

Dear Stockholders:

There is a Chinese proverb that says "the journey of a thousand miles begins with a single step."

Nearly 18 years ago, Aspect Medical Systems took the first step in a journey toward what many said was impossible: making brain monitoring simple and clinically effective so that it could be used routinely to improve patient care. Achieving this goal has been a long road requiring significant investments in market development, human resources and intellectual capital. Today, I am happy to report that in 2004 we achieved our first year of profitability and gained great momentum for our continuing journey toward widespread clinical adoption of our technology. This was the year that we strengthened our position as a global market leader in brain monitoring. The publication of landmark research related to anesthesia safety, success with our strategic partners, our continued technological innovation, and growing acceptance of our technology across a variety of hospital environments combined to increase demand for BIS™ technology and earn Aspect recognition from *Medical Device & Diagnostic Industry* magazine as the small company "manufacturer of the year." These accomplishments were made possible by the strength of our partnerships, committed customers, the support of stockholders, and most importantly, dedicated employees who share a common vision: *to improve people's lives by helping healthcare professionals deliver the best possible patient care through innovative brain monitoring technologies.*

ANESTHESIA RESEARCH AND LEADERSHIP

In 2004, the publication of groundbreaking research on topics related to anesthesia and patient safety captured the attention of the anesthesia profession and the broader medical community and led to greater acceptance and demand for BIS solutions.

Intraoperative awareness, a complication that occurs when patients do not receive enough anesthesia to remain unconscious, has emerged as a serious patient safety issue in anesthesia management. Three major clinical trials, all published in prestigious peer-reviewed medical journals within the past year, have demonstrated that:

- 20,000 – 40,000 people experience unexpected waking during surgery each year
- This experience can be traumatic for patients and providers
- BIS technology can help clinicians reduce the risk of this adverse event by approximately 80%

Aspect's BIS system remains the only technology that has been proven in clinical studies to reduce the risk of awareness.

The anesthesia profession is taking action to understand these new research findings and define the implications on medical practice. The American Society of Anesthesiologists (ASA) has appointed a Practice Parameter Task Force to evaluate the available awareness research and develop a Practice Parameter document that will discuss the role of brain monitoring in addressing anesthesia awareness. The task force met during the annual meeting of the ASA in the fall of 2004 and is meeting throughout 2005 to prepare a final Practice Parameter document that is expected to be released at the fall 2005 ASA annual meeting.

The broader medical community is responding to these findings as well. In late 2004, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) issued a "Sentinel Event Alert" aimed at educating the medical community about the problem of

anesthesia awareness and potential for patient harm. The alert recommended that healthcare organizations that perform general anesthesia develop and implement a policy that specifically addresses anesthesia awareness. The alert also noted that, in its review of the BIS monitor, the U.S. Food and Drug Administration determined that “use of BIS monitoring to help guide anesthetic administration may be associated with the reduction of the incidence of awareness with recall in adults during general anesthesia and sedation.” We believe that the implications of the alert are far-reaching given that JCAHO is the nation’s predominant standards-setting and accrediting body in healthcare that evaluates more than 15,000 healthcare organizations and programs.

Compelling new research has also shown a possible association between deep anesthesia levels, as measured by BIS, and increased risk of post-operative mortality. In January 2005, a study revealing this finding was published in the medical journal, *Anesthesia & Analgesia*. Even though the mechanisms involved with this association are still unclear, such a finding could have significant implications for patient safety and for BIS monitoring if confirmed through further investigation. In the fall of 2004, the Anesthesia Patient Safety Foundation (APSF) convened a multidisciplinary panel of medical experts to evaluate this and other research and determine the direction for future investigations. The panel meeting underscored that anesthesia and surgery may have a more significant and long-term impact on patients than previously realized.

