



Taurus Glocal

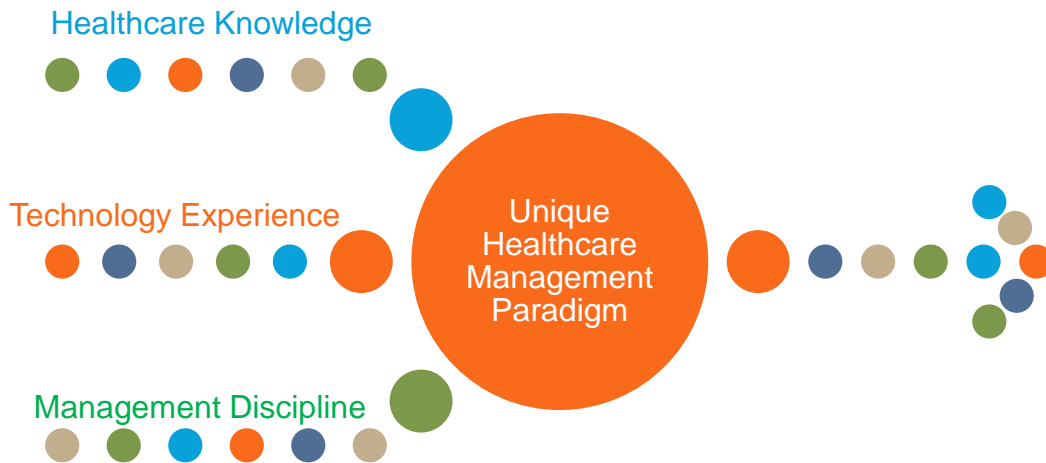
TG PROFILE
DR PANKAJ GUPTA

Contact:
sales@taurusglocal.net

Website:
www.taurusglocal.com
www.taurusglobal.com
www.taurusglobalsourcing.com

4/17/2017

WHY TAURUS GLOCAL CONSULTING?



