

Executive Summary

Web-Based Solutions for Healthcare

The Venture

Perminova develops and markets web-based software for use in cardiovascular surgery. The company is pioneering healthcare's move from outdated client-server technology to modern-and-secure cloud computing. Perminova products are offered on a Software-as-a-Service (SaaS) basis, allowing customers to take full advantage of surgical information systems that are significantly more robust, flexible and cost-effective than those currently available.

In 2011, the company released Perminova EP, a software module that manages the scheduling, workflow, surgical data and billing that occur during cardiac electrophysiological procedures. Perminova EP enables doctors, nurses and administrators to realize enhanced charge-capture, efficiency and patient safety. For healthcare IT executives, Perminova's browser-based system seamlessly integrates throughout the enterprise, while its cloud-computing structure allows for the dramatic reduction of onsite hardware, personnel resources and overall IT costs. Perminova EP captures deep, rich data from each surgical procedure, storing it on the company's private cloud.

Once the data is aggregated within Perminova's web-based system, it can be compiled for use by researchers anywhere in the world. In addition to Perminova EP, the company is currently developing Perminova Cath and Perminova Vascular – software modules tailored for use in cardiac catheterization and cardiac vascular surgical centers. Perminova is a post-revenue, post-product company. Its software is currently deployed at UCSD Health System, San Diego, and Mount Sinai Hospital, New York. The company is in contract discussions with a number of leading cardiovascular centers throughout the U.S.

The Problem & Solution

Perminova addresses an array of problems within the healthcare market. Foremost is the day-to-day problem facing EP cardiologists – and that is that over 90% of these highly trained surgeons have no access to workflow software that can make their life-saving procedures more efficient, profitable and safe. Currently, many doctors and administrators in this specialty resort to using either paper systems or Microsoft Outlook and Microsoft Word to schedule, track and chart their procedures and outcomes.

Such methods are frustrating, time consuming and inefficient. Charges are lost, critical patient data is never captured, and insurance claims are frequently rejected. Physicians are burdened by time-consuming and error-prone dictation and report-writing following each day's procedures.

Perminova EP, on the other hand, was designed by cardiologists for use by cardiologists. It smoothly tracks procedures and data in real



time as patients, nurses and doctors move through scheduling, surgery and billing. The web-based software is affordable and cost-efficient. It can precisely track and bill for each drug and supply used during each procedure. It can gather important medical data on each patient throughout each surgery. And it can ensure that each case is accurately reported, with descriptions and charges that integrate with billing systems.

This results in a dramatic boost in charge-capture and revenue recognition for hospital administrators, reduced time spent by doctors on frustrating reports, improved patient safety, and the ability to conduct meaningful research on outcomes.

Beyond the day-to-day activities of cardiologists, Perminova helps solve larger, enterprise-wide problems facing healthcare organizations. The company's web-based software can serve as a technology platform, enabling healthcare's move from an outdated, costly client-server model to a vastly more cost-efficient cloud-computing structure. Currently, when a healthcare system decides to deploy software throughout its integrated delivery network, it must install and integrate software on multitudes of computers, devices and servers throughout numerous facilities. This consumes significant resources in terms of time, money and personnel.

Because Perminova's software is browser-based, not device-based, the company can deploy via the web, with rapid configuration, integration and customization. Perminova deployments don't require armies of consultants, budget-busting contracts or expensive new hardware. In fact, in the long-term, Perminova can facilitate the reduction of IT personnel and on-site server hardware. This can help squeeze



significant costs out of a healthcare network's IT infrastructure. Finally, Perminova's web-based data structure is ideal for capturing and organizing surgical data throughout the enterprise. Because this data is aggregated on the cloud, it isn't imprisoned in silos on multi-vendor devices, software and hardware. Instead it is centrally aggregated and universally available. This rich, powerful surgical information can then be queried by medical researchers, hospital administrators, doctors, medical device makers and pharmaceutical firms throughout the world. This redacted data, of course, follows the strictest HIPPA guidelines and healthcare industry privacy standards. Perminova's web-based system can also be used as a browser-based platform that can pull in and aggregate data from throughout the healthcare enterprise that pertains to insurance, pharmacy, medical records, materials management, etc.

Ultimately, Perminova provides healthcare customers with a host of solutions, ranging from the management of day-to-day surgical procedures, the transition away from costly client-server technology and the robust aggregation of meaningful medical data.

Products & Services

Perminova is dedicated to delivering to its healthcare customers a suite of web-based products and services that enhance productivity, lower costs and boost revenues. The company's flagship software is the newly released Perminova EP 2.0. This module manages the scheduling, workflow, surgical data and billing that occur during cardiac electrophysiological procedures.

