increased its valuation allowance by \$484,423 which has been recorded as income tax expense in the accompanying Consolidated Statement of Operations.

The effective income tax rate for the years ended December 31, 2002, 2001 and 2000 varied from the statutory federal income tax rate as follows:

	2002	2001	2000
Statutory federal income tax rate .....	(34)%	(34)%	(34)%
State income tax .....	(6)	(6)	(6)
Permanent differences.....	-	-	1
Valuation allowance .....	25	-	-
Benefit recorded due to net operating loss carryforward position.....	40	40	39
	25%	-	-

At December 31, 2002, the Company had Federal net operating loss carryforwards expiring as follows:

<u>Expires</u>	
2004 .....	\$1,184,000
2005 .....	2,840,000
2006 .....	961,000
2007 .....	4,546,000
2008 .....	6,932,000
2009 .....	6,860,000
2010 .....	2,265,000
2011 .....	585,000
2019 .....	2,297,000
2020 .....	3,436,000
2021 .....	6,177,000
2022 .....	6,099,000
Total .....	\$ 44,182,000

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

The Company has approximately \$16,243,000 of temporary differences that will offset future taxable income subject to the change in ownership limitations discussed below.

Realization of future tax benefits from utilization of the net operating loss carryforwards for income tax purposes is limited by the change in ownership (as defined for Federal Income Tax Reporting Purposes) as a result of the Company's initial public offering in May 1990. As a result of additional financings in 1992 and 1993, additional ownership changes have occurred which restrict the Company's ability to utilize its net operating loss carryforwards and any "built in losses." In addition, the net operating losses of acquired companies are also subject to separate change of ownership limitations. Of the above net operating loss carryforwards, annual limitations of approximately \$844,000 apply to approximately \$4,868,000 of Company and acquired company loss carryforwards. Approximately \$39,314,000 of the net operating loss carryforwards are not subject to annual limitations.

**11. Stockholders' Equity**

In March 2002, under its Universal Blank Shelf Registration Statement, the Company sold 1 million shares of its common stock for gross proceeds of \$2 million less offering costs of approximately \$220,000. In connection with this transaction, the Company issued to the purchasers warrants to purchase 150,000 shares of its common stock at an exercise price of \$2.50 per share, expiring in four years. Also, the Company paid a placement agent a fee of 6% of the gross proceeds, a \$25,000 non-accountable expense allowance and issued warrants to purchase 20,000 shares of the Company's common stock at an exercise price of \$2.40 per share. Out of the gross proceeds of \$2 million, the warrants to purchase 170,000 shares of the Company's common stock have been valued based on the Black-Scholes method at approximately \$305,000 in the accompanying consolidated financial statements as paid-in-capital with a corresponding reduction in the amount assigned to the common stock issued.

During the years ended December 31, 2001 and 2000, the Company received net proceeds of approximately \$44,040 and \$16.2 million, respectively, from the exercise of warrants and options into approximately 26,013 and 4,152,000 shares of common stock, respectively.

During 2002, 2001 and 2000, the Company issued 1,628, 1,571 and 11,632 shares of common stock for services and other obligations. These issuances were valued based upon the fair market value of the Company's common stock at the date of issue.

**12. Stock-Based Compensation Plans**

The Company has six stock option or warrant plans, the 1991 Stock Option Plan (the "1991 Plan"), the 1999 Stock Option Plan (the "1999 Plan"), the Management Anti-Dilution Plan (the "Anti-Dilution Plan"), an incentive plan which provides for the issuance of warrants to Research Division employees (the "Research Division Plan"), and an incentive plan which provides for the issuance of warrants to JPSI employees (the "JPSI Plan") and a second plan for the issuance of Warrants to JPSI employees (the "2002 JPSI Plan"). The Company accounts for these plans under APB Opinion No. 25, under which no compensation cost has been recognized. Had compensation cost for these plans been determined using the fair value method under SFAS No. 123, the Company's net loss and loss per share would have been the following pro forma amounts (unaudited):

		<u>2002</u>	<u>2001</u>	<u>2000</u>
Net loss:	As Reported	\$(11,500,693)	\$(14,701,534)	\$(1,224,765)
	Pro Forma	(13,441,692)	(16,415,610)	(3,159,638)
Basic and diluted loss per share:	As Reported	(.49)	(.65)	(.06)
	Pro Forma	(.57)	(.73)	(.15)

The fair value of each option and warrant grant is estimated on the date of grant using the Black-Scholes option pricing model with the following weighted-average assumptions used for grants in 2000, 2001 and 2002: risk-free interest rate of approximately 4 percent in 2002 and 6 percent in 2001 and 2000;

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

expected dividend yields of 0 percent and expected lives of 6 years. For grants in 2002, 2001 and 2000, the expected volatility used was 142 percent, 191 percent and 112 percent, respectively.

