Changing the game in heart valve therapy.

The worldwide market for heart valve therapy products is estimated to be $900 million, with ATS Medical, Inc. currently growing and largest market segment in the category — valve repair — estimated at $300 million globally.

Currently available in Europe and other foreign countries, with U.S. commercial approval expected in 2008, the ATS 3f Aortic Bioprosthesis is designed to eliminate the traditional suturing required in conventional cardiac surgery. After that comes the ATS 3f Enable™ product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Entrata Aortic Valve System, catheter-based, allowing naturally occurring forces to determine its shape and function.

But it would be short-sighted to view this biological valve as a single product. More accurately, it is a three-stage product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Enable™ product platform with defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Entrata Aortic Valve System, catheter-based, allowing naturally occurring forces to determine its shape and function.

Disruptive indeed.

In utero designed to mimic the way human heart valves are formed, allowing naturally occurring forces to determine its shape and function.

Changing the game in heart valve therapy.

The worldwide market for heart valve therapy products is estimated to be $900 million, with ATS Medical, Inc. currently growing and largest market segment in the category — valve repair — estimated at $300 million globally.

Currently available in Europe and other foreign countries, with U.S. commercial approval expected in 2008, the ATS 3f Aortic Bioprosthesis is designed to eliminate the traditional suturing required in conventional cardiac surgery. After that comes the ATS 3f Enable™ product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Enable™ product platform with defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Entrata Aortic Valve System, catheter-based, allowing naturally occurring forces to determine its shape and function.

But it would be short-sighted to view this biological valve as a single product. More accurately, it is a three-stage product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Enable™ product platform with defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Entrata Aortic Valve System, catheter-based, allowing naturally occurring forces to determine its shape and function.

Disruptive indeed.

In utero designed to mimic the way human heart valves are formed, allowing naturally occurring forces to determine its shape and function.

Changing the game in heart valve therapy.

The worldwide market for heart valve therapy products is estimated to be $900 million, with ATS Medical, Inc. currently growing and largest market segment in the category — valve repair — estimated at $300 million globally.

Currently available in Europe and other foreign countries, with U.S. commercial approval expected in 2008, the ATS 3f Aortic Bioprosthesis is designed to eliminate the traditional suturing required in conventional cardiac surgery. After that comes the ATS 3f Enable™ product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Enable™ product platform with defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Entrata Aortic Valve System, catheter-based, allowing naturally occurring forces to determine its shape and function.

But it would be short-sighted to view this biological valve as a single product. More accurately, it is a three-stage product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Enable™ product platform with defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Entrata Aortic Valve System, catheter-based, allowing naturally occurring forces to determine its shape and function.

Disruptive indeed.

In utero designed to mimic the way human heart valves are formed, allowing naturally occurring forces to determine its shape and function.

Changing the game in heart valve therapy.

The worldwide market for heart valve therapy products is estimated to be $900 million, with ATS Medical, Inc. currently growing and largest market segment in the category — valve repair — estimated at $300 million globally.

Currently available in Europe and other foreign countries, with U.S. commercial approval expected in 2008, the ATS 3f Aortic Bioprosthesis is designed to eliminate the traditional suturing required in conventional cardiac surgery. After that comes the ATS 3f Enable™ product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Enable™ product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Entrata Aortic Valve System, catheter-based, allowing naturally occurring forces to determine its shape and function.

But it would be short-sighted to view this biological valve as a single product. More accurately, it is a three-stage product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Enable™ product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Entrata Aortic Valve System, catheter-based, allowing naturally occurring forces to determine its shape and function.

Disruptive indeed.

In utero designed to mimic the way human heart valves are formed, allowing naturally occurring forces to determine its shape and function.
Changing the game in heart valve therapy.

The worldwide market for heart valve therapy products is estimated to be $730 million globally and growing at a rate of 6–8% per year.1, 2

Currently available in Europe and other foreign countries, ATS Medical’s CryoMaze™ Surgical Ablation technology is the first single-stage therapy capable of treating patients with atrial fibrillation (AF) using a stand-alone, minimally invasive approach. While not specifically designed to eliminate the traditional suturing required in conventional cardiac surgery, the CryoMaze™ Surgical Ablation technology marks a significant step forward in tissue valve application.