Exclusively focused on eHealth and Healthcare management consulting

Founded by doctors with healthcare management and technology experience

Provide a vision and link to the future of the Healthcare industry

Portal between vision and execution

Works as a part of the clinical team to deliver value

BRIDGE BETWEEN VISION AND EXECUTION

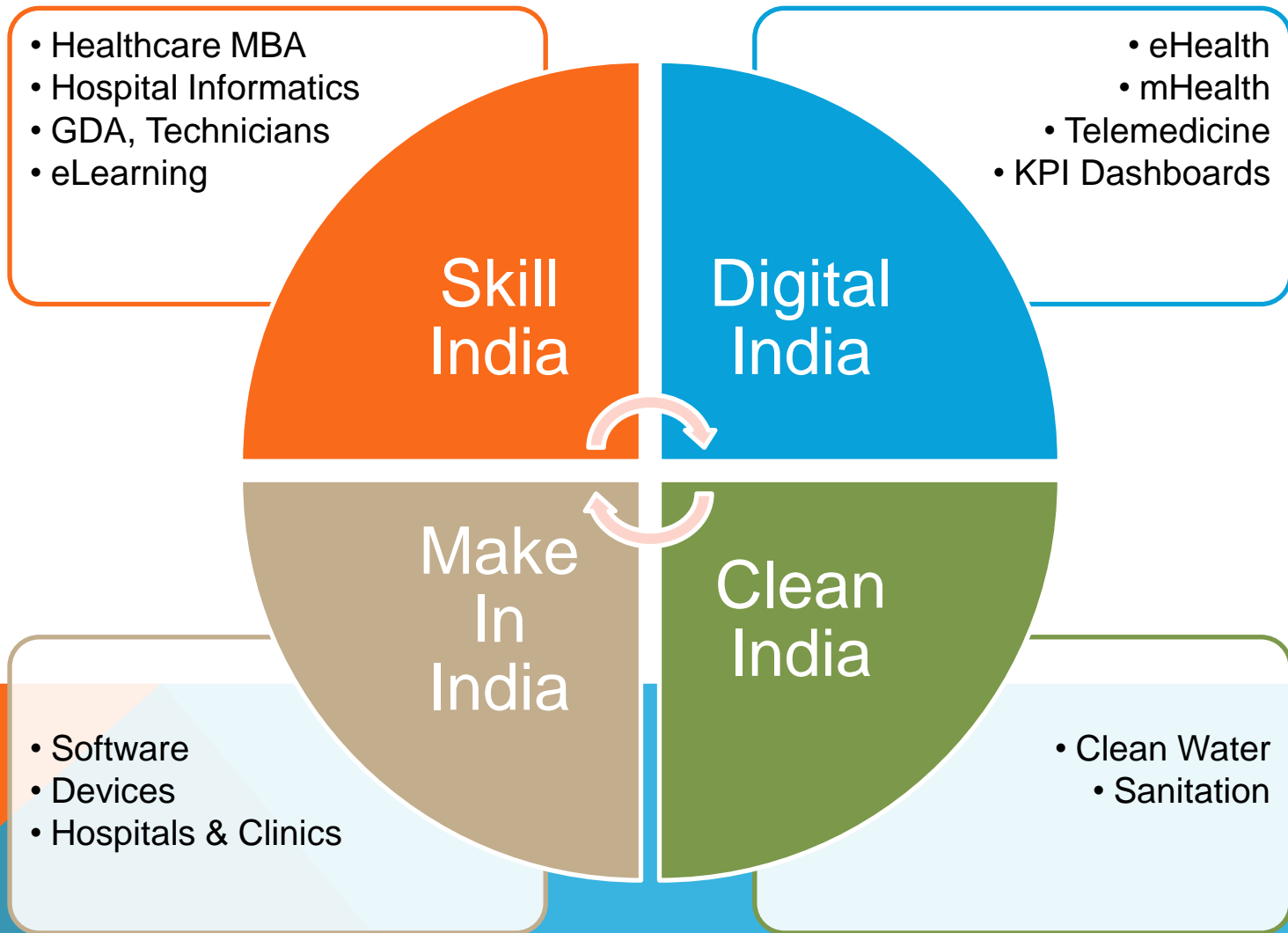
Management and technology consulting by combining deep healthcare expertise with paradigm shifts in strategy, operations, technology and performance management.

CLINICAL AND BUSINESS TRANSFORMATION TO ACCELERATE RETURNS

Consulting Services Portfolio	Consulting Services Details
Public Health Consulting	<ul style="list-style-type: none"> -Public Health IT Consulting -Standards Consulting -Strategy Consulting -Program M&E Consulting
Healthcare IT Portfolio Management	<ul style="list-style-type: none"> -Providing Technology evaluations and deployment strategies -Leading Clinical Transformation using Technology -Boot-Strapping Healthcare Organizational Change Management –CAUSE Methodology -Accelerating Health IT product innovation -Executing Quantitative Program Management Projects -Expertise to support US Meaningful Use Requirements
Healthcare Quality Consulting	<ul style="list-style-type: none"> -Building Next Generation Practices -Healthcare Processes Optimization Methodologies -Deploying Healthcare Service Innovation Strategies -Analyzing Root Causes and Risk Management Approaches -Decision Support for C-Level
Healthcare Facility Planning	<ul style="list-style-type: none"> -Green-field Hospital design including IT, process and people planning and program management
Healthcare Investments Portfolio Consulting	<ul style="list-style-type: none"> -Force Multiplier Framework -Defining Market Entry and Growth Strategies -Rationalizing and Maximizing healthcare investment portfolios.
Capacity Building	<ul style="list-style-type: none"> -Healthcare Education -Healthcare Skill Development