The Company was authorized to grant options or warrants to its employees (including directors) and consultants for up to 1,480,000 shares under the 1991 Plan, 1,900,000 shares under the 1999 Plan, 806,637 shares under the Anti-Dilution Plan, 350,000 shares under the JRI Plan, 450,000 shares under the JPSI Plan, and 100,000 shares under the 2002 JPSI Plan (collectively, the "Plans"). As of December 31, 2002, the Company has granted 1,280,603 options under the 1991 Plan, 623,672 options under the 1999 Plan, 424,246 warrants under the Anti-Dilution Plan, 278,000 warrants under the Research Division Plan, 171,000 warrants under the JPSi Plan and 70,000 warrants under the 2002 JPSI Plan. In addition, 585,000 non-qualified options have been granted to four employees outside of the above plans. Under all Plans, the option or warrant exercise price is equal to or more than the stock's market price on date of grant. Options usually have a term of ten years and vest one-third per year after date of grant. As of December 31, 2002, 1,856,725 shares are available for grant pursuant to the Plans.

A summary of the status of the total number of stock options or warrants pursuant to all five of the above plans as of December 31, 2000, 2001 and 2002 and changes during the years then ended is presented in the tables below:

	2002		2001		2000	
	Shares	Wtd Avg Ex Price	Shares	Wtd Avg Ex Price	Shares	Wtd Avg Ex Price
Outstanding at beg. of year	2,436,802	\$3.53	2,185,933	\$3.85	2,008,351	\$2.61
Granted	898,800	1.48	496,686	3.48	604,461	7.12
Exercised	-	-	(32,983)	3.11	(325,603)	2.67
Forfeited	(120,768)	4.04	(212,834)	6.74	(101,276)	2.51
Outstanding at end of year	<u>3,214,834</u>	2.93	<u>2,436,802</u>	3.53	<u>2,185,933</u>	3.85
Exercisable at end of year	<u>1,977,859</u>		<u>1,586,912</u>		<u>1,249,173</u>	
Weighted average fair value of options or warrants granted	1.38		3.42		6.07	

A summary of the options outstanding as of December 31, 2002, the range of exercise prices, the weighted-average exercise price, the weighted-average remaining contractual life, the amount of options currently exercisable and the weighted-average exercise price of options currently exercisable is as follows:

Range of Exercise Prices	Options Outstanding			Options Exercisable	
	Number Outstanding at 12/31/02	Weighted-Average Remaining Contractual Life	Weighted-Average Exercise Price	Number Exercisable at 12/31/02	Weighted-Average Exercise Price
\$ .53 to \$ 1.79	1,026,406	8.7 years	\$ 1.42	180,406	\$ 1.30
2.00 to 2.99	679,568	5.3	2.44	593,035	2.48
3.00	626,796	3.0	3.00	626,796	3.00
3.13 to 4.56	578,603	7.2	3.69	346,827	3.79
5.19 to 11.06	303,461	5.2	7.50	230,795	7.55
\$ .53 to \$ 11.06	<u>3,214,834</u>			<u>1,977,859</u>	

### 13. Earnings Per Share

The Company complies with SFAS No. 128, "Earnings per Share". Basic earnings per common share was computed by dividing net loss by the weighted average number of shares of common stock outstanding during the year. Diluted loss per common share for the years ended December 31, 2002, 2001 and 2000, was computed by dividing net loss by the sum of the weighted average number of shares of common stock (23,618,169, 22,484,905 and 21,468,763 for 2002, 2001 and 2000, respectively) plus

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

dilutive employee stock options and warrants (none for 2002, 2001 and 2000) and other dilutive warrants and options (none for 2002, 2001 and 2000). For the years ended December 31, 2002, 2001 and 2000, the denominator in the diluted net loss per share computation was the same as the denominator for basic loss per share due to antidilutive effects of the Company's warrants, stock options and shares underlying convertible debt. As of December 31, 2002 and 2001, the Company had outstanding warrants, stock options and shares underlying convertible debt of 278,940, all of which are antidilutive and were excluded from the computation of diluted loss per share. For 2000, the diluted income from continuing operations was computed by dividing the income from continuing operations by the sum of the weighted average number of shares of common stock (21,468,763) plus dilutive employee stock options and warrants (3,469,578) and other dilutive warrants and options (392,836).

