



Xylemed

Business Plan Executive Summary

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The whiteboard to the right is what tens of thousands of healthcare facilities around the U.S. use to manage patients and clinical staff. Large departments often have several whiteboards sharing the same data. Updating a whiteboard is manually intensive and compromises patient safety if information is not correctly synchronized across multiple whiteboards or departments. Xylemed Ember is a disruptive technology that leverages existing data to manage patient workflow, streamlining expenses and improving personalized patient care and safety. Xylemed Ember can help save over half a million dollars per year, per department.



Opportunity

Hospitals are complex environments, where hundreds of independent workflows must be executed with a high level of accuracy and coordination in order to provide timely, effective, and safe patient care. This requires frequent communication that has historically been accomplished through inefficient methods including phone, fax, paper, and face-to-face meetings.

For most areas of a hospital, patients and hospital resources are tracked on large whiteboards that must be manually updated. These whiteboards are often messy, difficult to read, and challenging to synchronize across multiple departments. Updating or reading the information either requires traveling to the board or calling a nearby desk—tying up additional staff members. The inefficiencies of a whiteboard have led departments to reduce the amount of information displayed, minimizing its potential value.

Most importantly, when information is not up-to-date or difficult to decipher, it compromises patient safety. As a patient moves from one department to another, such as in surgical procedures, information must correctly be transcribed from the medical record to the whiteboard. As hospital budgets get cut, medical staff is expected to do more, with less—increasing the risk of inaccurate information. Important patient alerts including fall risk, do not resuscitate, and dangerous allergies may be overlooked.

Information technology has been effective in solving individual problems such as charting, imaging, and billing, but the market lacks an integrated solution to bring the workflows together across disparate systems, facilitating the communication that must occur between staff, departments, and services. We believe a substantial opportunity exists to fulfill this need.

Market

In 2009, the American Recovery and Reinvestment Act appropriated more than \$27 billion in incentives that have helped fuel healthcare IT spending. Research conducted by Healthcare Information and Management Systems Society (HIMSS) in 2009 suggests that healthcare IT spending will experience 7.5% year over year growth from 2009 to 2014, raising total expenditures to nearly \$7 billion annually.

Based on 2009 US Census Bureau data¹ and HIMSS research², we estimate the target market size to be 62,352 medical-related facilities. This number is based on facilities with over 500 employees, and to which do not rely on a single-vendor system. A market of this size ensures a strong pipeline of prospects for sales and marketing activities.

¹<http://www.census.gov/econ/sub/>

²http://www.himss.org/content/files/jhim/23-2/JHIM_Spring_13Burke.pdf

Xylemed Ember

Xylemed Ember is a cloud-based electronic patient tracking and operations management system designed to streamline communications and improve the management of patients and clinical resources. It pulls information relevant to a patient's visit from existing systems including: name, demographics, and important medical data, and displays the information in a highly customizable, easy to read format. The application is web browser based, making it accessible from any workstation or mobile device with internet access. Ember is typically displayed on large wall-mounted monitors, replacing traditional whiteboards.

Ember is a modular technology platform capable of growing to meet the unique needs of any department. The platform currently has modules to support the workflows of multiple department types including surgery, radiology, inpatient (intensive care units and acute care units), outpatient (clinics and minor procedure based areas like endoscopy), and supporting departments such as patient transfer, chaplain services, lift team, and interpreter services. Ember can be integrated with nearly any medical information system through the use of data standards (HL7, SQL, CSV, and web services) to automate the workflows and reduce the need for manual entry of information. Our current installations include:

- Harborview Medical Center
- UW Medical Center
- Seattle Cancer Care Alliance

Resident	Ortho Spine	Ortho RED	Ortho BLUE	Ortho Foot	Ortho GREEN	Ortho Hand
	Laura Stoll R2 : 416-0269	Julien Dagenais : 416-5026	Dayne Middleton : 416-5036	ACE James Meeker (B) : 663-4277	RL Chris Burke : 416-5350	David Patton R2 : 416-0260
ARNP	Pat Merenda : 797-3412 (M-Th)	Karen Laemmle : 540-0522 (M-Th)	Moe Schmitt : 540-3071 (M-F) Elisa Roth : 540-2849 (M-Th)	ACE Ramon Francisco (S) : 540-6182	Gwyn Mannery : 697-1162 (M-F)	

PT	Speech	Social Work	STAT RN
961-9488 993-3332	541-6438 947-5603	541-0227 941-8459	540-3038 540-2332