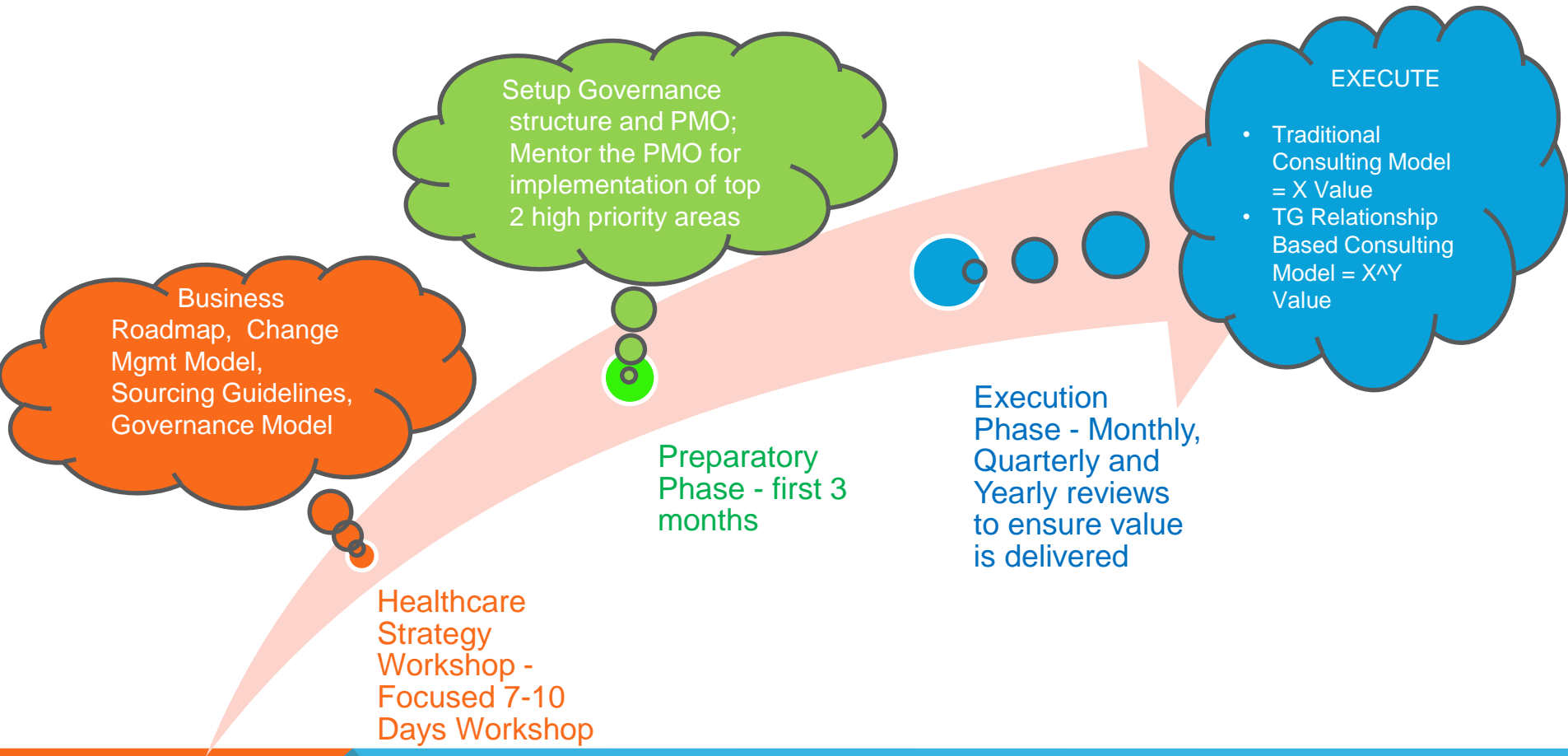
SUPPORTING PM MODI'S MICIDISI VISION









TG FORCE MULTIPLIER FRAMEWORK: HEALTHCARE ECOSYSTEM



PROPOSED VALUE GENERATION ROADMAP



HEALTHCARE TECHNOLOGY AND HEALTHCARE QUALITY PROJECTS DONE BY TG

PROJECTS*	CUSTOMER
<p>Public Health IT study done with national health systems resource centre [NHSRC], as a background study for ICT sub-group of Health SIC and inputs to the 12th Plan.</p> <p>Consultant for Health Domain Meta Data and Data Standards [MDDS] development project with MOHFW, and NHSRC as project secretariat.</p>	<p>MOHFW, Govt of India</p> 
<p>TG has worked with Hospitals for IT Strategy Consulting, PMO, Product Selection, Vendor Selection, Change Management</p>	 
<p>Worked with Angel Funds and large PE/VC, to advise on their Healthcare investments in India.</p>	 <p>B-Hyves</p>
<p>TG has worked with Chain of Clinics for IT Strategy Consulting, PMO, Product Selection, Vendor Selection, Change Management</p>	
<p>Indian Cancer Society Delhi Branch has appointed TG as the Comptroller of Data and IT Systems</p>	
<p>TG is working in healthcare management education: Dr Gupta has been on the academic advisory board of international institute of healthcare management and research [IIHMR] Delhi and is a visiting faculty to Apollo Medvarsity and Chitkara University.</p>	 
<p>TG has been doing product management consulting for consolidating the Healthcare Application portfolio of TCS</p>	
<p>Advisors to the Board of one of Top 3 Hospital Chains in Saudi Arabia and PMO for building and commissioning 3 new Hospitals.</p>	<p>Cant Disclose Name due to NDA</p>

