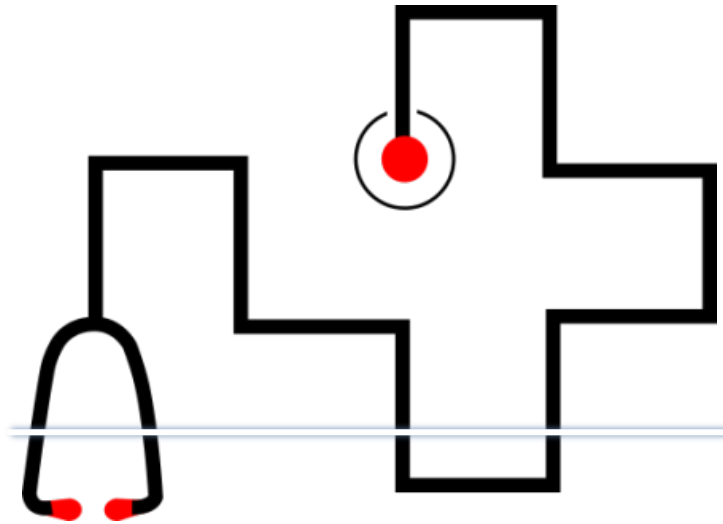
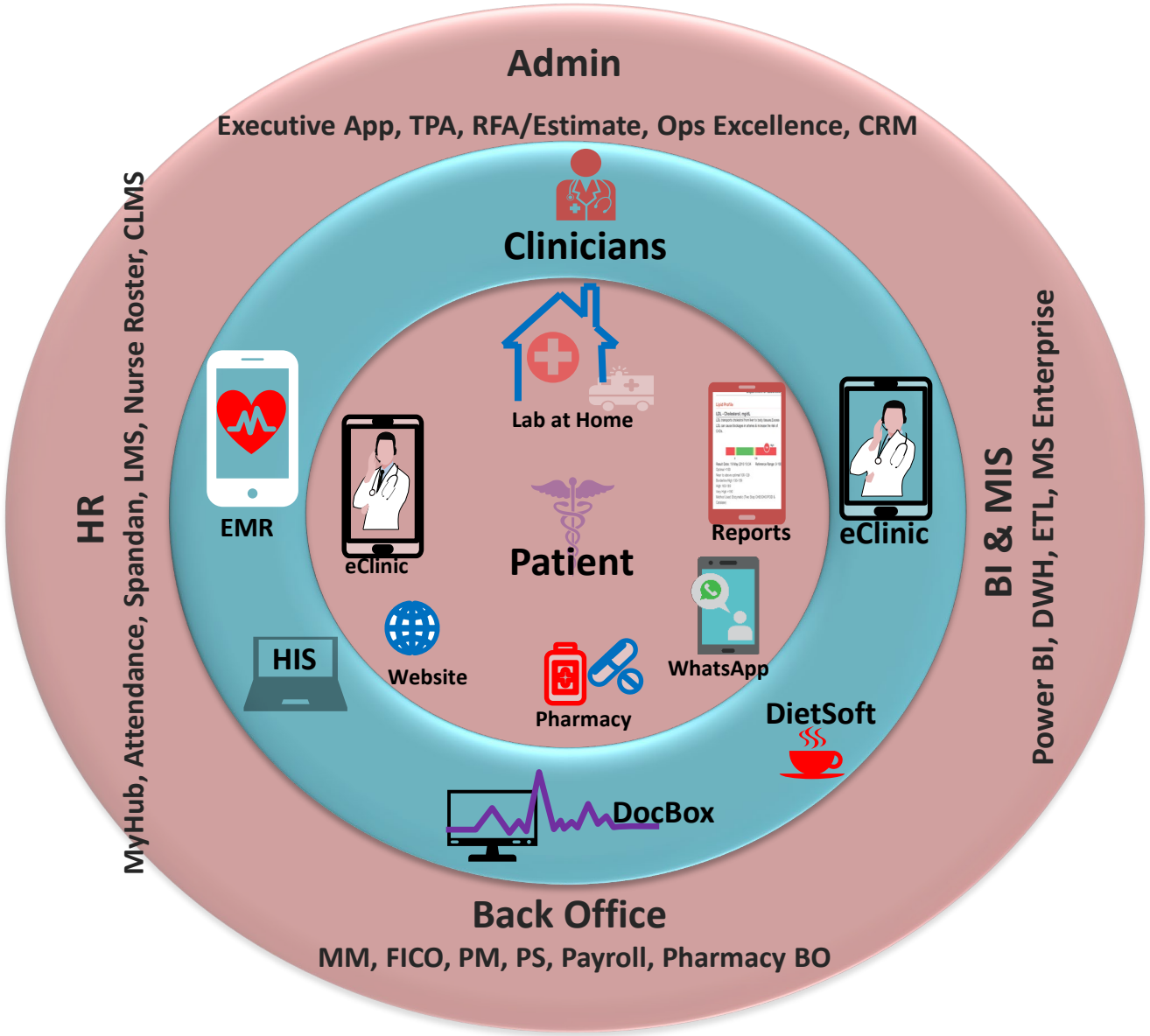
Medanta IT

