2017 North American Hospital Enterprise Management Platforms Product Leadership Award
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Background and Company Performance

Industry Challenges

Time and efficiency are critical factors in achieving successful medical outcomes for patients. Although healthcare providers’ services leave no margin for error, there are numerous indicators that confirm IT solutions have lagged behind other industries. This situation leaves room for hospitals to improve their current outcomes-based performance metrics. Much of the progress that has been achieved for IT solutions has been a result of requirements imposed on healthcare systems by government agencies. Yet several performance challenges remain. This includes achieving interoperability across the various provider environments, and utilizing technology to decrease the time required by healthcare providers to perform vital functions or respond to critical emergencies. Of particular interest to nursing administrators, the capability to spot and react to potential serious patient issues before they occur will save many lives each year. Reducing the time required to communicate a potential issue to the appropriate care team member, who can respond quickly, even before an emergency code has been generated, would offer the potential to save lives.

One of the specific challenges facing healthcare providers has involved responding quickly to intra-hospital codes, such as the Code Blue, which generally relates to a cardiopulmonary emergency. According to the American Heart Association, in 2016 the survival rate for in-hospital cardiac arrest was 24.8%, down from the 25.5% reported in 2015. It appears clear that despite the serious nature of this condition, there is room for technology to increase the survival rate within the walls of a hospital in a meaningful way.

One company that has demonstrated product leadership that has stimulated improved efficiency and improved Code Blue outcomes, where it has been implemented, is ThoughtWire, a company based in Toronto, Canada that is now offering services within Canada and the United States. ThoughtWire has developed the Ambiant platform which combines the capability of people, processes and science along with its technology to improve efficiency and improve outcomes. Frost & Sullivan recognizes ThoughtWire as demonstrating product leadership in the healthcare industry.

Product Family Attributes and Business Impact

Match to Needs

Hospitals have been grappling with the need to automate long-standing processes in order to drive better outcomes. Among the most visible challenges is the need to achieve faster communications within the hospital enterprise structure that is as robust as the solutions implemented in other industries; such as finance, manufacturing, and e-commerce. All healthcare stakeholders have experienced frustration with intra-hospital communications which may appear inferior to everyday communications systems and the often-mentioned Internet of Things (IoT). ThoughtWire has developed technology that has harnessed the power of the IoT within the hospital. The company has combined this with machine

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1 [http://cpr.heart.org/AHAECC/CPRAndECC/General/UCM_477263_Cardiac-Arrest-Statistics.jsp](http://cpr.heart.org/AHAECC/CPRAndECC/General/UCM_477263_Cardiac-Arrest-Statistics.jsp)
Intelligence to present clients with a “frictionless interface.” ThoughtWire has stimulated improved outcomes by combining people, process improvements, and science with its technology. The Ambiant platform has been developed and tested by visionary thought leaders and scientists. The result is an automation platform that augments the health care team of nurses and intra-hospital first responders to create an improved standard work flow that drives better outcomes within hospitals.

Frost & Sullivan believes that ThoughtWire has demonstrated the ability to match the needs among hospitals to benefit from essential technology that improves critical aspects of the hospital workflow in a measurable way.

**Operational Efficiency**

ThoughtWire has developed a platform that creates an intra-hospital IoT which connects critical components which consist of communications devices and response systems that formerly operated in a standalone manner. ThoughtWire’s breakthrough has been to create a dynamic real-time hospital communication system that offers the patient-care team the ability to get a response team mobilized as soon as a critical event is spotted. In fact, the Ambiant platform includes the clinical surveillance capabilities to spot a potential medical crisis before it occurs and initiate an immediate response with the benefit of the extra lead-time that serves to improve the potential outcome for the patient.

One notable example is Hamilton Health Sciences, based in Hamilton, Ontario, Canada which has been working to eliminate Code Blue alarms from their acute care facilities. Hamilton has acknowledged the results of clinical research that found that there are early indicators of a patient’s declining health that could be utilized to predict and prevent adverse events from happening. Hamilton Health Sciences collaborated with expert organizations including ThoughtWire and IBM Canada to implement an early warning system (EWS). They leveraged ThoughtWire’s Ambiant Health Platform to create an Early Warning Score that works in conjunction with their Meditech EHR in real time. Nurses are able to capture vital signs at the bedside on a mobile device which populates the Meditech EHR to compute the EWS. The operational efficiency is based on an EWS that drives a standard set of notifications and responses from the appropriate members of the care team based on the machine intelligence derived from using the Ambiant Health Platform.

The initial results of the EWS include a 6% reduction in situations requiring a Code Blue Alarm. In addition, the EWS resulted in a 17% decrease in the number of Critical Care Response Team consults requiring ICU admission.

Frost & Sullivan is impressed with the contribution of ThoughtWire’s Ambiant Platform to help healthcare providers improve operational efficiency in a measurable way.

**Reliability/Quality**

ThoughtWire has demonstrated the ability to provide a platform that may be integrated with internal hospital systems to demonstrate improved outcomes based on the ability to communicate quickly and efficiently within the hospital. The company has demonstrated positive results at Hamilton Health Sciences and the Humber River Hospital in Toronto. Humber turned to ThoughtWire and a wireless systems vendor, ASCOM to improve
communications by creating an advanced wireless phone for nurses.

ThoughtWire working as a systems integrator, and Ascom, an innovative mobile device manufacturer, created a high-quality solution whereby nurses can closely monitor cardiac patients from anywhere in the hospital, since the phones display cardiac rhythm strips.

