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Lien Foundation, PulseSync and 11 Healthcare NonProfits Pioneer S\$3.5mil IT Initiative

Groundbreaking enterprise resource planning (ERP) solution will raise healthcare level and corporate governance

1. The Lien Foundation and information technology (IT) solution provider PulseSync, is collaborating with 11 nonprofits to develop an integrated healthcare ERP system, titled **IngoT**. This comprehensive ERP system covers financial, inventory, human resource, donor and volunteer management as well as patient administration and management, including electronic medical records.
2. "IngoT has sparked off a whole new way for the non-profit healthcare sector to exploit IT. It is seminal due to the collective and collaborative way the ERP solution was created, and how we made the cost so affordable. The name IngoT was coined to demonstrate how IT is stretching the potential of non-government organisations (NGOs)," said Lee Poh Wah, Programme Director, Lien Foundation.
3. This is the first time that non-profit healthcare providers are collaborating to build a common integrated ERP platform across the sector to optimise resources, improve productivity, and raise patient care and corporate governance to new levels. They are: Home Nursing Foundation (HNF), HCA Hospice Care (HCA), National Kidney Foundation (NKF), Tsao Foundation, St Luke's Hospital, Peacehaven Nursing Home, Singapore Cancer Society, Assisi Hospice, St Joseph's Home, Renci Code 4 (Home Care) and TOUCH Home Care.

4. Mr Lee added, "The Foundation initiated IngoT to demonstrate that strategic IT investment can help healthcare nonprofits turn world-class. IT needs to be the backbone of Singapore's integrated healthcare system. We convened this consortium with a common vision to extend their capabilities, raise the performance ceiling and achieve professional standards. This is especially important as these nonprofits are faced with increasingly expanded roles and responsibilities in service delivery as Singapore's healthcare needs escalate."
5. This S\$3.5m initiative is kicked off by a S\$1.6m funding from the Lien Foundation, with the rest of the amount coming from the consortium. Technology partner Microsoft provided charity pricing on their products, as well as an additional S\$50,000 in funding. Solution Architect and Developer , PulseSync provided the know-how to create the ERP system.
6. "To ensure that the IngoT system will fully serve the consortium's needs, two major workgroups comprising employees, volunteers and professionals from the 11 nonprofits were formed to look into medical informatics and best practices, and financial and corporate governance standards," said Ken Tan, Managing Director, PulseSync. He added, "This ground-up approach enabled us to diagnose and architect solutions to directly address the consortium's different organizational needs as they provide services ranging from intermediate to long term healthcare services, such as hospice care, home medical care, home nursing care, in-patient nursing care, geriatric outpatient care and dialysis services."
7. The HNF, HCA and NKF are amongst the first organisations to implement the ERP system. Mrs Fang Ai Lian, President of HNF and Chairman of The Charity Council said, "IngoT has replaced HNF's previously fragmented IT structure with a practical ERP solution that translates to better patient records management, reduced waiting time and improved patient care." She added, "The ingenious management dashboard module will boost transparency and accountability, giving charities like HNF a leg-up in corporate governance."

8. This collaborative effort is a significant signal that nonprofits are serious about improving their capacity and accountability, thereby leading to an increased public confidence in this sector. NKF's Chairman, Mr Gerard Ee said, "IngoT presented the perfect opportunity for NKF as we were looking for a new system for our operations. We are also excited to be part of the non-profit healthcare community pioneering this IT development. This ERP system gives us a chance to optimise our resources and create greater value. For example, IngoT's donor & fundraising management module can give donors greater assurance with its reporting and tracking features, leading to improved donor relations for NKF in the long term."
9. Work on IngoT started in January 2007 and is targeted to be completed by end 2008. Collectively, the 11 nonprofits serve more than 15,000 patients annually. When completed, IngoT will be ready to 'connect' with the government's EMRX (electronic medical record exchange) system.
10. IngoT has two kinds of implementation models: On-premise Deployment or Hosted Solution. Organisations with bigger operations and large numbers of patients like HNF, HCA and NKF, will use the on-premise model where they will host and own their hardware servers as well as software solutions. The other option of the Hosted Solution is suitable for smaller organisations. A third party data centre will host the solution for an affordable monthly fee, saving them hefty upfront capital investment and allowing them to still benefit from the ERP system.
11. IngoT's seamless ERP system will create intra data integration, enable and facilitate information sharing across the consortium by standardisation and harmonisation of informatics and best practices. This will enable better research and reduction of medical errors as well as higher productivity, faster decision making and ultimately, improved care delivery to patients.

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Annexes attached

- Factsheet on IngoT
- HNF Case Study

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About Lien Foundation

www.lienfoundation.org

The Lien Foundation was founded by Dr. Lien Ying Chow, an eminent business leader, banker and hotelier. His influence extended beyond the private sector and Singapore, as a community leader, diplomat and philanthropist.

Today the Lien Foundation continues Dr Lien Ying Chow's legacy of good work in helping the needy and deprived in our society. The Foundation drives institutional capacity building to address crucial community needs, and empowers individuals to reach their full potential. It is pioneering new ground for organized philanthropy in Singapore by convening strategic partnerships and catalyzing action on social and environmental challenges.