But it would be short-sighted to view this biological valve as a single product. More accurately, it is a three-stage product platform with a defined path to progressively less invasive reality. Consider the next stage, the ATS 3f Enable™ product platform with a defined path to a progressively less invasive reality. Disruptive indeed.

The ATS 3f Entrata Aortic Valve System™ catheter-based bioprosthesis is designed to eliminate the traditional suturing required in conventional cardiac surgery. After that comes the ATS 3f Aortic Bioprosthesis. Currently in clinical trials, it is the only tissue valve designed to mimic the way human heart valves are formed in utero, allowing naturally occurring forces to determine its shape and function.

The ATS 3f Aortic Bioprosthesis is most certainly capable of disrupting the competitive market dynamics. It is the only tissue valve approved in the U.S. to be delivered trans-apically, allowing naturally occurring forces to determine its shape and function. This can bridge the clinical gap for more than 50 million patients worldwide suffering from AF.

Changing the game in heart valve therapy.

At the intersection of business and clinical need, the future of cardiac surgery.

The case for ATS Medical rests on three words: ATS Medical’s unwavering dedication to cardiac surgery has brought together the best medical, business and technical minds to match current clinical needs with innovation addressing exciting new frontiers.

Changing the game in heart valve therapy.

The worldwide market for heart valve therapy products is estimated to be $730 million, with ATS Medical’s tissue heart valve segment being the growing and largest market segment in the category. These valves -- estimated at $1.2 billion global market opportunity in 2007 -- represent the largest untapped need in medical devices.

Currently available in Europe and other foreign countries, with FDA approval expected in 2008, the ATS Aortic Bioprosthesis is designed to eliminate the traditional suturing and open chest surgery. At the intersection of business and clinical need, the future of cardiac surgery is at the corporate headquarters.

Aortic Bioprosthesis. Currently in clinical trials, it is the only bioprosthesis designed to mimic the way human heart valves are formed and grown. It offers a fully biologic solution, allowing naturally occurring forces to determine its shape and function.

The ATS Aortic Bioprosthesis is most certainly capable of disrupting competitive market dynamics. It is the only tissue valve designed to eliminate the traditional suturing and open chest surgery.

But it would be short-sighted to view this biological valve as a single product. More accurately, it is a three-stage product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Enable™ product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Enable™ product platform with a defined path to a progressively less invasive reality.

A copy of the Company’s annual report, financial statements and other information can be obtained, without charge to any shareholder upon written request to the Corporate Secretary, ATS Medical, Inc., 3905 Annapolis Lane, South St. Paul, Minnesota 55075-1139.

The vision for ATS Medical represents more than mere words. ATS Medical’s unwavering dedication to cardiac surgery has brought together the best medical, business and technical minds to match medical needs with innovation addressing exciting new frontiers.

The compelling market development opportunity for treatment of AF is to effectively treat patients with a stand-alone, less-invasive procedure. Utilizing its ATS CryoMaze™ Surgical Ablation technology, ATS Medical is well on its way to doing just that. In fact, recently presented clinical results of stand-alone AF ablations using ATS CryoMaze and robotic techniques demonstrated a greater than 90% success rate in a six-month follow-up of 57 patients. AF ablations using ATS CryoMaze and robotic techniques demonstrated a greater than 90% success rate in a six-month follow-up of 57 patients.

The number of patients diagnosed annually with atrial fibrillation (AF) is estimated to be a staggering 2,750,000 in the U.S. alone and growing. The cost of managing AF is in excess of $33 billion in the U.S. alone, with the total economic cost of AF projected to exceed $60 billion by 2020. The vision for ATS Medical represents more than mere words. ATS Medical’s unwavering dedication to cardiac surgery has brought together the best medical, business and technical minds to match medical needs with innovation addressing exciting new frontiers.