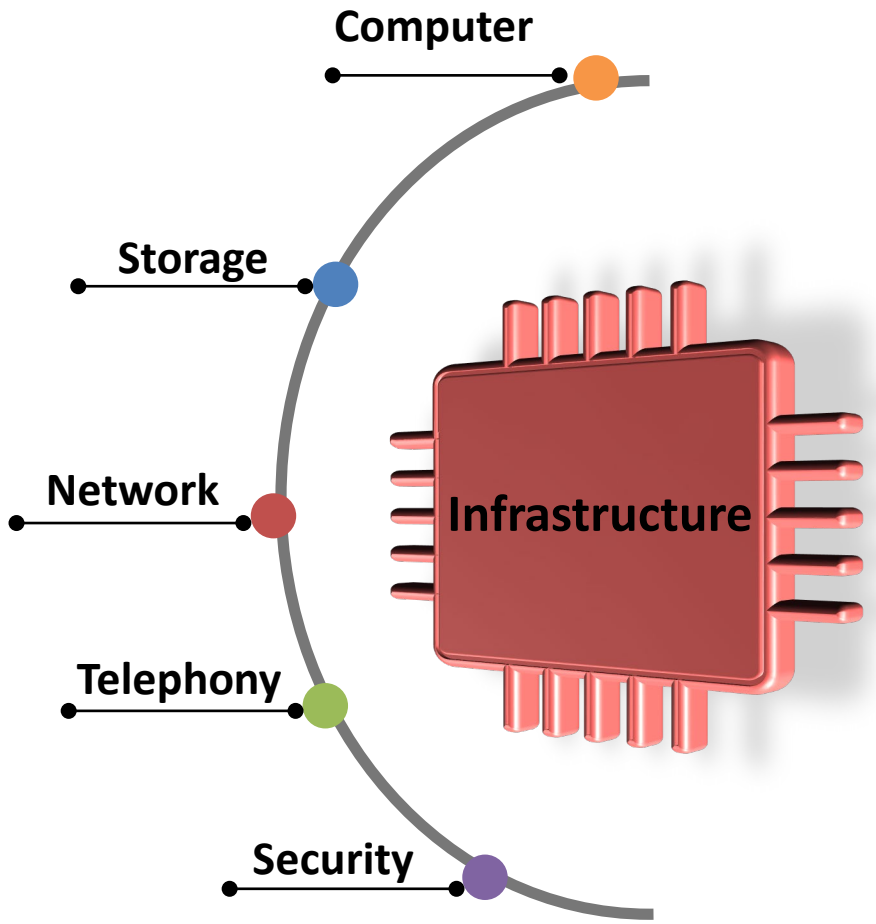
Overview



13th Feb 2023

Medanta Digital Ecosystem





Current IT Landscape

Patient	eClinic	Report Portal	Website	OPD Pharmacy	Whats App	LIMS
Clinical Staff	EMR App	HIS	eClinic	DocBox	Dietsoft	Journals
Admin	eClinic	Executive App	RFA / Estimate	Ops Excellence	TPA	CRM
HR	MyHub	Attendance	Spandan	LMS	Nurse Roster	CLMS
Back Office	MM	FICO	PM	PS	Payroll	Pharmacy BO
BI & MIS	Power BI	DWH	Diagnosis	ETL	MS Enterprise	
Infrastructure	Compute	Storage	Network	Telephony	Security	