Besides championing excellence in eldercare, the Foundation also seeks to enhance educational opportunities for the disadvantaged and the development of nascent fields of studies; and promoting environmental sustainability in water and sanitation.

About PulseSync

PulseSync Pte Ltd is a "purpose driven" company that specialises in improving of productivity, quality of care and efficiency of healthcare providers. The company provides software, technology and custom application development which brings about "purpose driven" results and positive ROI by leveraging on healthcare specific business process knowledge and state-of-the-art information technologies to bring about powerful and yet affordable process improvements and solutions.

PulseSync has a diverse range of solutions such as patient administration and management, electronic medical records, finance management, patient accounting and clinical management. These solutions cater to the dynamic needs of intermediate and long term healthcare providers offering services like hospice care, home medical and nursing care, convalescent care, nursing homes, rehabilitation, geriatric outpatient clinic and dialysis/renal care. PulseSync's key expertise also lies in implementing mobile healthcare solutions.

INGOT KEY FACTS & FIGURES

What does IngoT stand for?

The term *IngoT* was coined to represent the opportunities and potential transformation that the use of information technology (IT) can have on nonprofits and non government organisations (NGOs). The letters 'NGO', embedded within the larger discipline of IT, demonstrates how the use of IT is stretching the potential and promise of NGOs to the fullest.

What is Project IngoT?

Project IngoT is a first-of-its-kind collaborative initiative to build an integrated healthcare Enterprise Resource Planning (ERP) system across 11 healthcare nonprofits.

The groundbreaking healthcare informatics project is conceived and driven by **The Lien Foundation**, with **PulseSync** as its solution architect and developer. The project will help optimise resources, raise productivity, improve patient care, assist in research and sharpen corporate governance. IngoT is also supported by software and hardware technology partner Microsoft.

The ERP system will comprise key areas such as accounting, financial and inventory management, human resources, donor management, management dashboard, patient administration, electronic medical record and clinical management.

When was the project started?

Work commenced in January 2007 and is target to complete by end 2008. In total, the project will span a period of about 18 months.

Benefits of Project IngoT

- Resource optimisation/cost savings
- Better patient care
- Unification of medical informatics standards
- Information sharing enable more efficient research capabilities
- Greater transparency, better corporate governance
- Improve NGO's acceptance and ability to harness IT to deliver better healthcare services

INGOT AT A GLANCE

The People Behind IngoT

IngoT was conceived & spearheaded by: **The Lien Foundation**

Solution Architect & Developer: PulseSync

Solution Adopters: (11 non-profits)

- **Home Nursing Foundation**
- **HCA Hospice Care**
- **National Kidney Foundation**
- **Tsao Foundation**
- **St Luke's Hospital**
- **Peacehaven Nursing Home**
- **Singapore Cancer Society**
- **Assisi Hospice**
- **St Joseph's Home**
- **Renci Code 4 (Home Care)**
- **TOUCH Home Care**

Technology Partner: Microsoft

Key Statistics of the 11 Non-Profits

- **Total no. of Doctors:** 46
- **Total no. of Nurses:** 716
- **Total no. of Patients Served:** more than 15,000
- **Total Annual Income:** \$127.4 m
- **Projected Return on Investments:** Targeted 20% increase in productivity per organisation

Key Financial Statistics

Total Project Investment (including partners): \$3.5 m

Comprising...

- **Lien Foundation:** \$1.6 m
- **PulseSync:** Technology know-how
- **11 Non-Profits:** \$1.85 m
- **Microsoft (IT Supporter):** \$50,000 (in-kind and in-cash) and charity pricing for software

INGOT SOFTWARE MODULES AND FEATURES

Module	Software Features
Financial/ Inventory Management	<p>This module includes financial features such as General Ledger (GL), Fixed Asset (FA), Account Payables (AP), Account Receivables (AR) and Inventory.</p> <p>Specially built add-on programs include:</p> <ul style="list-style-type: none"> ▪ Cost Allocation – to facilitate Activity Based Accounting and RAP 6 reporting ▪ Budget allocation and tracking ▪ Specially customized reports (as required by MOH, MCYS, NCSS, IRAS, etc)
Clinical Management	<p>This module allows each non-profit organisation to:</p> <ul style="list-style-type: none"> ▪ Manage patient’s referral, admission, discharge and transfer (RADT) information ▪ Maintain/manage Electronic Medical Record (EMR) for all patients. Broadly, it comprises: <ul style="list-style-type: none"> - Comprehensive/Full assessment of patient condition - Tracked treatment progress - Records like patient allergy, medication, prescription & any other problems ▪ Electronically schedule & track patient visits & appointments ▪ Generate reports (e.g. ad-hoc reports, memorandum, referral letter, discharge summary, etc) ▪ Capacity planning (between nurses & doctors) ▪ Extensible to Mobile platform (e.g. Point of Care or Home Medical) ▪ Electronic patient accounting (e.g. billing)
Donor Fundraising Management &	<p>This module manages/tracks fundraising campaigns, thus strengthening donor/sponsor relationship via the following features:</p> <ul style="list-style-type: none"> ▪ Detailed capture of individual/corporate donor information – including donation amounts and frequency ▪ Campaign leads management and performance tracking ▪ Report generation (e.g. analysis of donor/ sponsorship trends), data-mining and analysis
Volunteer Management	<p>This module strengthens volunteer relationships and manages volunteer programmes via the following features:</p> <ul style="list-style-type: none"> ▪ Detailed capturing of volunteer data and programme matching (based on individual skills, expertise, availability periods and preferences) ▪ Tracking & management of various volunteer programmes (e.g. costs, manpower allocation & other resources) ▪ Report generation, data-mining and analysis