*TG believes in a Partner Ecosystem based on trust and integrity. TG treats all its vendors, collaborators and customers as valuable partners.

4/17/20



CASE STUDY 1 : MDDS HEALTH DOMAIN STANDARD

- MDDS is an initiative taken by Department of Electronics and Information Technology (DeitY) to promote the growth of e-Governance within country by establishing interoperability across e-Governance applications. This will help in semantic standardization and when aligned with the integration solutions will ensure interoperability among disparate systems.
- In this regard MoHFW has prepared MDDS standards over last 4 months under the leadership of the Committee on MDDS for Health Domain with active participation of NIC, NHSRC, CDAC, Taurus Global Consulting, United Health Group and a number of technical partners and officials of MoHFW.
- The MOHFW organized a draft standards roll-out workshop on 12th December 2013. The purpose of this workshop was to appraise all stakeholders on the developments so far and deliberate on strategies for roll-out of the standards. Inputs received in this workshop will help in improving these standards. It will also help in bringing consensus for the nationwide implementation of these standards.
- The Meta Data & Data Standards are now placed in public domain for a period of one month for review, suggestions and feedback. These can be accessed from

Building Blocks of MDDS Health Domain

- The health domain landscape are broadly divided into 39 *Entities*.
- These entities are described and qualified with the help of 1077 *Data Elements*.
- Values of Data Elements are categorized under *Data Elements (735), Values List (201) & Code Directories (141)*
- *Meta Data* are constructed to define *each Data Element and Code Directory* to establish Interoperability Standards
- Interoperability Standards
- Reference Architecture for Interoperability

Institutional Interoperability

Syntactic Interoperability

Semantic Interoperability

CASE STUDY 2 – PUBLIC HEALTH IT STUDY REPORT WITH NHSRC, GOVT OF INDIA

WHAT –

This is an assessment of public health IT systems in India.

It is an attempt to learn from the past, look forward and leap ahead. The findings and recommendations will feed into the 12th Plan and the ICT sub-group of the Healthcare SIC.

HOW –

While it was not possible to study every system existing, we have picked up a representative set that was diverse enough to extract critical findings that need urgent attention.

Systems studied: RCH Systems – Web portal, MCTS, DHIS; National Health Programs – IDSP, Malaria, NACO; State IT Systems – HMIS TN, eMamta Gujarat, AP public health IT.

WHY –

In the absence of any national guidelines for ICT in public health, various national programs and States have taken the lead in building their own IT systems. However most of them have not achieved their own objectives. The adoption of these systems fell after the initial surge. They have become islands of data collection systems that don't talk to each other.

IMPACT –

The report formed the basis for the ICT sub-groups report to the Health sector innovation council.

Most of the recommendations were adopted by the Health sector innovation council

The team got an opportunity to present the findings to the Planning commission. Many recommendations got included in the 12th plan.

CASE STUDY 3 – NXXXXXXA HXXXXXXXXXA

HOSPITALS

WHAT –

TG outsourced the CMIO office from NH.

TG was engaged to provide strategic inputs for standardizing the processes to enable the design and implementation of a clinical decision support system.

HOW –

TG worked with clinicians, staff and administrators to standardize the hospital processes and prepare the ground for IT implementation.

TG helped NH create a Techno-Functional team from within NH.

TG selected and engaged external vendors for design and development – SI, Products and US university.

WHY –

NH believes that clinical processes need to be streamlined, and documented before designing and implementing a clinical decision support system.

Only a Techno-Functional expert can look at the clinical and hospital processes and design a Healthcare-IT system suited for the processes.