STRATEGIC RELATIONSHIPS AND TECHNOLOGICAL INNOVATION

Established partnerships with leading patient monitoring manufacturers and continued enhancements of BIS technology were other key factors driving success in 2004. Strategic relationships and technological innovation enabled Aspect to make BIS technology even more accessible to clinicians throughout the continuum of healthcare environments – from the operating room and intensive care unit, to ambulatory surgery centers and procedural sedation locations. We introduced the BISx™ to the market, gaining access to new patient monitoring platforms and environments. This device contains all of the processing technology required to obtain BIS information within a small piece of hardware that interfaces with the majority of patient monitoring platforms through a “plug and play” connection. BIS technology remains the only consciousness monitoring solution that offers customers widespread availability and compatibility through licensing agreements with leading manufacturers of patient monitoring systems, including Datascope, Datex-Ohmeda, Dixtal, Draeger Medical, GE Healthcare, Nihon Kohden, Philips Medical and Spacelabs Medical.

IMPROVED PERFORMANCE AND GROWTH

The momentum driven by these developments was reflected in Aspect’s financial performance in 2004. Continued strong increases in our installed base of monitors and modules provided for rapid growth in recurring sensor revenues. This revenue growth coupled with disciplined expense management enabled Aspect to record the first annual net profit in our history.

- Worldwide revenue increased by 26%
- Worldwide sensor revenue grew by 30%
- Operating expenses increased by 7%
- Worldwide installed base of BIS systems grew 24% to more than 24,100 monitors and modules
- Net income of \$.01 per share compared to a net loss of \$.34 per share in 2003

LOOKING AHEAD

The science of brain monitoring is only in its infancy and is likely to have future applications that we cannot even envision today. In the not too distant future, we believe that Aspect’s technology could play an important role in the routine detection, diagnosis and treatment of a variety of neurological conditions.

For example, Aspect’s brain monitoring technology has shown promise in clinical research seeking to improve the management of depression. One of the challenges for those who treat this common affliction has been identifying the right pharmacological solution for each individual patient. All patients do not respond similarly to the various antidepressants on the market, and it often takes six to eight weeks to determine if a patient will benefit from a particular medication. In 2004, clinical studies undertaken in collaboration with Massachusetts General Hospital and Harvard Medical School showed that Aspect’s brain monitoring technology was able to predict with high accuracy after one week of treatment whether a patient would respond to a particular antidepressant. Similarly, Aspect’s brain monitoring expertise is being used to assess how antidepressants, as opposed to placebos, affect the brain. We are currently engaged in early stage clinical trials with leading pharmaceutical manufacturers, including Eli Lilly and others, to identify the trial subjects who are most responsive to depression treatments. This could enable researchers to discover the most promising antidepressant compounds with fewer experimental subjects, and possibly reduce development costs and accelerate time-to-market.

Finally, we are currently conducting early stage clinical trials to explore the potential use of Aspect’s technology as an early-warning system for cognitive disorders such as Alzheimer’s disease. Early detection of such debilitating neurological disorders could have a profound impact on management of the disease and help prepare families before symptoms appear.

Looking forward, Aspect will continue to be guided by our vision, to seek new opportunities to reinforce our industry-leading position and to expand our knowledge-base, technology and partnerships – all while striving to build shareholder value. Our vision has guided us through the trials and triumphs of our first 18 years, and I’m confident that it will continue to guide us to serve our patients, providers and stockholders well in the future.

Sincerely,



Nassib G. Chamoun
President, CEO and Founder

Financial Information

SELECTED CONSOLIDATED FINANCIAL DATA

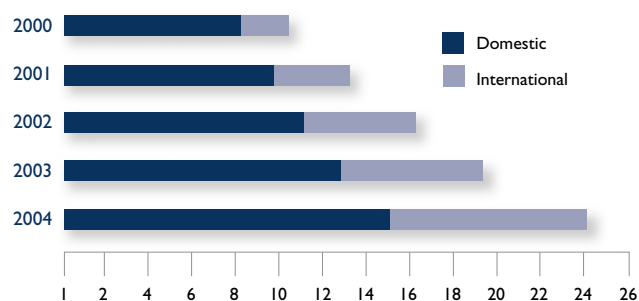
CONSOLIDATED STATEMENTS OF OPERATIONS DATA (in thousands, except per share data):