Bed	Isolation	Pt Name	MRN	Nurse	Service	Status	Notes
25-1		zzDoe, John	X9999999	Kate 47427	Ther/Nurs	In	
26-1		zzDoe, John	X9999999	Melissa 47426	Ortho G	In	3
27-1		zzDoe, John	X9999999	TRACY 4-7436	Ortho B	In	
28-1		zzDoe, John	X9999999	TRACY 4-7436	Ortho R	In	
29-1		zzDoe, Jane	X9999999	XIJIAN 4-7432	Ortho G	In	
30-1		zzDoe, Jane	X9999999	TRACY 4-7436	NS	In	3
30-2		zzDoe, Jane	X9999999	Kate 47427	Crit	In	
31-1		zzDoe, John	X9999999	Melissa 47426	Complex	In	
31-2		zzDoe, John	X9999999	Kate 47427	Ortho B	In	
32-1		zzDoe, Jane	X9999999	Kate 47433	Ther/Nurs	In	
32-2		zzDoe, Jane	X9999999	XIJIAN 4-7432	Ortho S	In	
33-1		zzDoe, Jane	X9999999	Kate 47427	Ortho R	In	
33-2		zzDoe, Jane	X9999999	Melissa 47426	Ortho G	In	

Ember is a production ready application that has been designed, developed and validated in a clinical environment. It has been used in a live environment since July of 2008, and has tracked over one million patients and procedures including:

- 85,000+ Surgical Cases
- 850,000+ Radiology Exams
- 320,000+ Out-Patient Exams
- 30,000+ In-Patient Stays

Competitive Strategy

Our analysis of the competitive landscape is based on our research collected from the 2012 Healthcare Information and Management Systems (HIMMS) IT Conference in Las Vegas and additional market research. Competitive solutions are primarily focused on the Emergency Department and Emergency Department Information Systems (EDIS) and are all in-house hosted solutions; creating an opportunity for Ember in other hospital departments.

Hospital IT systems are primarily categorized as enterprise or best-of-breed. Enterprise hospital IT systems are made up of solutions from a single vendor. Best-of-breed hospital IT systems are made up of applications from different vendors that are identified as the best choice for each particular usage. According to a case study put together by The Journal of Healthcare Information Management¹, approximately 39% of hospitals utilize a best-of-breed model.

Primary best-of-breed competitors include:

- MedHost EDIS
- Wellsoft EDIS
- Allscripts Tracking Board

Enterprise-level competitors include:

- Cerner
- McKesson
- Epic

Ember Advantages:

- ✔ Best-in-breed integration—vendor agnostic and can integrate with a variety of third-party Electronic Health Records and other medical information systems
- ✔ Offers a consistent presentation experience between all departments of the hospital, no matter what information system is used
- ✔ Flexible configuration fits any workflow

Ember Disadvantages:

- ✘ Not a vertically integrated system – requires other medical documentation systems

Ember Differentiation:

- ✔ Cloud hosted
- ✔ Surgery, in-patient, and out-patient units are primary focus; versus secondary to Emergency Department
- ✔ Developed in a hospital to address the unique needs of doctors, nurses, and patients

¹http://www.himss.org/content/files/jhim/23-2/JHIM_Spring_13Burke.pdf

Marketing & Sales Strategy

Our initial target market will be departments of surgery because they have large budgets, are typically a profit center for hospitals, and are likely to receive the most value from the product. Once a product has proven to be successful inside of a hospital, other departments are more likely to adopt the technology.

Potential future markets include medical-related facilities with fewer than 500 employees, including clinics and doctor's offices. Many smaller hospitals do not have the IT budgets necessary to install costly medical information systems. While Ember works best when integrated with other information systems, it can be configured to be a stand alone product and still provide many of the same benefits.

Sales Channels

Ember requires a direct sales channel—a common approach within the Healthcare IT market. The sales process is expected to be long and require multiple decision-makers. Once a sale is made, we expect that the solution will be sticky due to high switching costs associated with multiple integrations and retraining.

There is a strong potential for additional sales within a single hospital or network of hospitals as other departments see the system in use and the ROI it provides.

Journals and conferences will be another means to generate demand for Ember. By completing ROI studies and publishing white papers, the product will gain a wider audience—generating potential leads.

Xylemed Ember sales team will leverage the following benefits:

- ✓ Reducing operational expenses
- ✓ Increasing patient safety
- ✓ Increasing room turnover rate
- ✓ Increasing employee productivity
- ✓ Reducing human error

Technology Rights

Ember was developed at Harborview Medical Center in Seattle, WA, which is managed by the University of Washington. All work was completed by UW employees, meaning the University has full ownership of the technology. Xylemed is currently working with Angela Loihl at the Center for Commercialization (C4C), the department at the UW responsible for the transfer of internally developed technology, to acquire a sole and exclusive license of Ember. The licensing agreement is expected to be complete by June of 2012.

Pricing Strategy

Pricing is based on a single install, and will be discounted for additional installations at the same hospital. Revenues include implementation and integration fees for the initial setup and customization work, along with a reoccurring subscription fee because the software will be offered as a hosted service. While each installation will require a custom quote based on the work required, the average revenue is expected to be \$50,000 for initial setup fees and \$36,000 per year in subscription fees per department.