IMPACT –

Design of a clinical decision support system is ready

Development will be done by an SI partner

US university will help implement, test, improve and adopt the product on a global level

CASE STUDY 4 – NATIONWIDE CHAIN OF CLINICS

WHAT –

TG is engaged with NW to setup the IT roadmap

TG is doing the PMO for selection of products/vendors for implementation and support of the IT Roadmap

TG is also helping NW standardize and document their operations and clinical processes.

HOW –

TG engaged with NW and put together a complete IT roadmap for NW to be rolled out in 3-4 phases.

TG has setup a PMO with Techno-Functional and Project management experts for product/vendor selection.

TG is defining SLAs and Support model

WHY –

NW has a target of rapidly growing, and that growth cant be achieved without commensurate IT setup.

NW needs external help from experts for process and IT consulting. NW doesn't have the IT skill sets and bandwidth to do all of this internally.

IMPACT –

An IT product based roadmap has been built to support NW grow to a chain of clinics across India

CASE STUDY 5 – INDIAN CANCER SOCIETY DELHI

WHAT –

TG is the Comptroller of Data for ICS.

TG is helping ICS for deriving information out of data collected in screening.

TG is trying to solve the Treatment Compliance and Drug counterfeit issues of Cancer.

HOW –

TG has implemented opensource EMR on the cloud and automated the screening process.

TG is enabling ICS for implementing Teleradiology solution such that the images from the mobile vans can be reported remotely.

TG is implementing CRM for improving engagement with people who have been screened.

WHY –

Drug Counterfeit and Treatment Compliance is a major issue in Cancer.

Need to engage better with the community.

Need to create an Ecosystem for Cancer including screening, treatment, pharma, insurance and Govt.

IMPACT –

The real impact is yet to be seen. It is a long drawn process to be achieved over many years.

CASE STUDY 6 – A LARGE INDIAN IT SERVICES MAJOR'S HEALTHCARE DIVISION

WHAT –

Product Strategy Consulting, Product Management Consulting, Useability Consulting

Process Standardization and KPI Definitions for their Customers

Large Complex RFP Response Management across multiple geographies and multiple International Partners

For a Medical Device Customer – Strategy Consulting (Business, Service and Technology)

HOW –

TG was engaged as a strategic advisor at the Top Leadership level.

TG's Partner was embedded inside the customer organization for over 1.5 years.

WHY –

Need to consolidate Healthcare projects spread across verticals and horizontals in the organization

Need to develop product driven services. Hence build Healthcare Products and Platforms capability

IMPACT –

The internal teams, processes, templates and tools got developed to manage the Healthcare products, platforms and customers.



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DR PANKAJ GUPTA

Dr Gupta is a qualified Dental Surgeon with an Executive MBA from IIMB. He also has a PG Diploma in Computers and a Special Diploma in Bioinformatics.

Dr Gupta is a NABH and ISO certified consultant. He has applied Healthcare Quality standards for Healthcare process optimization.

Dr. Gupta has over 2 decades of Healthcare industry experience which enabled process improvements, IT cost reduction, organization change management, and business transformation through implementation of Healthcare-IT solutions for Hospitals, Life-sciences and Pharma companies.

Dr Gupta has been on the academic advisory board of IIHMR Delhi, a leading healthcare management institute.

Dr Gupta is a member of the ICT subgroup of SIC in Health, part of the National Innovation Council under the Prime Minister's Office, GOI

Dr Gupta is a Board Member of HIMSS India Chapter.

Dr Gupta is Health Innovator in Residence @ The International Centre for Health Innovation, Richard Ivey School of Business, The University of Western Ontario.

As a founder of Taurus Global Consulting Dr Gupta leverages healthcare business knowledge and technology insight to provide business transformation across all healthcare stakeholders.

Has played a vital role in meta data and data standards consulting with Ministry of Health and family welfare, Govt of India.

Clinical transformation of Max Healthcare using IT as a change agent. Handled the complete ITO as the P&L leader from Perotsystems.

As part of Infosys - Healthcare-IT standards consulting for a large HIS company in US.

As part of Infosys - Provided strategy consulting to a large pharmaceutical packaging company to conceptualize and build the first ever online comprehensive chronic care management program.