AF ablations using ATS CryoMaze and robotic techniques demonstrated a greater than 90% success rate in a six-month follow-up of 57 patients.

ATS Medical's unwavering dedication to cardiac surgery has brought together the best medical, business and technical minds to match medical needs with innovation addressing exciting new frontiers.

Changing the game in heart valve therapy.

At the intersection of business and clinical need, the future of cardiac surgery.

The worldwide market for heart valve therapy products is estimated to be $730 million, with ATS Medical’s tissue heart valve segment being the growing and largest market segment in the category. These valves -- estimated at $1.2 billion global market opportunity in 2007 -- represent the largest untapped need in medical devices.

Currently available in Europe and other foreign countries, with FDA approval expected in 2008, the ATS Aortic Bioprosthesis is designed to eliminate the traditional suturing and open chest surgery. At the intersection of business and clinical need, the future of cardiac surgery is at the corporate headquarters.

Aortic Bioprosthesis. Currently in clinical trials, it is the only bioprosthesis designed to mimic the way human heart valves are formed and grown. It offers a fully biologic solution, allowing naturally occurring forces to determine its shape and function.

The ATS Aortic Bioprosthesis is most certainly capable of disrupting competitive market dynamics. It is the only tissue valve designed to eliminate the traditional suturing and open chest surgery.

But it would be short-sighted to view this biological valve as a single product. More accurately, it is a three-stage product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Enable™ product platform with a defined path to a progressively less invasive reality. Consider the next stage, the ATS 3f Enable™ product platform with a defined path to a progressively less invasive reality.

A copy of the Company’s annual report, financial statements and other information can be obtained, without charge to any shareholder upon written request to the Corporate Secretary, ATS Medical, Inc., 3905 Annapolis Lane, South St. Paul, Minnesota 55075-1139.

The vision for ATS Medical represents more than mere words. ATS Medical’s unwavering dedication to cardiac surgery has brought together the best medical, business and technical minds to match medical needs with innovation addressing exciting new frontiers.

The compelling market development opportunity for treatment of AF is to effectively treat patients with a stand-alone, less-invasive procedure. Utilizing its ATS CryoMaze™ Surgical Ablation technology, ATS Medical is well on its way to doing just that. In fact, recently presented clinical results of stand-alone AF ablations using ATS CryoMaze and robotic techniques demonstrated a greater than 90% success rate in a six-month follow-up of 57 patients.

The number of patients diagnosed annually with atrial fibrillation (AF) is estimated to be a staggering 2,750,000 in the U.S. alone and growing. The cost of managing AF is in excess of $33 billion in the U.S. alone, with the total economic cost of AF projected to exceed $60 billion by 2020. The vision for ATS Medical represents more than mere words. ATS Medical’s unwavering dedication to cardiac surgery has brought together the best medical, business and technical minds to match medical needs with innovation addressing exciting new frontiers.

AF ablations using ATS CryoMaze and robotic techniques demonstrated a greater than 90% success rate in a six-month follow-up of 57 patients.
Expanding on growth.

In 2007 we were able to grow for the year, returning patient and revenue growth for the first time since 2003. In 2007 we recorded a 4% revenue increase over the same quarter in 2006, resulting in a $142 million increase in revenue for the year. In 2008 we expect revenue to grow approximately 5%-7% over 2007, representing a $730 million increase over 2006.

A business perspective…Michael Dole

The market opportunities that define cardiac surgery. The opportunities for the companies that offer hope to 500,000 cardiac operations performed yearly in the U.S. The Cox Maze III procedure — considered the gold standard approach to a replacement heart valve. Targeted at the $730 million global tissue valve market, it is the first valve advancement with anticipation of its potential to reduce both annuloplasty repair with the entrance of the ATS 3f Enable™ Aortic Bioprosthesis. We addressed the largest opportunity in annuloplasty repair with the entrance of the ATS 3f Enable™ Aortic Bioprosthesis. We set our sights on continued growth in 2008.

The ATS CryoMaze™ Surgical Ablation System can complete the Cox Maze III procedure — considered the gold standard approach to a replacement heart valve. At a cost of $142 million and growing approximately 7% per year.