Frost & Sullivan acknowledges ThoughtWire as a category leader based on its accomplishments in developing high-quality communications systems with proven results improving patient outcomes.

**Human Capital**

Healthcare institutions are greatly dependent on the expertise and availability of their physicians, nursing professionals and specialized medical technicians. The workforce is healthcare’s human capital and represents its greatest asset. Human or material capital are measured by return-on-investment (ROI). In the case of the human workforce, technology is an enabler that can extend the limits of even the most highly trained expert to reach additional milestones and accomplishments. ThoughtWire has established a leading position as a communication platform provider and systems integrator that can work by itself or with partners to extend the capabilities of the hospital’s work force. The company has contributed to progress in creating real-time hospital-based communications systems, early warning systems, and improved operational workflow which in-turn increases the ROI from the hospital staff.

Thoughtwire’s machine intelligence platform utilizes situational awareness to drive intelligent automation and real-time communications across the medical staff, systems and mobile devices. This technology expands the full potential of information and technology, ThoughtWire has proven its ability to help organizations leverage their precious human capital by driving increased value, productivity, and operational agility in a completely new way.

Frost & Sullivan is impressed by ThoughtWire’s mission and accomplishments which have benefited patients and saved many lives.

**Growth Potential**

ThoughtWire was established in 2009 as a technological innovator in the Canadian Healthcare market. The Ambient platform has proven to be effective in helping hospitals to successfully automate their communications and systems to stimulate measurable improved outcomes. ThoughtWire has embarked along a promising potential for growth based on its appeal to the needs of Hospital management along with the proven ability to participate with leading technology partners such as IBM Canada, GE Healthcare and others. Recently it was announced that GE Healthcare Partners and ThoughtWire have agreed to embark on a five-year partnership help health systems and hospitals implement new digital tools. In addition, the company has patents issued in Canada, the U.S., U.K. and Germany.

Frost & Sullivan believes that ThoughtWire has established itself quickly and all indicators point to a strong growth potential that will benefit its direct customers and their patients.
for years to come.

**Positioning**

ThoughtWire has positioned itself well as an expert technology provider that can transform disconnected systems and devices into a high quality connected environment that can increase the ability of healthcare professionals to improve operational efficiency, the ROI on systems and the productivity of human capital. It has demonstrated thought leadership in developing a completely home-grown and innovative technology platform as well as the ability to work with leading technology companies. The company has produced detailed case studies that illustrate innovative progress. Yet rather than engaging in claims and boasting, these case studies have been presented from a perspective based on the eye of the customer.

**Conclusion**

The healthcare industry has been challenged to increase its deployment of IT and communications platforms as way to improve operational efficiency, and most important, patient outcomes. Many hospitals have installed EHR’s or other digital technology, but there has remained the problem of connecting the devices within the department. Also, despite internal systems, the time needed to respond instantly to emergencies has remained as high-caliber, yet lagging behind the concept of the IoT. There has also been interest in increasing the potential for clinical surveillance systems to be used to create early warning indexes or scores. The ability to rapidly analyze patient information derived from clinical observations, monitor readings and to integrate the electronic health record to create a warning score, has also been elusive.

ThoughtWire has emerged as a company capable of solving these challenges by creating its platform, Ambiant. ThoughtWire has also partnered with leading technology-based companies, such as IBM Canada, and GE Healthcare Partners to work as a system integrator connecting new innovations to create a communications platform.

For its strong overall performance, ThoughtWire has earned Frost & Sullivan’s 2017 Product Leadership Award.
Significance of Product Leadership

Ultimately, growth in any organization depends upon customers purchasing from a company and then making the decision to return time and again. A comprehensive product line, filled with high-quality, value-driven options, is the key to building an engaged customer base. To achieve and maintain product excellence, an organization must strive to be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.

Understanding Product Leadership

Demand forecasting, branding, and differentiating all play a critical role in finding growth opportunities for your product line. This three-fold focus, however, must be complemented by an equally rigorous focus on pursuing those opportunities to a best-in-class standard. Customer communications, customer feedback, pricing, and competitor actions must all be managed and monitored for ongoing success. If an organization can successfully parlay product excellence into positive business impact, increased market share will inevitably follow over time.
Key Benchmarking Criteria

For the Product Leadership Award, Frost & Sullivan analysts independently evaluated two key factors—Product Family Attributes and Business Impact—according to the criteria identified below.

Product Family Attributes
- Criterion 1: Match to Needs
- Criterion 2: Reliability and Quality
- Criterion 3: Product/Service Value
- Criterion 4: Positioning
- Criterion 5: Design

Business Impact
- Criterion 1: Financial Performance
- Criterion 2: Customer Acquisition
- Criterion 3: Operational Efficiency
- Criterion 4: Growth Potential
- Criterion 5: Human Capital

The Intersection between 360-Degree Research and Best Practices Awards

Research Methodology

Frost & Sullivan’s 360-degree research methodology represents the analytical rigor of our research process. It offers a 360-degree-view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan’s research methodologies. Too often companies make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry participants and for identifying those performing at best-in-class levels.
About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best-in-class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best practice models to drive the generation, evaluation, and implementation of powerful growth strategies. Frost & Sullivan leverages more than 50 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on six continents. To join our Growth Partnership, please visit http://www.frost.com.