Mobile Application

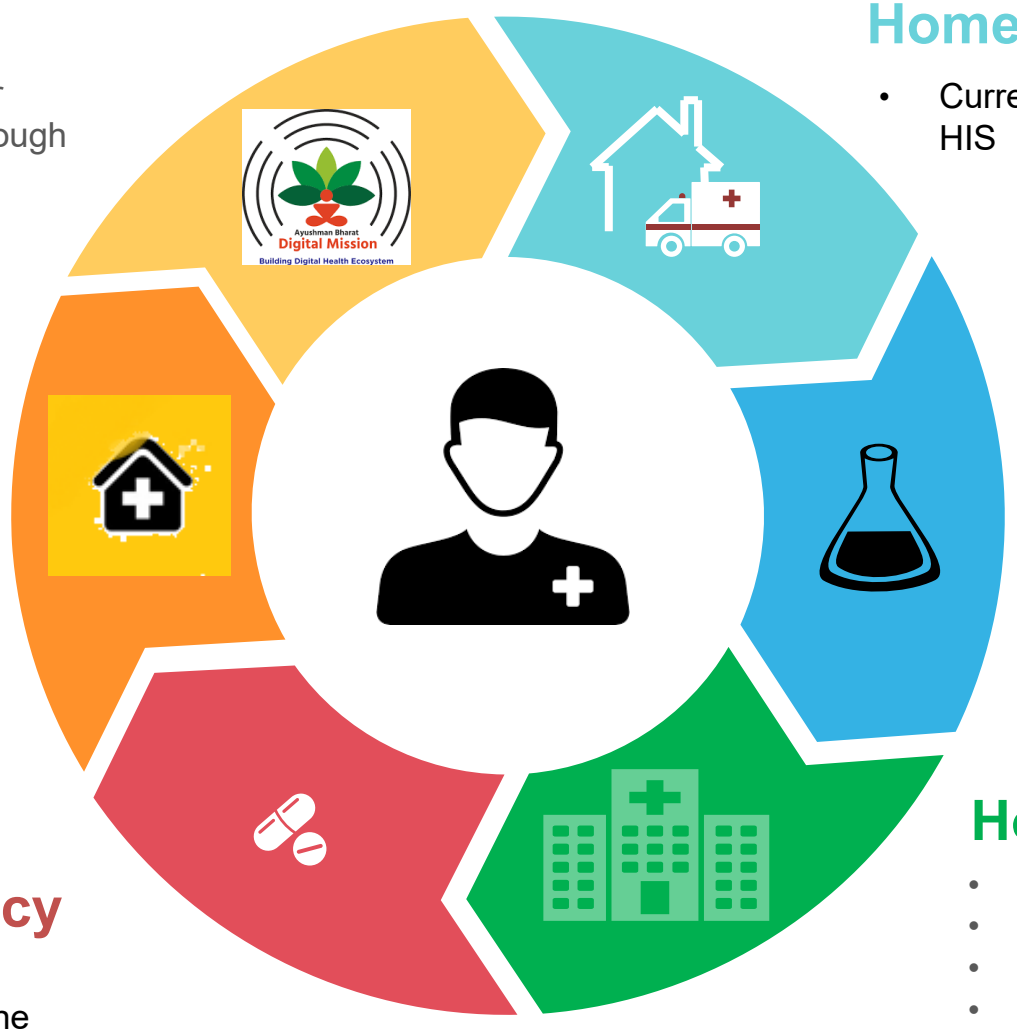
Medanta Health Information Exchange

ABDM**

- Integration with NHA
- Data exchange with other Health care providers through ABDM
- Integration with National Registry

Home Care*

- Currently managed using HIS



Clinics

- HIS
- EMR
- Executive App

Labs

- IT DOSE-LIMS

OP/Retail Pharmacy

- Techsmith POS
- Omni Channel Medicine delivery*

Hospital

- HIS
- EMR
- PACS
- LIS

* New bees

“To-be” IT landscape

Patient Engagement	Care away from Hospital	Diagnostic Appointments	Medication Orders & Refill request	Chat bot & website	Porter Management
Clinical	ML driven OPD Prescription	BCMA	Tele-radiology	Radiation Exposure Management	e-ICU
Admin Back Office	ICMS	Healthcare Analytics	CCC	Budgeting & Controls	DMS (SAP)
IT Infra	Cybersecurity	Enhanced Interoperability	BCP & DR	SOC	Infra Refresh

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Home care solution

Optimal Shift management

Patient Satisfaction

Real-time messaging

Feedback Management

- Leads from various channels
- Customize Lead Pipeline and Lead workflow automation
- Incoming and Outgoing call Integration for Lead
- Lead Engagement based on pipeline, location & status
- Lead auto conversion process and Lead LTV metric

Lead Management

Careflow Management

- Care (OP/IP/ICU)
- Phlebo
- Medication
- Nurse
- Medical Equipment

- Custom Outcome Assessment Forms
- Home IPD/ICU
- Short Term and Long Term Care Plans (Pre-Planned/Custom)
- Medicine Home Delivery & Sample Collection at Home
- Work List for Clinical & Non-Clinical Staff or Team

Patient Experience Management

- Membership Plan & Loyalty to retain & benefit patients
- Patient Experience Survey, Feedback and NPS Score
- Patient Engagement by Text, Email, Messaging & Video call
- Patient Campaign management to generate additional revenue
- Prospect Management for conversion of leads to sale

Operation Management

- Billing enabled with estimation, discounts, offers, package
- Multiple encounter OPD packages
- Roster Management supporting multiple shift hours for providers
- Appt. Mgmt by specialty, skills, grade, proximity & locations
- Patient Area Locator With Assisted Map
- Reports & MIS for clinical operation