**14. Segment Information**

Through December 31, 2001, the Company operated in three segments as follows: Front-end Semiconductor Equipment and Services, Precision Equipment, and Semiconductor Products and Processes. In the first quarter of 2002, the Company decided to discontinue and sell its standard semiconductor products business and shift more of its resources to accelerate the market entry of its CPL products. The standard semiconductor products portion of JMAR's business had been a developmental effort, involving the design, manufacture and introduction of new standard product semiconductor chips. With the severe downturn in the worldwide semiconductor market beginning in 2000 and continuing into 2002, the Company had little success in selling its new standard product chips. The Company determined that substantial additional capital would have been required for these new chips to become established in what became an over-supplied chip market, as well as to develop newer, higher value chips. The Company concluded that it would not continue to invest its resources in this business.

In furtherance of its efforts to focus its resources on its CPL business, during the later half of 2002, the Company concluded that the Precision Equipment segment business did not fit with the strategic direction of the Company's CPL business area and that the markets for that segments' products would continue to be slow in the near term. Therefore, in December, 2002, the Company decided to initiate the process of selling this business.

As a result of these decisions, and to streamline the Company's operations and better support the commercialization of its emerging CPL semiconductor manufacturing systems and related technologies, the Company now operates in three business segments, as follows:

Research Division (formerly JMAR Research) – This segment's role is as an innovator of laser and laser-produced plasma technologies for the Company's CPL Source, EUV generators, and related products such as high-brightness lasers. During 2002, this segment accounted for approximately 38% of the Company's revenues.

Systems Division (formerly JMAR/SAL NanoLithography) – This segment encompasses the development of X-ray lithography steppers, and the product engineering, production and integration of CPL light sources and complete CPL stepper systems. During 2002, this segment accounted for approximately 41% of the Company's revenues.

Microelectronics Division – In 2002, JMAR discontinued the standard products business and the assets of its Sacramento operations were transferred to JSI Microelectronics, Inc., a wholly-owned subsidiary of the Company, now the Microelectronics Division. This segment provides process integration and maintenance support for the Defense Microelectronics Activity semiconductor fabrication facility in Sacramento, California, and ASIC design and production capability for the military and commercial markets. During 2002, this segment accounted for approximately 21% of the Company's revenues.

The accounting policies of the reportable segments are the same as those described in Note 2. The Company evaluates the performance of its operating segments primarily based on revenues and operating income. Corporate costs are generally allocated to the segments.

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

Segment information for the years 2002, 2001 and 2000 has been restated to reflect the new business segments (excluding discontinued operations) as follows:

	<u>Research Division</u>	<u>Systems Division</u>	<u>Microelectronics Division</u>	<u>Corporate</u>	<u>Total</u>
<b>2002:</b>					
Revenues	\$6,951,114	\$7,602,336	\$3,830,360	\$ -	\$18,383,810
Asset writedowns and special items	-	-	-	(1,074,324)	(1,074,324)
Operating income (loss)	228,963	(1,498,007)	268,018	(2,108,828)	(3,109,854)
Total assets	2,775,418	5,897,912	1,694,927	3,403,645	13,771,902
Capital expenditures	311,890	52,144	28,021	1,509	393,564
Depreciation and amortization	369,940	307,614	14,837	84,926	777,317
<b>2001:</b>					
Revenues	7,701,840	2,151,154	3,050,817	-	12,903,811
Asset writedowns and special items	(226,899)	-	-	-	(226,899)
Operating income (loss)	228,329	(158,197)	(133,003)	(1,427,288)	(1,490,159)
Total assets	4,725,225	6,879,809	1,321,850	7,383,228	20,310,112
Capital expenditures	248,805	5,210	3,521	136,719	394,255
Depreciation and amortization	254,347	135,957	12,352	75,386	478,042
<b>2000:</b>					
Revenues	5,263,850	-	3,850,507	-	9,114,357
Operating income (loss)	223,109	-	175,521	(1,293,127)	(894,497)
Total assets	3,927,125	-	3,830,966	10,204,595	17,962,686
Capital expenditures	395,746	-	60,581	170,201	626,528
Depreciation and amortization	310,927	-	11,882	79,347	402,156

In the table above, corporate assets are principally cash and other assets.