Developed EHR product for Infosys as part of the Canada eHealth go to market strategy.

Setting up of captive offshore centre for CERNR, a market leader in Hospital information systems, for R&D, cost arbitrage and market outreach.

At FCG, Conceptualized and implemented business transformation services for large US hospitals e.g. by building 24/7 IT operations support.

As part of Satyam – Setup the PMO and implemented the first FDA validated offshore services centre in India for a UK based Pharma company.

As part of Applied Biosystems Inc., a sister concern of Celera Genomics - Led a project for building an intelligent configurator to support the selection of DNA molecules for the Microarray plates, involved in the Human Genome project.

Aetna: Developed a Health plan configurator for Claims. This is to develop an actuarial engine that enables the brokers & underwriters to do need analysis and configure the best health Insurance plan for members. The rule based system also had a intelligent rating engine to calculate the risks due to fraud and abuse.

DR PANKAJ GUPTA – KEY TRANSFORMATION PROJECTS

MDDS - Has played a vital role in meta data and data standards consulting with Ministry of Health and family welfare, Govt of India.

Max Healthcare Transformation - Handled the complete ITO for 12 Hospitals of Max Healthcare as the P&L leader from Perotsystems.

Infosys - Developed HIE product for the Canada eHealth go to market strategy.

CERNER – Trained 150 fresh Engineering, Biotech, MedTech Grads. Setup up captive offshore Engineering centre in Bangalore.

CPOE Evaluation tool for The LeapFrog Group. Now adopted by ONC US Govt.

FCG 24/7 Hospital IT management – follow the sun model

Genes Patent – Satyam Bioinformatics team found unique genes in the malaria vector.

Human Genome Project – DNA Microarray Configurator plugin between CRM and ERP. Patented by Applied Biosystems [ABI] – Thermofisher Scientific.

HOSPITAL IT PLANNING AND OPERATIONS

HOSPITAL'S NAME	LOCATION	SCOPE OF SERVICES	PERIOD	ROLE
MAX HEALTHCARE GROUP OF HOSPITALS	8 Hospitals existing in Delhi NCR and 4 new Hospitals in North INDIA	Total IT Outsourcing: Planning, Implementation and Support - including Equipment Planning, Hardware, Software, System Integration, Services.	2009-2010	P&L Leader for Perotsystems, Client Executive for Max Healthcare
CERNER'S HOSPITAL CUSTOMERS	Across USA	Engineering new solutions and Support services - Bug Fixing and Call Center support for US Hospitals.	2005-2006	Client Executive and Engineering Manager
UHHS,	CLEVELAND OH, USA	Planning, Implementation and Support for the software application portfolio for the IT Dept. Includes planning, implementation and Integration with Hospital Equipments.	2003-2005	Project Manager with FCG
UMMHC,	BOSTON, USA	Planning, Implementation and Support for the software application portfolio for the IT Dept. Includes planning, implementation and Integration with Hospital Equipments.	2003-2005	Project Manager with FCG
NYU MEDICAL CENTRE	NY, USA	Planning, Implementation and Support for the software application portfolio for the IT Dept. Includes planning, implementation and Integration with Hospital Equipments.	2003-2005	Project Manager with FCG
NY BLOOD BANK	NY, USA	Planning, Implementation and Support for the software application portfolio for the IT Dept. Includes planning, implementation and Integration with Hospital Equipments.	2003-2005	Project Manager with FCG
ARDENT HEALTHCARE	NM, USA	Planning, Implementation and Support for the software application portfolio for the IT Dept. Includes planning, implementation and Integration with Hospital Equipments.	2003-2005	Project Manager with FCG

*These projects are done by the respective TG Consultants but not necessarily under TG brand

CASE STUDY 7 – INSURANCE CLAIMS

WHAT –

. Aetna: Developed a Health plan configurator. This is to develop an actuarial engine that enables the brokers & underwriters to do need analysis and configure the best health Insurance plan for members. The rule based system also had a intelligent rating engine to calculate the risks due to fraud and abuse in claims.

HOW –

Using the Selectica configurator technology a rule based engine was created.

The Quote and Cart model was modified to suite the business needs of an Actuarial process.

The team worked closely with brokers and underwriters to do needs analysis.