Physician Workflow

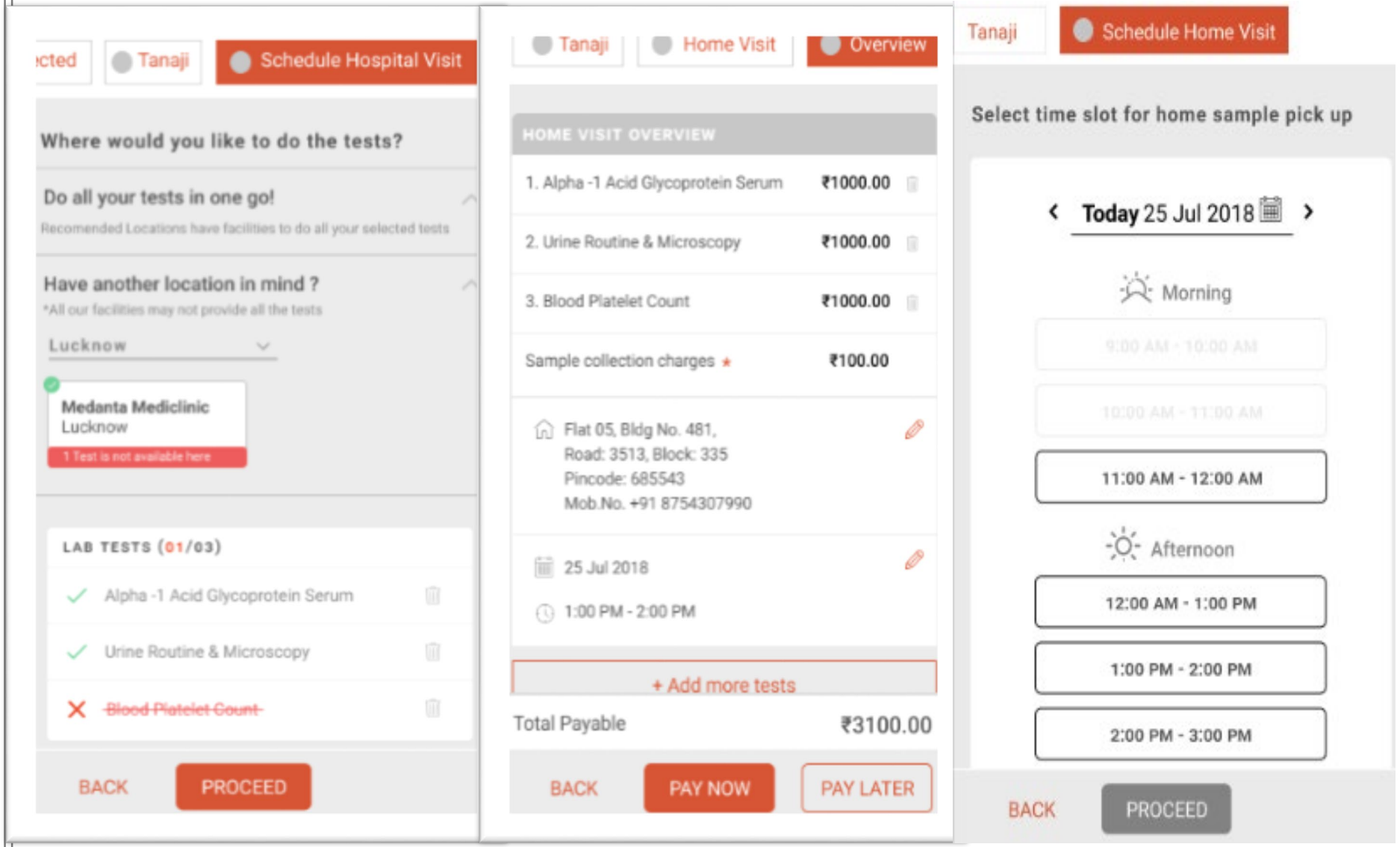
Patient Monitoring

Billing on the Go

Nursing / Phlebo worklist

Mar: Contract; May: Requirement Gathering; Aug: UAT; Sep: Go-Live

Diagnostics Appointment

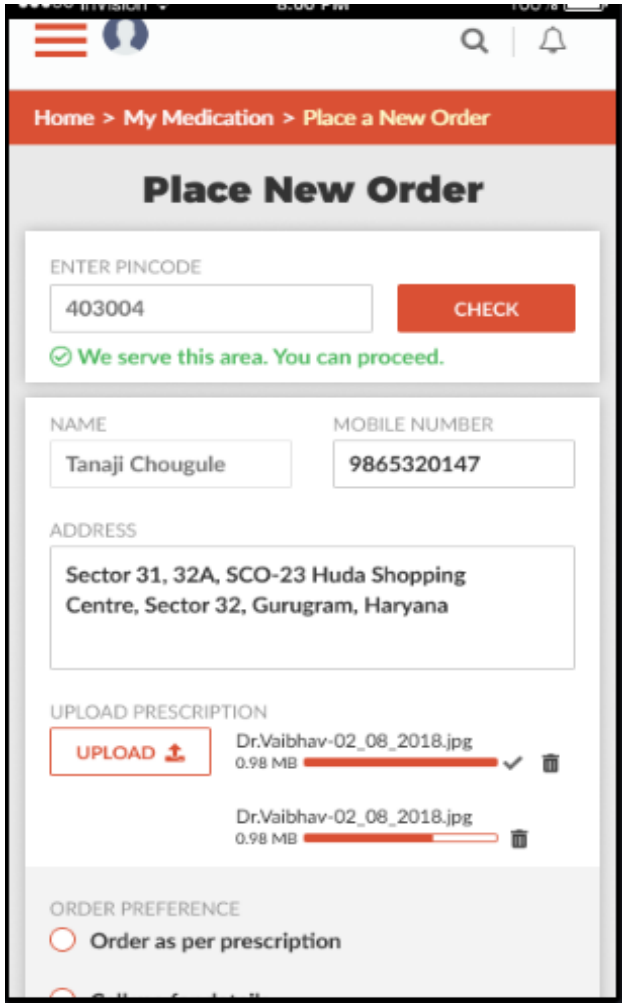


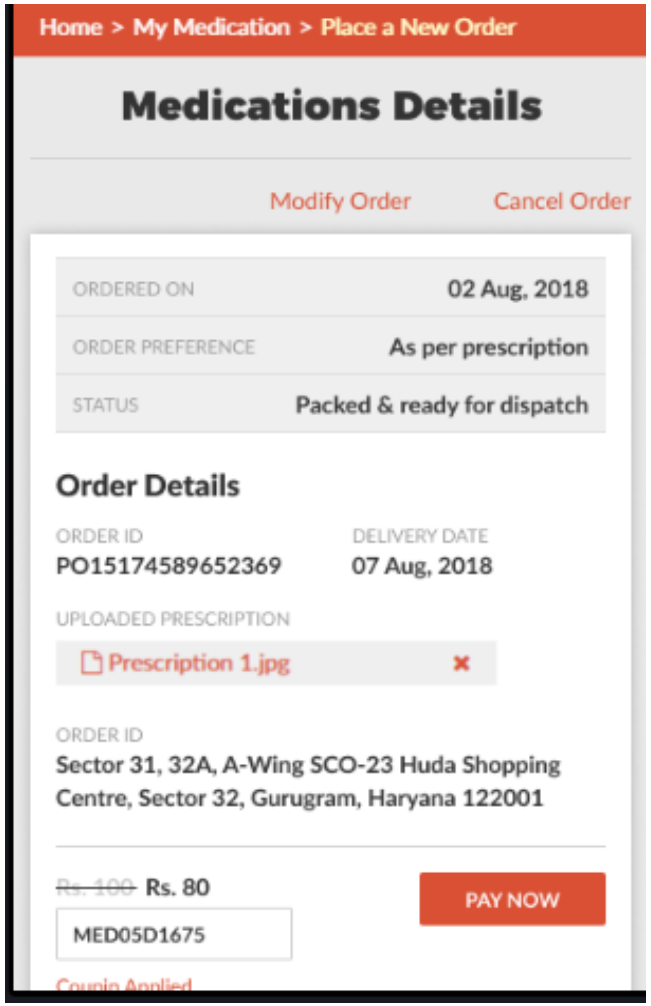
Scope

- Pin-code based service
- E-Commerce like cart based UX
- Location choice including home, hospital site