**Significant Customers**

Sales to the United States Government aggregated \$12,484,601, \$9,128,110 and \$5,263,850 in 2002, 2001 and 2000, respectively. Accounts receivable from the United States Government at December 31, 2002 and 2001 was \$1,509,361 and \$3,116,214, respectively.

**Export Sales**

For the years ended December 31, 2002, 2001 and 2000, all revenues were generated from the United States and all assets of the Company are located in the United States.

**15. Quarterly Financial Information (Unaudited)**

The following is a summary of unaudited quarterly results for the years ended December 31, 2002 and 2001.

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

Year Ended December 31, 2002	Revenues	Gross Profit	Loss from Discontinued Operations	Net Loss	Net Income (Loss) Per Share		Weighted Average Shares Outstanding
					Continuing Operations	Discontinued Operations	
December 31	\$3,729,599	\$101,795	\$(5,711,238)	\$(6,914,251)	\$(.05)	\$(.24)	23,849,904
September 30	6,459,934	1,222,461	(1,152,871)	(2,836,656)	(.07)	(.05)	23,844,685
June 30	4,585,622	1,042,145	(331,330)	(1,002,165)	(.03)	(.01)	23,841,609
March 31	3,608,655	1,047,091	(1,843,928)	(747,621)	.05	(.08)	22,879,711
	<u>\$18,383,810</u>	<u>\$3,413,492</u>	<u>\$(9,039,367)</u>	<u>\$(11,500,693)</u>	(.11)	(.38)	23,618,169

Year Ended December 31, 2001	Revenues	Gross Profit	Loss from Discontinued Operations	Net Loss	Net Income (Loss) Per Share		Weighted Average Shares Outstanding
					Continuing Operations	Discontinued Operations	
December 31	\$4,236,722	\$933,087	\$(10,302,009)	\$(10,674,081)	\$(.02)	(.45)	22,856,672
September 30	4,397,576	1,187,946	(2,180,968)	(2,555,466)	(.01)	(.10)	22,607,571
June 30	1,999,979	646,747	(1,106,279)	(477,546)	.03	(.05)	22,238,799
March 31	2,269,534	731,463	(955,724)	(994,441)	-	(.04)	22,229,645
	<u>\$12,903,811</u>	<u>\$3,499,243</u>	<u>\$(14,544,980)</u>	<u>\$(14,701,534)</u>	(.01)	(.64)	22,484,905

**16. Intangible Assets**

The Company adopted Financial Accounting Standards Board No. 142 "Goodwill and Other Intangible Assets" ("FASB 142") effective January 1, 2002. In accordance with FASB 142, the Company does not amortize goodwill. The Company's goodwill of \$3,790,907 at December 31, 2002 is related to JSAL, acquired in August, 2001. As of December 31, 2002, the Company had the following amounts related to other intangible assets:

	Gross Carrying Amount	Accumulated Amortization	Net Intangible Assets
Patents .....	\$ 1,084,827	\$392,271	\$692,556
Unpatented Technology .....	450,000	212,500	237,500
			<u>\$930,056</u>

Aggregate amortization expense of the intangible assets with determinable lives was \$379,205, \$163,187 and \$31,286 for the years ended December 31, 2002, 2001 and 2000, respectively. The unamortized balance of intangible assets is estimated to be amortized as follows:

For the Year Ended December 31,	Estimated Amortization Expense
2003	\$313,242
2004	204,213
2005	51,575
2006	51,575
2007	51,575
2008	51,575
Beyond	206,301
	<u>\$930,056</u>

The following table summarizes the net loss and net loss per share for the years ended December 31, 2002, 2001 and 2000 adjusted to exclude goodwill amortization expense:

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

	Year Ended December 31,		
	2002	2001	2000
<b>Net loss:</b>			
Reported net loss .....	\$ (11,500,693)	\$ (14,701,534)	\$ (1,224,765)
Goodwill amortization .....	-	67,501	103,924
Adjusted net loss .....	<u>\$ (11,500,693)</u>	<u>\$ (14,634,033)</u>	<u>\$ (1,120,841)</u>
<b>Basic and diluted net loss per share:</b>			
Reported basic and diluted net loss per share .....	\$ (.49)	\$ (.65)	\$ (.06)
Goodwill amortization .....	-	-	.01
Adjusted basic and diluted net loss per share .....	<u>\$ (.49)</u>	<u>\$ (.65)</u>	<u>\$ (.05)</u>

**17. Subsequent Events**

In February, 2003, under its Universal Blank Shelf Registration Statement, the Company sold 100,000 shares of its common stock for gross proceeds of \$100,000. In connection with this transaction, the Company issued to the purchaser warrants to purchase 20,000 shares of its common stock at an exercise price of \$1.25 per share.