Perminova EP 2.0 provides clinicians and staff with the following capabilities:

- View all outstanding and pending doctor reports
- Electronically process all billing, and stream invoices into the professional billing work queue
- Bar code scan medications used during procedures
- Forward completed copy of doctor notes to referring doctor at end of case
- Track and manage patients across scheduling process through insurance authorization
- Track and manage changes to dates and doctors that would trigger a re-work in the process
- Manage last-minute patient additions as high priority
- Proactively manage workday by identifying and resolving bottlenecks before they occur

Perminova EP 2.0 is the first specialty module of Perminova Cardio, which is designed to be a fully integrated web-based cardiovascular information system. Software development is currently underway for Perminova Cath and Perminova Vascular, modules created for the cardiac catheterization and cardiac vascular specialties.

Furthermore, the modular design of Perminova's software will enable the company to add any number of surgical specialties from oncology to orthopedics to radiology. The company also has plans to monetize its robust, web-based data structure, as well as to extend its product platform into profitable new features.



These capabilities include the following:

- **Surgery Management Dashboard:** Allows nurses to efficiently manage the operating theater from setup to surgery to teardown to resetting.
- **Administration Dashboard:** Allows administrators to track clinical reports, procedure billings, materials and drugs that flow through the surgery center. Leverages current localized analytics and helps identify patient outcomes, facility efficiency and system metrics.
- **Patient Procedure Support:** Provides full support of procedure workflow, including reporting, scheduling and billing.
- **Multi-Site Analytics:** A powerful web-based tool that performs ETL on the OLTP databases, while loading an OLAP schema. System supports dashboard functions and subsequent research analysis. Cloud computing structure enables analysis of healthcare data both nationwide, as well as across single or multiple health systems.
- **Enhanced HL7 Integration:** Facilitates rapid integration with existing hospital infrastructure, resulting in short deployment times and low costs. Allows company to offer zero-cost, zero-risk software pilot program to customers.
- **Medical Device Integration:** Provides direct feed of data from medical devices to software, enabling Perminova to capture and store real-time data about vital signs, procedures, surgical information, pharmaceutical interaction and genomics. The company will charge device makers for integration and retain IP for use in devices library.
- **Strategic Partner Integration:** Allows strategic partners to store data on Perminova's cloud-based system, as well as for doctors to prescribe and order devices directly through Perminova software. This will provide an auxiliary revenue stream for the company.



A Large Market Poised for Growth

Perminova offers investors a platform with which to pursue several multi-billion-dollar markets within the fast-growing healthcare information technology sector. These markets include cardiovascular information systems (CVIS), general surgical information systems, and healthcare data analytics.

The company has made its initial beachhead in the CVIS market with the 2011 release of Perminova EP, which was developed for Cardiac Electrophysiologists. The firm's product roadmap calls for concurrent development of similar software modules to service the Cardiac Catheterization and Cardiac Vascular markets. Upon completion of these specialty modules, Perminova will have a robust CVIS offering, something healthcare customers have been loudly demanding. It's a market that provides Perminova with strong demand and an ample runway for growth.

According to the 2010 KLAS Report, fewer than 10% of all Cardiac EP labs in the U.S. had access to an EP-specific information system. Only about a quarter of Cardiac Vascular labs had such systems and fewer than a third of Cardiac Cath labs had specialized software. None of the hospitals had a web-based system and all of the competitors in the market offered only high-cost client-server software.

This leaves a large, open market available for Perminova. In the cardiac market, there are about 600 EP surgical centers, 2,000 Cath centers and 2,000 Vascular centers. This makes for an EP market of about \$230 million, with Cath and Vascular markets of \$790 million each. Perminova's total available market in the cardiac space is calculated to exceed \$1.8 billion.

Because Perminova is a browser-based system, additional modules can be added for general surgery, as well as a number of other surgical specialties. With over 4,000 surgical hospitals in the U.S., as well as over 6,000 ambulatory surgery centers, the market for a Perminova general surgery module would be \$2.3 billion in the hospital space and \$1.1 billion in the ambulatory surgery space. In addition to Perminova's surgical information capabilities, the company's cloud-computing, SaaS model enables it to pull data from throughout the hospital into the company's browser-based system.

With this in mind, Perminova has architected a data structure that's designed specifically for healthcare research and accompanying data analytics. This research platform represents a multi-billion-dollar market in-and-of-itself. As Perminova gains greater marketshare, it collects more data and thus becomes more valuable as a source of precise surgical information across numerous surgical centers.