- Prescription upload
- Prepayments or Pay later
- Flexible slots
- Multiple areas of services

Go-Live: Q3

Medication Orders



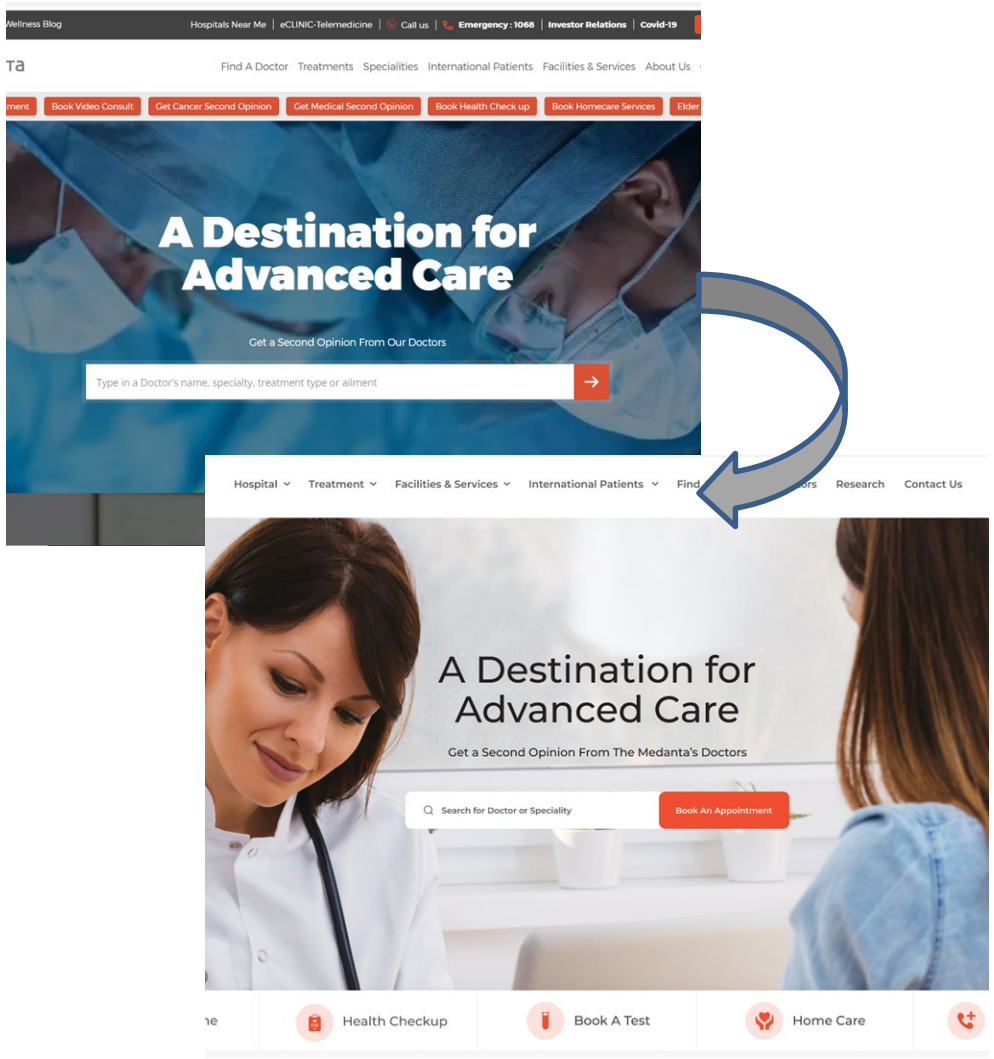


Scope

- Pin-code based service
- Prescription upload
- Order modification & cancelation
- Reorder with flexibility to change
- Notification / Reminders
- SLA & Real time order tracking
- Cross Sell
- Analytics