Also, in March 2003, under its Universal Blank Shelf Registration Statement, the Company entered into a \$3 million Revolving Fixed Price Convertible 3 Year Note (the "Working Capital Line") with Laurus Master Fund ("Laurus") replacing its previous bank credit agreement, which required a compensating balance of \$1.5 million at December 31, 2002. Advances under the Working Capital Line are up to 85% of eligible accounts receivable of the Company. The Company can convert any portion of the principal outstanding to common stock at \$.92 per share (the "Conversion Price") if the market price of the Company's common stock averages 118% of the Conversion Price or higher for 22 consecutive trading days. Laurus can convert any portion of the principal outstanding to common stock at the Conversion Price anytime the Company's common stock is in excess of the Conversion Price. After the first \$2 million of conversions into equity, the Conversion Price will be adjusted upward. The interest rate on the Working Capital Line is prime plus .75 percent, subject to a floor of 5 percent.

In addition, in March, 2003, the Company sold, for cash, \$1 million in shares of 3 percent Series B Convertible Preferred Stock ("Series B Preferred") to Laurus at a fixed conversion price of \$.88 per share. The Series B Preferred is redeemable in cash or stock in equal installments starting October 1, 2003. The conversion terms of the Series B Preferred are the same as those pursuant to the Working Capital Line.

The Company also sold, for cash, \$1 million in shares of 8 percent Series A Convertible Preferred Stock ("Series A Preferred") to Laurus at a fixed conversion price of \$.88 per share. The Series A Preferred is redeemable in two years, if not previously converted. The conversion terms of the Series A Preferred are the same as those pursuant to the Working Capital Line. The proceeds received under the Series A Preferred are initially restricted, however, the funds are released as the Preferred Stock is converted to Common Stock.

In connection with all of the above financing transactions with Laurus, the Company issued to Laurus warrants to purchase 550,000 shares of common stock at prices ranging from \$1.058 to \$1.33. In addition, there will be a warrant to purchase one share of common stock for every \$20 of principal converted to equity, up to a total of 150,000 shares, at an exercise price of \$1.15.

As a result of the convertible securities issued, the Company estimates it will recognize a beneficial conversion feature of approximately \$600,000. The beneficial conversion feature will be recognized during the first quarter of fiscal year 2003.

SYSTEMS DIVISION

*Located in Burlington, Vermont,*

*JMAR's Systems Division is the leading*

*supplier of X-ray lithography*

*steppers for semiconductor*

*manufacturing. In addition to*

*designing Steppers, Systems Division*

*integrates these products with other*

*equipment, such as the light Source,*

*to create complete CPL systems.*



Systems Division received JMAR's Beta CPL Source from Research Division in early 2003 and has now integrated the Source with its proprietary Stepper system. Full characterization of this operational test system is now underway. In addition to evaluating the system itself, integration with Systems Division's materials transport system, environmental chamber and applications laboratory provides JMAR with the ability to demonstrate the System to customers, as well as to potential strategic partners that could assist in bringing CPL to market. In 2004, JMAR plans to relocate the Beta System to a customer facility where it will be used as an initial production platform to demonstrate the performance, simplicity and cost-effectiveness of CPL as compared to other competing technologies.



**Dan Fleming** General Manager

JMAR has been actively working with semiconductor industry players to establish the specific needs of its various segments. Initial target applications include specialized gates in GaAs MMIC circuits and contacts in advanced silicon devices. These early commercial uses will facilitate the formation of strong industry alliances. JMAR envisions use of CPL in key situations in the mainstream silicon market in the future.

The Company believes that having tailored its technology base to the needs of the industry, its prospects for success in the microelectronics market, particularly in the area of next-generation lithography, will be significantly enhanced. The total size of the lithography system market is projected to reach \$6 billion by 2007, with industry purchasing between 500 to 1,000 new stepper systems per year at prices ranging from \$6 million to \$20 million each, depending on application. JMAR believes that CPL, because it was designed specifically to provide industry with a high-performance, yet comparatively affordable alternative to both conventional and other next-generation technologies now under consideration, has the potential to account for a meaningful percentage of such equipment purchases in the years ahead.