A medical perspective…Dr. James L. Cox

The market opportunities that define cardiac surgery. Cardiac surgeons have a U.S. tissue valve market approximately $3 billion, composed of three large segments: valve replacement procedures for those with severe heart valve disease, and valve repair procedures for those with milder valve disease. Aortic valve repair and replacement are the most common procedures performed. Many patient groups are pursuing minimally invasive heart valve surgery. The ATS Annuloplasty Rings/Bands reveals a valve unbeatable in every way. The ATS AP360™ Mechanical Heart Valve enjoys 17% market share in the U.S. with heart failure but only 8% currently undergo diagnostic testing. Similarly, there are approximately 5,000,000 patients in the United States with atrial fibrillation and only 3,000,000 patients in the United States with atrial fibrillation and atrial fibrillation disease — atrial fibrillation and heart valve therapy.

ATS 3f Enable™ Aortic Bioprosthesis. The added value and largest opportunity in structural heart surgery. The ATS 3f™ tissue valve technologies, of atrial fibrillation and one of the groundbreaking breakthroughs for cardiac arrhythmias and atrial fibrillation. The ATS CryoMaze™ Surgical Ablation System is a successful, less invasive approach to a replacement heart valve. Targeted at the $730 million global tissue valve market.

Innovation for a less invasive future. Improving on proprietary technology. Improving on proprietary technology.

In 2008 we expect revenue to grow approximately 5%-7% over 2007, representing a $730 million increase over 2006.

ATS Medical welcomes Dr. James L. Cox as Medical Director.

A medical perspective…Dr. James L. Cox

The market opportunities that define cardiac surgery. Cardiac surgeons have a U.S. tissue valve market approximately $3 billion, composed of three large segments: valve replacement procedures for those with severe heart valve disease, and valve repair procedures for those with milder valve disease. Many patient groups are pursuing minimally invasive heart valve surgery. The ATS 3f Enable™ Aortic Bioprosthesis. The ATS 3f Enable™ Aortic Bioprosthesis.

ATS Medical welcomes Dr. James L. Cox as Medical Director.

Ready to lead.

ATS CryoMaze™ Surgical Ablation System

The ATS CryoMaze™ Surgical Ablation System is completely self-contained and is unique in the industry for its ease of use, reliability and safety. Offering no advances in technology, it is the only cryoablation system of its kind approved by the FDA, and represents an important advance in minimally invasive treatment for atrial fibrillation.

ATS 3f Aortic Bioprosthesis

The ATS 3f Aortic Bioprosthesis is a semirigid ring—a revolutionary new approach in a replacement heart valve. Based on the ATS Annuloplasty Rings/Bands, the ATS 3f Aortic Bioprosthesis is the new, less invasive heart valve system that will accompany the introduction of minimally invasive and off-pump product development opportunity to more than $3 billion.

ATS Open Pivot® Mechanical Heart Valve

The ATS 3f Open Pivot® Mechanical Heart Valve is a highly effective, minimally invasive valve system. Targeted at the $1.2 billion mechanical valve market, the ATS 3f Open Pivot® Mechanical Heart Valve is the first valve system specifically designed for trans-apical delivery and deployment, the ATS Open Pivot® Mechanical Heart Valve is the first valve system specifically designed for trans-apical delivery and deployment.

ATS 3f Aortic Bioprosthesis

The ATS 3f Aortic Bioprosthesis is a semirigid ring—a revolutionary new approach in a replacement heart valve. Based on the ATS Annuloplasty Rings/Bands, the ATS 3f Aortic Bioprosthesis is the new, less invasive heart valve system that will accompany the introduction of minimally invasive and off-pump product development opportunity to more than $3 billion.

ATS CryoMaze™ Surgical Ablation System

The ATS CryoMaze™ Surgical Ablation System can complete the Cox Maze III procedure — considered the gold standard approach to a replacement heart valve. At a cost of $142 million and growing approximately 7% per year.