Go-Live: Q4

Website migration

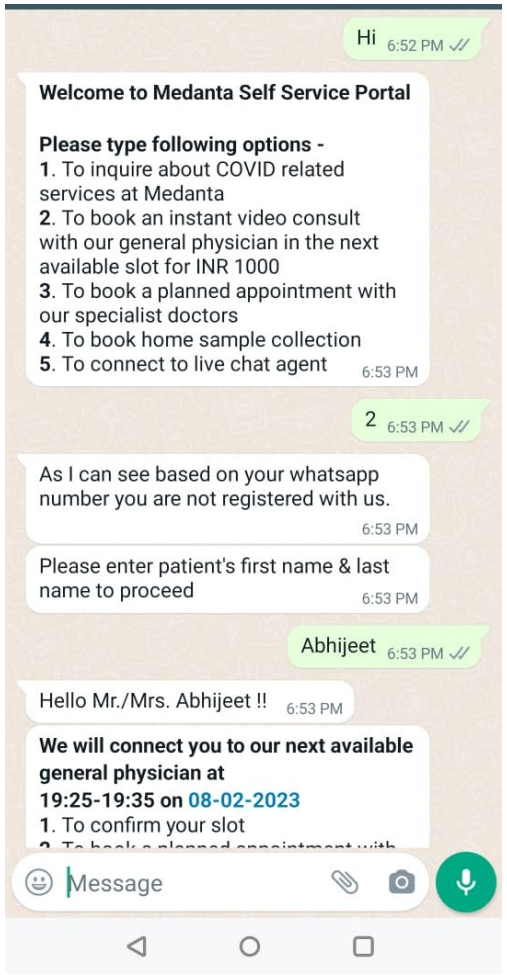


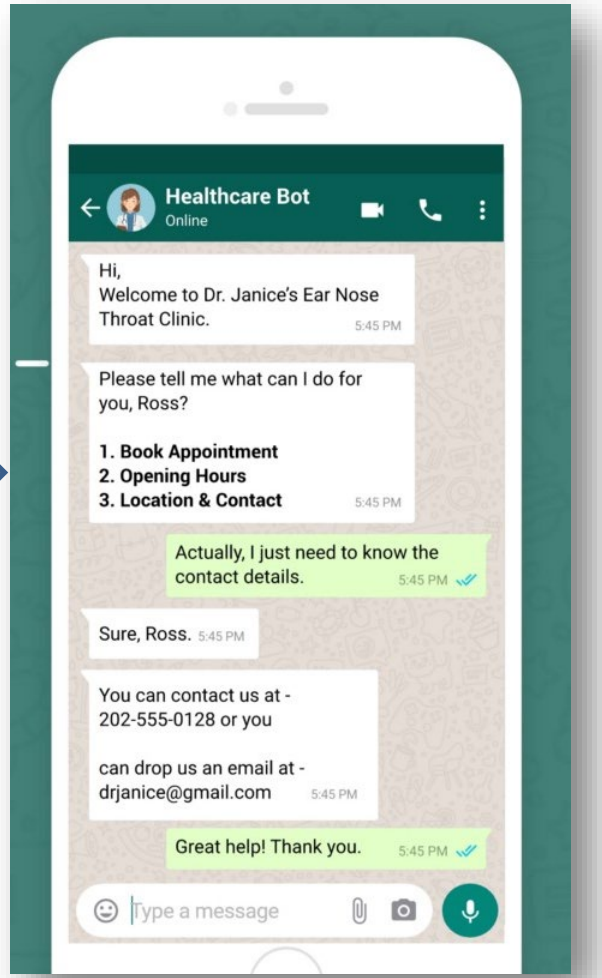
Scope & Timelines

1. More traffic
2. Improved UX
3. Better customer retention
4. Robust security
5. Segregation of transactions and information portal

Q1: Design Ready; Q2: Content & development initiated; Q3: Go-Live

Chat bot based UX for navigating & engaging patients





Scope

1. Doctors Appointments **(Q1)**
2. Reports **(Q1)**
3. Diagnostics Appointments **(Q2)**
4. Medication delivery **(Q3)**
5. Health Checks **(Q3)**
6. Homecare **(Q4)**

Better porter availability

Support for One or More Porter across common Pool in the facility

Assignment of Porter request, Allocation to nearest porter using Location aware RTLS positioning

Option for Self creation of Tasks by porters : Adhoc Tasks , Lunch breaks , etc.

Automatic Update of Arrival , complete status of Porter Request based on Porter Location

Whatsapp Alerts for longer wait time to Supervisors

Intelligent Auto Routing of Request when a porter is not responding / rejecting a request.

Live tracking of porter Movements. Battery lasts for 3 shifts on single charge

Apr: Contract; May: Infra readiness; Aug: UAT; Sep: Go-Live

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ML based smart OPD prescription