Financial Strategy

Assumptions:

Year 1-5 Growth Rate:	300%
Multi-Unit Conversion Rate:	50%
Average # of Installations in a Multi-Unit Facility:	6
Multi-Unit Discount:	20%
Licensing Expense:	3%
Hosting Expense per Facility:	\$ 7,500

Revenue

		Year 1	Year 2	Year 3	Year 4	Year 5
Single-Unit Sales		3	9	27	81	243
Multi-Unit Sales		1	2	5	14	41
Cumulative Total Installs		13	42	119	340	993
Implementation Revenue	<i>Unit Price:</i>					
Single Unit NRE	\$ 50,000	\$ 150,000	\$ 450,000	\$ 1,350,000	\$ 4,050,000	\$ 12,150,000
Multi-Unit NRE	\$ 40,000	\$ 400,000	\$ 800,000	\$ 2,000,000	\$ 5,600,000	\$ 16,400,000
Total Implementation Revenue		\$ 550,000	\$ 1,250,000	\$ 3,350,000	\$ 9,650,000	\$ 28,550,000
Subscription Licensing Revenue	<i>Unit Price:</i>					
Single Unit	\$ 36,000	\$ 10,800	\$ 432,000	\$ 1,404,000	\$ 4,320,000	\$ 13,068,000
Multi Unit	\$ 28,800	\$ 28,800	\$ 864,000	\$ 2,304,000	\$ 6,336,000	\$ 18,144,000
Total Licensing Revenue		\$ 39,600	\$ 1,296,000	\$ 3,708,000	\$ 10,656,000	\$ 31,212,000
Total Revenues		\$ 589,600	\$ 2,546,000	\$ 7,058,000	\$ 20,306,000	\$ 59,762,000

Expenditures

Product Cost						
Licensing	3%	\$ 17,688	\$ 76,380	\$ 211,740	\$ 609,180	\$ 1,792,860
Hosting	\$ 7,500	\$ 30,000	\$ 82,500	\$ 240,000	\$ 712,500	\$ 2,130,000
Total Product Cost		\$ 47,688	\$ 158,880	\$ 451,740	\$ 1,321,680	\$ 3,922,860
Staffing Expenditures		\$ 422,960	\$ 1,098,300	\$ 2,583,000	\$ 6,870,500	\$ 19,736,700
Overhead Expenditure		\$ 133,112	\$ 149,408	\$ 444,856	\$ 555,760	\$ 815,832
Total Expenditures		\$ 603,760	\$ 1,406,588	\$ 3,479,596	\$ 8,747,940	\$ 24,475,392
Net Income Before Tax		\$ (14,160)	\$ 1,139,412	\$ 3,578,404	\$ 11,558,060	\$ 35,286,608

Estimated Yearly Department Savings

Average Surgeon Salary[1]	\$225,390
Average Nurse Salary[2]	\$68,160
Doctors time savings per year (2 hours a week)	104
Nurse time savings per year (4 hours a week)	208
Average # of doctors in a surgical department	20
Average # of nurses in a surgical department	60
Total yearly savings per doctor	\$11,269.50
Total yearly savings per nurse	\$6,816
Total Yearly Savings	\$634,350

[1] <http://www.bls.gov/oes/current/oes291067.htm>

[2] <http://www.bls.gov/oco/ocos083.htm>

Investment Needs

We seek to raise initial funding of \$400,000 to cover start-up costs and provide financial stability during first year due to the long sales cycle. This funding would allow us to validate the market and achieve profitability by early year two. We anticipate raising additional funds in 2013 to accelerate sales growth.

Team

Ben Andersen, CEO, MBA Student

Ben is the inventor and developer of Ember. He worked at Harborview Medical Center for the last five years, where he developed his passion for medical informatics after seeing how software could have such a positive impact on the healing of patients. He designed, created, and developed Ember when he found an unmet need in the market, and drove adoption to all of UW Medicine. Prior to working at Harborview, Ben started a technology consulting company that focused on software for property based service management.

Marc Brown, COO, MBA Student

Marc is a member of the executive leadership team at Conenza, a Seattle-based start-up. He manages the Customer Success team which is focused on application implementation and customer relationship management. Prior to Conenza, Marc led the account and program management team responsible for the IBM OEM relationship at Quantum Corporation.

Exit Strategy

The healthcare IT industry is currently seeing significant consolidation of firms. We anticipate Xylemed would be an attractive acquisition target once annual revenues exceed \$10 million (est. year 4).

Anoop Gupta, CTO, MBA Student

Anoop Gupta worked for Microsoft providing strategic and technical guidance to OEMs around the world on integrating next generation software solutions. Previously, Anoop spent five years as a Senior Consultant working for Microsoft Consulting Services where he worked on projects across all industry verticals helping Fortune 500 companies to startups with mobility application architecture.

Jason Imani, CMO, MBA Student

Jason worked at Virginia Mason Medical Center developing inbound marketing strategies to drive key service line growth, as well as provide strategic and tactical-level implementation of VM's consulting practice. Previously to VM, Jason started his own web marketing agency.

Glen Jensen, CFO, MBA Student

Glen has 9 years work experience in corporate finance and IT roles and is a licensed CPA. Since undergrad he has worked in the tech industry for Intermed Technologies and Panasonic Avionics.