The company believes there will soon be robust demand for the data the Perminova collects in the form of data analytics by healthcare providers, device makers, doctors, insurance companies and pharmaceutical firms. In summary, the dynamic combination of CVIS, general surgery and data analytics means that Perminova is poised on the edge of a high-growth, multi-billion-dollar opportunity.

Customers & Strategic Partners

Perminova is a post-revenue company with contracts at leading cardiology facilities such as UCSD Medical Center, San Diego, and Mount Sinai Medical Center, New York. Perminova EP™ software was developed in conjunction with cardiologists and technicians at UCSD Medical Center and has been deployed and operational throughout the UCSD Health System for the past two years.

The software has also been deployed at Mount Sinai, one of the nation's largest cardiology centers, ranking No. 11 on U.S. News & World Report's list of top heart hospitals. Perminova has booked over \$200k in revenue for 2011, with an additional \$300k in expected revenue before year-end.

The company has built a robust sales pipeline and is in contract discussions with a number of leading healthcare providers, including Mayo Clinic, Scripps Health and Loma Linda University Medical Center. Additionally, Perminova's browser-based software, web-based analytics and order-entry features, make the company a strategic asset for a host of cardiac device makers.

As a result, Perminova is in active discussions to develop strategic partnerships with leading device firms such as LifeWatch, C.R. Bard and St. Jude. Perminova expects that relationships with device companies will drive both direct revenue and national co-sales and co-marketing activities.





Standing: Eileen Lane, Robin Bisarya, Craig Collins **Seated:** Tiffany Dalton, John Dougherty

Management Team

Perminova has assembled a blue-chip management team to guide the company's growth, accelerate market adoption, and ensure successful product deployment. Members of the team have previously worked for successful start-ups, publically traded healthcare technology firms and Fortune 100 companies. Members of the Perminova team have been executives with such organizations as Cardinal Health, CareFusion, DAOU Systems, Pyxis, Smiths Medical and B. Braun Medical. The following is the current corporate and management structure for Perminova:

- **Craig K. Collins** - President & CEO
- **John Dougherty** - Chief Technology Officer
- **Robin Bisarya** - VP, Finance & Corporate Development
- **Tiffany Dalton** - VP, Operations & Customer Service
- **Eileen Lane** - VP, Sales & Marketing

Board of Directors

Perminova has a seasoned board of directors who collectively possess extensive experience managing and directing healthcare organizations, technology firms and high-growth, publically traded companies. Perminova's board is comprised of the following individuals:

- **Rory Moore** - Chairman, Perminova; Founder, Peregrine Semiconductor
- **Craig K. Collins** - President & CEO, Perminova, Inc.
- **Dr. Gregory Feld** - Founder, Perminova; Director Electrophysiology Cardiology, UCSD Medical Center
- **Robert Cass** - Founder
- **Carl Hartzel** - Founder

Board of Advisors

Perminova has assembled a world-class team of thought leaders and experts from a range of related industries, including healthcare, technology, government and business. These advisers are tasked with delivering cutting-edge insight to Perminova managers, as well as availing the company to a national and international network of business contacts. Perminova advisers include the following individuals:

- **Dr. Cleland Landolt** - Founder, Berkeley HeartLab
- **Dr. Gail Naughton** - CEO, Histogen; Director, C.R. Bard, Inc.; former Dean - SDSU College of Business
- **Steve Hall** - Former Sr. Partner & COO, Regent Surgical Health
- **Dr. Erik Viirre** - Director of Neurology, UCSD School of Medicine
- **Dr. Poonam Alagh** - Former Commissioner, Health & Senior Services, State of New Jersey
- **Marty Staszek** - Dir. of Software Development, Entropic Communications

Financials

The company is currently seeking a Series A Round of up to \$2.5 million to enable Perminova to market, sell and deploy its web-based Perminova EP software to major Integrated Healthcare Delivery Networks throughout the U.S. This round will be followed in late 2012 by a \$5 million Series B funding in order to accelerate market penetration and to develop additional web-based products and services for the healthcare industry. The company's revenue projections are as follows:

(\$ in millions)	2011	2012	2013	2014	2015
Revenue	\$0.32	\$3.86	\$16.83	\$46.72	\$85.26
Cost of Goods Sold	\$0.07	\$0.79	\$2.77	\$7.23	\$13.28
Gross Profit	\$0.25	\$3.07	\$14.05	\$39.48	\$71.97
Operating Expenses	\$1.32	\$6.42	\$9.75	\$12.38	\$15.63
Operating Profit	(\$1.07)	(\$3.35)	\$4.29	\$27.09	\$56.34

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