Touch based EMR

User-friendly touch based EMR designed for fast documentation

Embedded Terminology

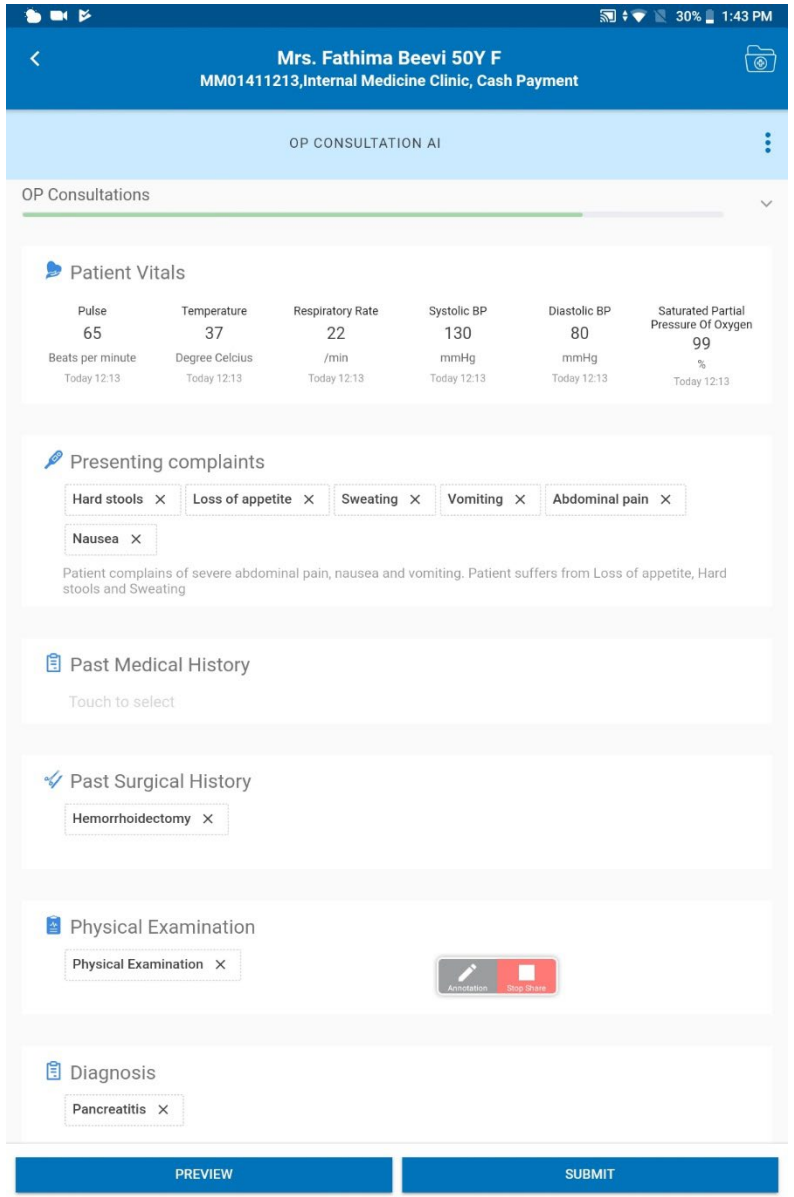
Automatically codes from user input and text narratives using SNOMED CT terminology

ML driven perceptive capabilities

Learns user's documentation patterns and auto sorts diagnoses, investigations and prescriptions based on user's previous documentation

Integrated scheduling and referrals

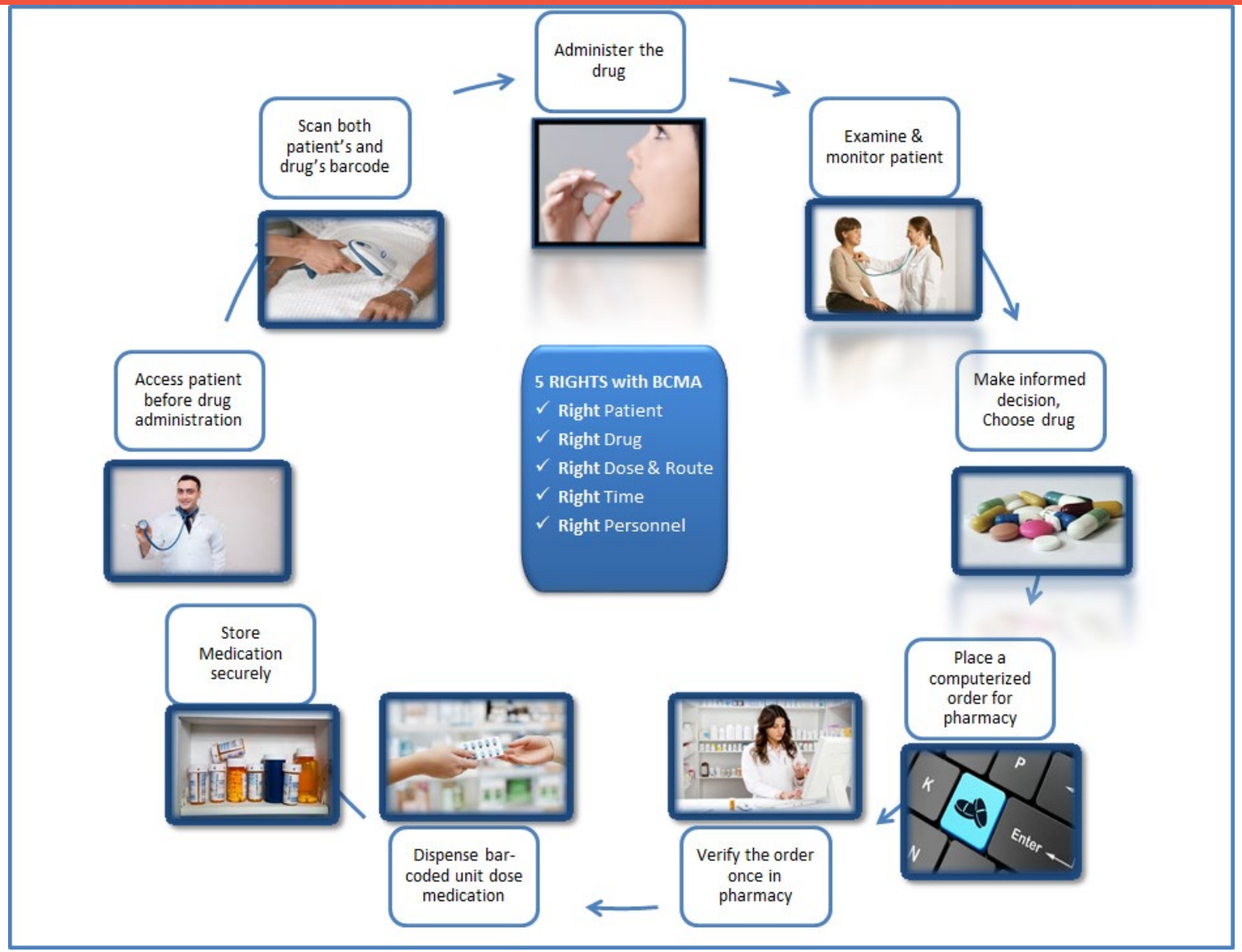
Automatically books an appointment or sends a referral to the selected team / practitioner reducing manual follow up work