**MICROELECTRONICS  
DIVISION**

*Headquartered in Sacramento,*



*California, JMAR's*

*Microelectronics Division provides*

*process development and high-*

*value technology services to other*

*semiconductor producers in the*

*aerospace and defense industries.*

Leveraging extensive specialized expertise in semiconductor design and processing, the Microelectronics Division provides process integration and maintenance support for the U.S. Government's Defense Microelectronics Activity (DMEA) in Sacramento, California. The Division



*Larry Johnson* General Manager

also designs and produces application-specific integrated circuits (ASICs) for both military and commercial customers. Under a multi-year contract with General Dynamics Information Systems, the Division designed, developed and installed a production line for the DMEA that manufactures advanced circuits to replace those used in a range of military systems. This

service can both improve the performance and significantly extend the service lives of ships, aircraft, and armored vehicles, as well as command and control systems.

The Division has secured other long-term contracts under which it uses its experience and industry relationships to define and/or acquire the semiconductor technologies and equipment needed to support its customers' missions. The DMEA has granted the Division unique access to its facilities in support of commercial design and wafer fabrication projects. In early 2003, the Division, which continues to help manage the state-of-the-art DMEA facility, received \$5 million in new contracts to enhance the performance of the facility's semiconductor fabrication processes. The Division's relationship with the DMEA was further strengthened by the establishment of a Cooperative Research and Development Agreement wherein the DMEA designated JMAR as the sole commercial interface for the use of its capabilities by other defense contractors.





## EXECUTIVE OFFICERS

**Ronald A. Walrod**  
President and Chief Executive Officer

**Daniel J. Fleming, Ph.D.**  
Senior Vice President and  
Chief Operating Officer

**Dennis E. Valentine, CPA**  
Vice President Finance and  
Chief Financial Officer

**Joseph G. Martinez, J.D.**  
Senior Vice President and  
General Counsel

**John P. Ricardi**  
Vice President  
Business Development



LEFT TO RIGHT:  
John P. Ricardi, Dennis E. Valentine, Ronald A. Walrod, Joseph G. Martinez, Daniel J. Fleming

## BOARD OF DIRECTORS

**Vernon H. Blackman, Ph.D.**  
Chairman of the Board

**James H. Banister, Jr.**  
President, Piezomechanical Devices

**C. Neil Beer, Ph.D.**  
Executive Vice President  
Computer Technology Associates, Inc.

**Charles A. Dickinson**  
Consultant

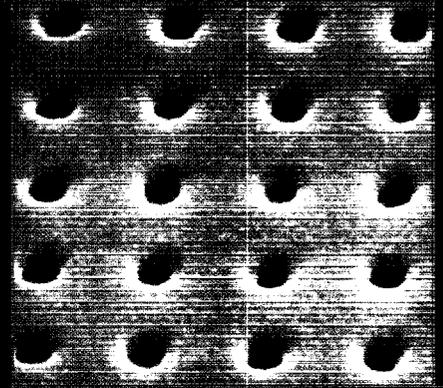
**John S. Martinez, Ph.D.**  
Retired Chairman of the Board and Chief Executive Officer  
JMAR Technologies, Inc.

**Barry Ressler**  
Director and Chief Executive Officer  
Triton Thalassic Technologies, Inc.

**Ronald A. Walrod**  
President and Chief Executive Officer  
JMAR Technologies, Inc.



JMAR Technologies, Inc., headquartered in San Diego, California, is the originator of Collimated Plasma Lithography (CPL), a next-generation lithography (NGL) alternative designed to deliver affordable, sub-100 nanometer chip-making capability in a compact format to the semiconductor industry. In addition to CPL, JMAR develops other products for the public and private sectors based on its proprietary "Britelight™" laser light source. JMAR's operations include its laser and laser-produced plasma Research Division in San Diego, California; its Systems Division in Burlington, Vermont, where CPL Stepper Systems are designed and manufactured; and its Microelectronics Division, based in Sacramento, California, where JMAR provides process integration and maintenance support for the U.S. Government's Defense Microelectronics Activity semiconductor fabrication facility.



CPL™ produced 100 nanometer contact holes

Independent Auditors  
Grant Thornton, LLP  
18300 Von Karman Avenue  
Irvine, CA 92612

Annual Meeting of Shareholders  
Friday, June 6, 2003 10:00 AM  
San Diego Marriott Del Mar  
11966 El Camino Real  
San Diego, CA 92130  
(858) 523-1700

Stock Registrar and Transfer Agent  
Computershare Trust Co., Inc.  
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