WHY –

Too many permutation combinations are involved in building a customized health plan.

A rules based engine can detect parts of a claim where the protocol was not followed and hence points to possible frauds and abuse in claims.

Perfect environment to apply a rule based configurator.

IMPACT –

The time taken to configure a customised health plan was reduced

The resources required to configure health plans were reduced

Intelligent rating engine could calculate the risks due to fraud and abuse in claims.

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The key promoters and many team members in TG were responsible for the project. [This work was done under the Selectica - Aetna deal in USA]

CASE STUDY 8 : MAX HEALTHCARE

Phase I: Infrastructure Upgrade completed

- Centralized Service Desk for L1 support and triage to L2 and L3 teams
- Converted the P2P network to a MPLS private cloud
- Servers from all 7 Max hospitals migrated to a remote data centre at Dell
- HIS and all other software applications of 7 Max hospitals are now running from the Dell data center
- HIS re-engineered and stabilized to take the load of new environment
- Physical, Network and Data level security established
- Operations management as per SLAs
- Governance process for decision making

Phase II: Implementing Electronic Health Record System - Completed

Phase III: Implementing mobile solutions for telemedicine and creating Health Information Exchange

Business Benefits realized by Max Healthcare:

- Infrastructure is now ready to take the load of decision-support and clinical applications
- Cloud-based plug-n-play environment for new facilities coming up across India
- Business downtime due to infrastructure and HIS outages is history
- Hospital process re-engineering for clinical transformation done



**Extensive press coverage
in Aug/Sep 2010 followed
by Cover story in eHealth
magazine Oct/2010 issue**

The key promoters and many team members in TG were responsible for total IT transformation of Max Healthcare. [This work was done under the PerotSystems-Max Healthcare ITO deal]

KRISHAN BHARDWAJ

Krishan has 13+ years of experience in Healthcare Technology implementation, Design and Development of Healthcare solutions and more than 6 years of experience in architecture , design and solutioning the enterprise scalable web applications mostly in Healthcare domain.

Krishan has designed several large scale enterprise web applications using server side frameworks such as Spring MVC, Struts 1.x and Node.js and client side frameworks such as Bootstrap,2.x ,Angular.js etc .He has worked on several open source technologies including java/j2ee, Spring, Hibernate, Ajax, Apache Axis, Apache CXF for SOAP and REST web services and talend opensb for ESB framework , Krishan is HL7 certified and has designed several enterprise application integrations using EAI patterns. He has worked on both relational databases such as Oracle,MySQL and Post relational databases such as MUMPS and Intersystems Cache and document oriented databases e.g.MongoDB. Krishan has broad understanding of developing mobile apps on Android and iOS platforms and is currently leading a development team with extensive experience in developing Mobile apps.

Krishan is MBA from SMU and a science graduate. He has a PGDCA from CDAC and is certified from HL7 India and has vast experience of working on **MUMPS and Intersystems Cache** technologies.

He architected a cloud deployed web EMR application for a chinese mobile company,

He architected Open source VistA EHR solution for a major Indian client Hospital chain. The database was deployed on virtual server farm in a HIPAA complaint Data center on a hosted model and was accessible from all client hospitals over MPLS cloud network.

Developed HL7 and DICOM interfaces for ADT, RIS and PACS system for Max Healthcare.

At HCL ,Designed and developed web 2.0 based LOR online portal system for placing online lab order and viewing results for Quest Diagnostics. He has designed a HL7 framework for integration of Lab order and results with LIS system. Designed a data warehousing framework to develop MIS Reports for Healthcare applications.

At iSOFT provided data migration solution for migrating data from i-series applications into Lorenzo and worked on problem management project for NHS Trust Hospitals in Netherlands and UK. He worked with Lorenzo product development team as System Analyst and designed several OPD and IPD modules.

Worked on designing and developing customized solutions in all Healthcare modules (ADT,LAB, RIS, PACS, Medical Billing and Reports) for leading Indian hospitals such as Fortis, Escorts, Sir Ganga Ram Hospital ,Max Healthcare and overseas NHS Trust hospitals in UK and Netherlands.