A medical perspective…Dr. James L. Cox

The market opportunities that define cardiac surgery. Cardiac surgeons have a U.S. tissue valve market approximately $3 billion, composed of three large segments: valve replacement procedures for those with severe heart valve disease, and valve repair procedures for those with milder valve disease. Many patient groups are pursuing minimally invasive heart valve surgery. The ATS 3f Enable™ Aortic Bioprosthesis.

ATS Medical welcomes Dr. James L. Cox as Medical Director.

A business perspective…Michael Dole

The market opportunities that define cardiac surgery. The opportunities for the companies that offer hope to 500,000 cardiac operations performed yearly in the U.S. The Cox Maze III procedure — considered the gold standard approach to a replacement heart valve. Targeted at the $730 million global tissue valve market, it is the first valve advancement with anticipation of its potential to reduce both annuloplasty repair with the entrance of the ATS 3f Enable™ Aortic Bioprosthesis. We addressed the largest opportunity in annuloplasty repair with the entrance of the ATS 3f Enable™ Aortic Bioprosthesis. We set our sights on continued growth in 2008.
Expanding on growth.

A business perspective...Michael Dale

The market opportunities that define market strategy

For the purposes of the past several years, interest in valve therapy has been focused on the need for improved therapies for the heart valve disease — atrial fibrillation and heart valve disease. New approaches are needed to address the high morbidity and mortality associated with these diseases, improve the health and lifestyle of patients, and provide cost-effective solutions.

The AP360 Mechanical Heart Valve enjoys 17% of the worldwide procedure share in the $330 million mechanical heart valve market. AP360 reveals a valve unbeatable in every aspect considered important to mechanical valve performance.

A medical perspective...Dr. James L. Cox

The market opportunities that define market strategy

Cardiac surgeons in the U.S. have identified their expectation for outcomes from any valve therapy. They are looking for lower risk, increased durability, and minimal reoperation. The Cox Maze III procedure — considered the gold standard for the surgical treatment of atrial fibrillation — offers this expectation. The benefits of the Cox procedure include its specific ability to achieve sinus rhythm, good procedural results, and minimal risk and reoperation.

Innovation for a less invasive future

Dr. James L. Cox, a preeminent cardio-thoracic researcher on the ATS 3f tissue valve technologies, along with continual expansion of advanced healthcare infrastructure in the U.S. centers have performed stand-alone ablation using the existing ATS CryoMaze system in a truly minimally invasive approach to treating cardiac arrhythmias. Currently, more than fifteen procedures per year are being performed in Europe.

During the past year ATS Medical made significant progress in advancing its therapies for the surgical treatment of cardiac arrhythmias and atrial fibrillation. The ATS CryoMaze Surgical Ablation products offer a successful, less invasive approach to treating cardiac arrhythmias. The original cut-and-sew Maze procedure was capable of curing over 90% of patients with atrial fibrillation, but the persistently high failure rate and questionable safety of catheter ablation techniques and to the unacceptable degree of invasiveness currently being incorporated into the less invasive cardiac surgical procedures have limited widespread adoption. Only innovation and new ideas can create the basis for these new products. ATS Medical welcomes Dr. James L. Cox as Medical Director. Dr. Cox will lead the research into our CryoMaze product line and advancements including sutureless 3f Enable and trans-apical Annuloplasty Rings/Bands.

 ATS 3f Entrace Aortic Valve System

The ATS 3f Entrace Aortic Valve System is the first tissue aortic valve available in the U.S. with a size range of 25 to 29 mm and a size range of 25 to 29 mm.

Ready to lead.

ATS CryoMaze® Surgical Ablation System

The ATS CryoMaze Surgical Ablation System is the first cryoablation system available in the U.S.

ATS 3f Annuloplasty Rings

ATS 3f Annuloplasty Rings are a revolutionary new approach to a minimally invasive heart valve. ATS 3f Annuloplasty Rings are a minimally invasive approach to aortic valve repair.

ATS 3f Entrata Aortic Valve System

The ATS 3f Entrata Aortic Valve System is the first aortic valve system available in the U.S.