YEAR ENDED DECEMBER 31,	2004	2003	2002	2001	2000
Revenue	\$ 55,564	\$ 44,091	\$ 39,776	\$ 35,829	\$ 36,024
Gross profit margin	42,572	33,193	27,961	23,383	24,745
Gross profit margin percentage	76.6%	75.3%	70.3%	65.3%	68.7%
Operating expenses:					
Research & development	7,470	7,287	7,827	7,467	5,713
Sales & marketing	26,776	25,321	28,449	28,396	21,979
General & administrative	8,946	7,833	7,942	7,803	6,390
Total operating expenses	43,192	40,441	44,218	43,666	34,082
Loss from operations	(620)	(7,248)	(16,257)	(20,283)	(9,337)
Interest income, net	923	725	956	2,564	3,993
Net income (loss)	\$ 303	\$ (6,523)	\$ (15,301)	\$ (17,719)	\$ (5,344)
Net income (loss) per share:					
Basic	\$ 0.02	\$ (0.34)	\$ (0.83)	\$ (1.01)	\$ (0.34)
Diluted	\$ 0.01	\$ (0.34)	\$ (0.83)	\$ (1.01)	\$ (0.34)
Weighted average shares used in computing net income (loss) per share:					
Basic	20,142	19,413	18,450	17,614	15,755
Diluted	22,286	19,413	18,450	17,614	15,755

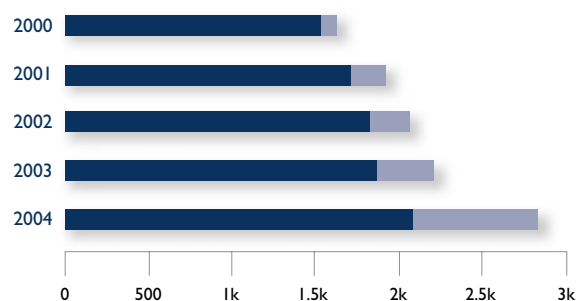
CONSOLIDATED BALANCE SHEET DATA (in thousands):

AS OF DECEMBER 31,	2004	2003	2002	2001	2000
Cash, cash equivalents, restricted cash and short-term investments	\$ 32,295	\$ 31,162	\$ 36,865	\$ 41,458	\$ 58,489
Working capital	34,224	30,680	36,734	41,266	58,455
Total assets	61,690	47,740	54,480	63,369	79,411
Long-term debt	186	525	1,015	964	2,617
Total stockholders' equity	45,586	30,968	36,797	48,056	63,974

Monitor and Module Installed Base (in thousands)



Sensor Shipments (in thousands)



CORPORATE INFORMATION

Annual Meeting of Stockholders

All stockholders are welcome to attend our annual meeting, which will be held at 9:00 am on Wednesday, May 25, 2005, at Aspect Medical Systems, Inc., 141 Needham Street, Newton, Massachusetts. We look forward to meeting our stockholders and answering any questions you may have at the meeting.

Forward-Looking Statements

Certain statements made in this Annual Report to stockholders are forward-looking statements that are subject to risks and uncertainties. There are a number of factors that could cause the Company's future performance and results of operations to differ materially from such statements, including without limitation those set forth under the heading, "Factors Affecting Future Operating Results" in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2004, which is filed with the Securities and Exchange Commission. These statements should not be relied upon as representing the Company's expectations of beliefs as of any date subsequent to the date of the Annual Report.

Board of Directors

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President, Chief Executive Officer,
and Founder

J. Breckenridge Eagle
Chairman of the Board of Directors

Boudewijn Bollen
President of International Operations

David W. Feigal, M.D.

Edwin M. Kania, Jr.
Senior Managing Director and Chairman
Flagship Ventures

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Richard J. Meelia
President and Chief Executive Officer
Tyco Healthcare Group

Donald R. Stanski, M.D.
Professor of Anesthesia
Stanford University

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Chairman of the Board of Directors

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Chief Financial Officer and Secretary

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President of International Operations

John Coolidge
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Philip H. Devlin
Vice President and General
Manager of Neuroscience

William Floyd
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Scott D. Kelley, M.D.
Vice President and Medical Director

Paul J. Manberg, Ph.D.
Vice President of Clinical,
Regulatory and Quality Assurance

Investor Relations

J. Neal Armstrong
Vice President of Investor Relations

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Form 10-K

The Company's Annual Report on Form 10-K, as filed with the Securities and Exchange Commission for the fiscal year ended December 31, 2004, is available free of charge upon written request to Aspect Medical Systems, Inc., Investor Relations Department, 141 Needham Street, Newton, Massachusetts 02464



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