Krishan has worked in architecture design and technical solutioning of big enterprise applications . He has been associated with leading the development and implementation of **TrakHealth** EHR and Lab systems for a number of hospitals in India. This included development of DICOM, LAB, Medical Billing and clinical record. system He has been associated with the technical management of projects in Healthcare domain for large number of indian and overseas clients.

He has worked on several leading technologies ranging from Java, J2EE , Dot Net , Intersystems Cache and MUMPS to provide innovative and cutting edge IT solutions.

BHUPINDER SINGH

Senior Healthcare IT professional having good (10+years) experience in EMR configuration, implementation and maintenance support. Our core activities include understanding of interfacing requirements, standardizing the data being shared, analyzing, customizing and exchanging HL7 messages between multiple entities within and outside Northgate Information Solutions,UK.

Had customized and implemented many EMR for US and Indian clients. Good experience in handling Mirth (Interface Engine) for PMS and EMR healthcare messaging and communication.

I have been working on Mumps (NOSQL Database) which is extensively and widely used in Healthcare for Vista EMR (Open Source) product.

Have developed statistical model for predicting Bank Loan Interest rate for individual customer using R statistical tool. Have knowledge about Data preparation, Data visualization, Data Modelling, Hypothesis testing using R. Have assisted onshore team members by providing insight into data using Data visualization (R tool). Working on predicting patient readmission possibilities using R tool.

Want to explore more implications of data analytics and predictive modeling in Healthcare IT industry. Have a strong aptitude to learn new data modeling techniques so that I became more proficient in data analytics area.

Lead Software Engineer, Northgate Information Solutions, October 2011 – Oct 2016 (5 years 1 month) Mumbai Area, India. Implementing and designing interface solutions including Child Health Screening Data for NHS, UK Using Intersystem Ensemble.

Sr. Healthcare IT Analyst, WOW Global Corporation, April 2011 – October 2011 (7 months) Gurgaon, India Vista customization, Implementation and interfacing with Labs using interface Engine Mirth (HL7 & EDI).

Software Analyst, MD Synergy, July 2010 – April 2011 (10 months), VA Vista Developers. Earlier worked on TrakCare for implementing it in indian hospitals.

Senior Software Engineer, Fiserv, April 2007 – June 2010 (3 years 3 months). Worked mainly there on data conversion and migration using Cache/Mumps.

Technical Consultant, MTECH INDIA PVT. LTD., January 2005 – January 2007 (2 years 1 month). Worked there on Healthcare domain using Intersystems Cache for implementing Trakcare product in indian hospitals.

Lab Technician@Heart Station, Escorts Heart Institute and Research Center, Okhla 2001 – 2003 (2 years).

PRIYANKA YADAV

She is a BSc. BioMedical by education and has accomplished Post Graduation in Healthcare & Hospital administration from IIHMR- a leading healthcare management institute in India.

Priyanka has experience of Healthcare industry which provides the process knowledge of various healthcare/ Hospital systems, Requirement Analysis, Business Analysis, Project Management, and System planning, while structuring customized solutions .

Priyanka is skilled in planning Medical Equipments, specialising in Medical Lab Equipments for Micorbiology, Pathology and Genetics, Healthcare IT Management & consulting which includes handling onsite Implementation of clinical systems and Business process Consulting at various Multispecialty Hospitals

She has been associated with implementation of Hospital information systems and electronic medical records for hospitals in India and abroad. This included analyzing the healthcare business model, Healthcare function specific processes, and unique client requirements and has provided domain expertise for integration of optimized IT solutions.

Being a part of Dell Go Live Support Team she has handled VistA EHR implementation during which she provided on site support and simultaneous training of the Doctors at Max Healthcare, Saket

Involved in development & configuration of health care products ranging from requirement gathering & solution mapping , developing Story boards for software testing, and performing Functional & internal acceptance testing for the developed software.

She has exposure to health care IT solutions of the industry and has hands-on experience of clinical modules like CPRS & CPOE, BCMA(Bar coded Medication Administration), Materials, OPD, IPD, Diet and ancillary modules like Ayurveda, palliative , spiritual care as well as back office modules like Doctor's Payment, Material Management – Purchase & Stores Mgmt and MIS

She also has proficiency in project coordination activities viz developing Statement of Work, project plan and execution together with the project manager.



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