ATS CryoMaze® Products

ATS CryoMaze® Products are the first cryoablation system available in the U.S.

ATS Open Pivot® Mechanical Heart Valve

ATS Open Pivot® Mechanical Heart Valve is the first mechanical heart valve designed to be used in a minimally invasive approach.

ATS 3f Entrata Aortic Valve System

The ATS 3f Entrata Aortic Valve System is the first aortic valve system available in the U.S.

ATS 3f Entrace Aortic Valve System

The ATS 3f Entrace Aortic Valve System is the first tissue aortic valve available in the U.S.

ATS CryoMaze® Surgical Ablation System

The ATS CryoMaze Surgical Ablation System is the first cryoablation system available in the U.S.

ATS 3f Annuloplasty Rings

ATS 3f Annuloplasty Rings are a revolutionary new approach to a minimally invasive heart valve. ATS 3f Annuloplasty Rings are a minimally invasive approach to aortic valve repair.
Expanding on growth.

A business perspective. Michael Dale

The market opportunities that define cardiac surgery
The market opportunities that define cardiac surgery are vast. In the market for heart valve therapy, the current surgical valve replacement annual revenue in the U.S. is approximately $730 million globally. The surgical valve business is expected to grow to $1.3 billion by 2008. This expanding market provides significant opportunities for growth. It is estimated that the global replacement heart valve market represents an opportunity for growth exceeding $13 billion in annual revenue by 2010. Additionally, the market for atrial fibrillation is predicted to exceed $2 billion in annual revenue by 2010.

A medical perspective. Dr. James L. Cox

The market opportunities that define cardiac surgery
Cardiac surgeons in the U.S. have seen a dramatic increase in the number of patients who require surgical therapy for heart valve disease. The percentage of the population over the age of 65 years was 12.6% in 2000 and it is projected to be 20% by 2030. The U.S. Census Bureau has estimated that there will be 80 million people over the age of 65 in the U.S. in 2030, representing a 23% increase over 2000.

Within the expanding global marketplace ATS Medical has targeted the heart valve market. Introduction of the “uncompromising” ATS AP360™ reveals a valve unbeatable in every performance category. ATS AP360™ provides the surgeon with the freedom of a biologic valve that is truly “uncompromised.” This revolutionary tissue valve has been designed with a less invasive performance and stress distribution that mimics the native aortic heart valve.

ATS Medical, Inc.

President and CEO

March 2007

In 2007 we set an accelerated goal for the year, announcing our nine percent revenue growth guidance. Our plans were challenged by the 2007 market recovery as the first nine months of the year were only up a 1% revenue increase over the same quarter in 2006. The second half of 2007 demonstrated a 20% revenue increase over 2006.

The ATS 3f Entrata. I look forward to following this very promising biological valve advancement with anticipation of its potential to reduce both procedure time and allow the surgeon to improve hemodynamic performance by providing a larger size valve than currently possible with conventional implant techniques. The Enable valve is in clinical trials. We believe our current therapy to be a genuine biological valve.

Innovation for a less invasive future

During the past year ATS Medical made significant progress in its strategy to expand the product portfolio with a focus on reducing procedural time, minimizing stress on the patient, and providing a better treatment experience. ATS Medical’s continued investment in minimally-invasive approaches in heart valve therapy and atrial fibrillation markets; markets alone that currently provide an estimated $2 billion in annual revenue.

The ATS 3f®Entrata valve is designed to enable trans-apical delivery and deployment of aortic bioprostheses with anticipation of its potential to reduce both procedure time and allow the surgeon to improve hemodynamic performance by providing a larger size valve than currently possible with conventional implant techniques. The Enable valve is in clinical trials. We believe our current therapy to be a genuine biological valve.

In 2000 and it is projected to be 20% by 2030. The U.S. Census Bureau has estimated that there will be 80 million people over the age of 65 in the U.S. in 2030, representing a 23% increase over 2000.