Module	Software Features
Human Resource Management System	<p>This module is a specially developed, web-based employee portal which allows for:</p> <ul style="list-style-type: none"> ▪ Self-service leave monitoring, application & tracking ▪ Self-service claim submission, monitoring, application & tracking ▪ Tracking of training and appraisal (by employee and HR Manager) ▪ Integration of Payroll with Financial System ▪ Staff Resource Reports
Management Dashboard	<p>This specially customized web-based module provides a “helicopter” view for key decision makers (e.g. GM, CEO, Board Members) of each organisation. Key indicators include:</p> <ul style="list-style-type: none"> ▪ Patient Statistics (e.g. patient load, number of visits, patient admission & discharge, average length of stay, etc) ▪ Financial Information – Cash Flow, P&L and B/S, Ageing Reports ▪ HR/ Manpower statistics ▪ Income & Expenses (I&E) ▪ Donor and Donation statistics ▪ Fundraising Campaign statistics ▪ Management and Statistical Reports

Home Nursing Foundation Case Study

Situation

Home Nursing Foundation (HNF) was established in Singapore in 1976 to provide quality and affordable home nursing services for the needy, elderly and the sick. As a non-profit organisation, HNF provides heavy subsidies to its needy elderly patients. In FY 2005/06, HNF nurses made 30,416 home nursing visits, serving 4,341 patients.

Today, the complexity of the organisation's operations has grown as HNF expanded its scale of operations over the years. However, this was not mirrored in terms of its operational infrastructure such as IT and other systems. Many work processes continued to rely on manual documentation and updating, and basic excel spreadsheets or the use of off-the-shelf software.

IT investment was not strategic in nature. Purchases were often limited to stand-alone hardware and software equipment. This spawned fragmented systems that could not capture or share information well.

In 2005, HNF took a step forward by launching a new Mobile Patient Data System (MPDS), a special project initiated by Lien Foundation. The project's success totally transformed the way IT is viewed and used. Today, HNF nurses obtain, manage and update their patient records on-the-fly through their personal digital assistants (PDA) as the MPDS allows them to save time and be more productive. Their daily patient visits have almost doubled: from 3-4 per day, to 6-7 per day.

With growing patient load over the years and in anticipation of higher demand of home nursing services with Singapore's aging population, HNF has decided to move to the next level. Further leveraging IT to help them scale up their operations - making them more efficient, effective and raising the overall professional standards of their care delivery. With this in mind, HNF volunteered to receive a total revamp under Project IngoT.

How Project IngoT will transform HNF

Like MPDS, Project IngoT will once again further revolutionise the way HNF operates. In replacing HNF's previous fragmented IT structure with a practical, cost-effective Enterprise Resource Planning¹ (ERP) solution, it allows for HNF to reap the following benefits:

¹ An ERP (which stands for "Enterprise Resource Planning") is an integrated all-in-one IT solution, very much akin to how an orchestra works, where every function such as human resources, accounting, finance, inventory management, clinical care will be able to see and work with one another, exchange information, flagging and giving cues to ensure everything move in tandem, in unity and in harmony.

1. Improved Productivity, Resource Optimisation and Cost Saving

- Workflow and processes will be transformed to reduce wastage, medical error, duplication and other human inefficiencies.

2. Better Patient Care

- IngoT will allow HNF to better manage patient information and medical record access. With access to accurate and up-to-date patient information, nurses are able to make clear and informed decisions, leading to better and faster treatment, reduced waiting time for the patients, lower healthcare cost.

3. Greater Knowledge Sharing & Collaboration

- IngoT will promote a collaborative culture within HNF. For example, nurses can now access the entire databank of patient information which is constantly updated. With timely patient psychosocial information, social workers can now work hand in hand with nurses to assist patients or families in need. Fundraising campaign information (e.g. cost, amount raised, sponsorship, activities/phone logs, etc) can also be shared with relevant personnel to drive and support campaign efforts.

4. Greater Transparency/Corporate Governance

- IngoT comes with a powerful financial system that allows HNF to better manage financial and accounting needs such as patient billing/accounting. In addition, the financial system is configured and customized to facilitate activity based accounting and reporting (e.g. RAP 6) required by regulators, ministries and agencies.
- One of the most important IngoT features is the management dashboard that allows stakeholders, including board members, management, and staff, to view and analyse critical business and healthcare/medical information on demand.
- The system automates the way data is acquired, analysed and presented, providing timely information for management to make better and well informed decisions.

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