The ATS 3f® Entrata valve is designed to enable trans-apical delivery and deployment of aortic bioprostheses with anticipation of its potential to reduce both procedure time and allow the surgeon to improve hemodynamic performance by providing a larger size valve than currently possible with conventional implant techniques. The Enable valve is in clinical trials. We believe our current therapy to be a genuine biological valve.

Within the expanding global marketplace ATS Medical has targeted the heart valve market. Introduction of the “uncompromising” ATS AP360™ reveals a valve unbeatable in every performance category. ATS AP360™ provides the surgeon with the freedom of a biologic valve that is truly “uncompromised.” This revolutionary tissue valve has been designed with a less invasive performance and stress distribution that mimics the native aortic heart valve.

ATS Medical, Inc.

President and CEO

March 2007

In 2007 we set an accelerated goal for the year, announcing our nine percent revenue growth guidance. Our plans were challenged by the 2007 market recovery as the first nine months of the year were only up a 1% revenue increase over the same quarter in 2006. The second half of 2007 demonstrated a 20% revenue increase over 2006.

The ATS 3f® Entrata valve is designed to enable trans-apical delivery and deployment of aortic bioprostheses with anticipation of its potential to reduce both procedure time and allow the surgeon to improve hemodynamic performance by providing a larger size valve than currently possible with conventional implant techniques. The Enable valve is in clinical trials. We believe our current therapy to be a genuine biological valve.

Innovation for a less invasive future

During the past year ATS Medical made significant progress in its strategy to expand the product portfolio with a focus on reducing procedural time, minimizing stress on the patient, and providing a better treatment experience. ATS Medical’s continued investment in minimally-invasive approaches in heart valve therapy and atrial fibrillation markets; markets alone that currently provide an estimated $2 billion in annual revenue.

The ATS 3f® Entrata valve is designed to enable trans-apical delivery and deployment of aortic bioprostheses with anticipation of its potential to reduce both procedure time and allow the surgeon to improve hemodynamic performance by providing a larger size valve than currently possible with conventional implant techniques. The Enable valve is in clinical trials. We believe our current therapy to be a genuine biological valve.

Within the expanding global marketplace ATS Medical has targeted the heart valve market. Introduction of the “uncompromising” ATS AP360™ reveals a valve unbeatable in every performance category. ATS AP360™ provides the surgeon with the freedom of a biologic valve that is truly “uncompromised.” This revolutionary tissue valve has been designed with a less invasive performance and stress distribution that mimics the native aortic heart valve.

ATS Medical, Inc.

President and CEO

March 2007

In 2007 we set an accelerated goal for the year, announcing our nine percent revenue growth guidance. Our plans were challenged by the 2007 market recovery as the first nine months of the year were only up a 1% revenue increase over the same quarter in 2006. The second half of 2007 demonstrated a 20% revenue increase over 2006.

The ATS 3f® Entrata valve is designed to enable trans-apical delivery and deployment of aortic bioprostheses with anticipation of its potential to reduce both procedure time and allow the surgeon to improve hemodynamic performance by providing a larger size valve than currently possible with conventional implant techniques. The Enable valve is in clinical trials. We believe our current therapy to be a genuine biological valve.

Innovation for a less invasive future

During the past year ATS Medical made significant progress in its strategy to expand the product portfolio with a focus on reducing procedural time, minimizing stress on the patient, and providing a better treatment experience. ATS Medical’s continued investment in minimally-invasive approaches in heart valve therapy and atrial fibrillation markets; markets alone that currently provide an estimated $2 billion in annual revenue.
Changing the game in heart valve therapy.

The worldwide market for heart valve therapy is estimated to be $730 million, with ATS Medical, Inc. estimated to be the largest market segment in the category.2,3

Currently available in Europe and other foreign countries, the ATS 3f Aortic Bioprosthesis, currenty in clinical trials, is the only tissue valve with U.S. commercial approval expected in 2008, the ATS 3f Aortic Bioprosthesis is most certainly capable of disrupting the competitive market dynamics. It is the only tissue valve designed to mimic the way human heart valves are formed in utero, allowing naturally occurring forces to determine its shape and function.

Stephen S. MIniard, President