Oct: UAT; Jan: Go-Live

Bar coded Medication Administration: From Rx to Administration

What	• Verifying all medication details at patient bedside
Why	• Key aspect of patient safety is ensuring correct drug of required efficacy and as per prescribed schedule is administered • Controls / monitoring to reduce medication errors
How	• Barcoding of all drugs at point of GRN • Issuance from main/sub store based on barcode • Receipt confirmation at sub store (nursing station) using bar code • Verification at bedside by nurse prior to administration using bar code



Mar: PoC; May: Requirement Gathering; Sep: UAT; Dec: Go-Live

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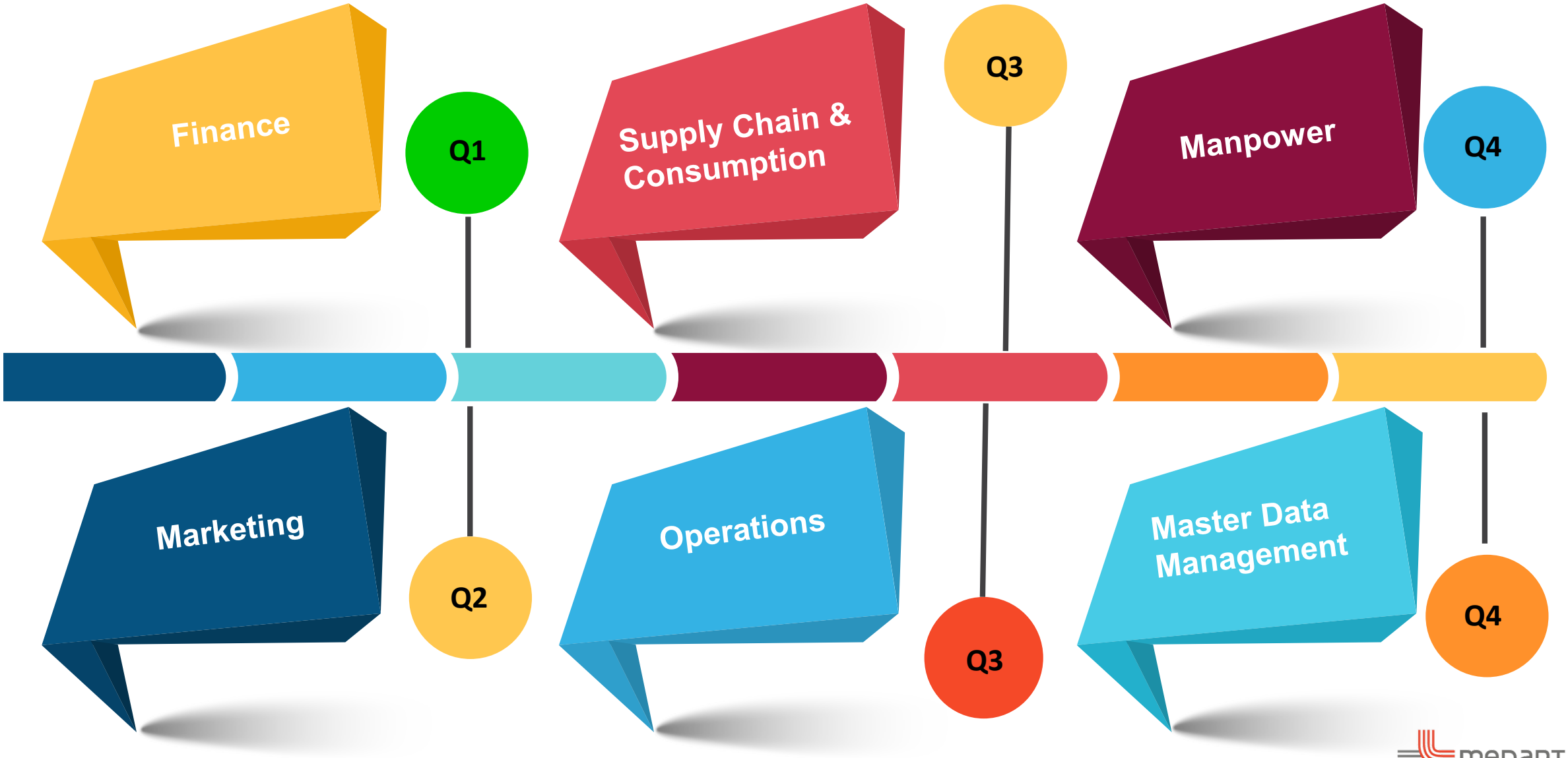
Healthcare analytics & timelines



Faster TPA Clearance

Paper less	Rule Engine	Data Extract	Tracking	Enhancement	MIS	Display Board
Pre-auth. Enhancement. Discharges.	Filled Request. FTR & Better TAT.	HIS Integration. Upload doc.	Status wise claims. Easy Recon.	Revise Amt. Add Doc.	Case Status. Outstanding Dues. TPA Perf. TAT.	Real-time update on claim status. Status in App.

A Revenue Collection Management Solution; Go-Live:Q4

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Planned rollouts to other sites (already in production in Gurugram)

Marketing Contracts

Online marketing contract management & approval workflow

CLMS

Management of contract Labour

Gate Pass

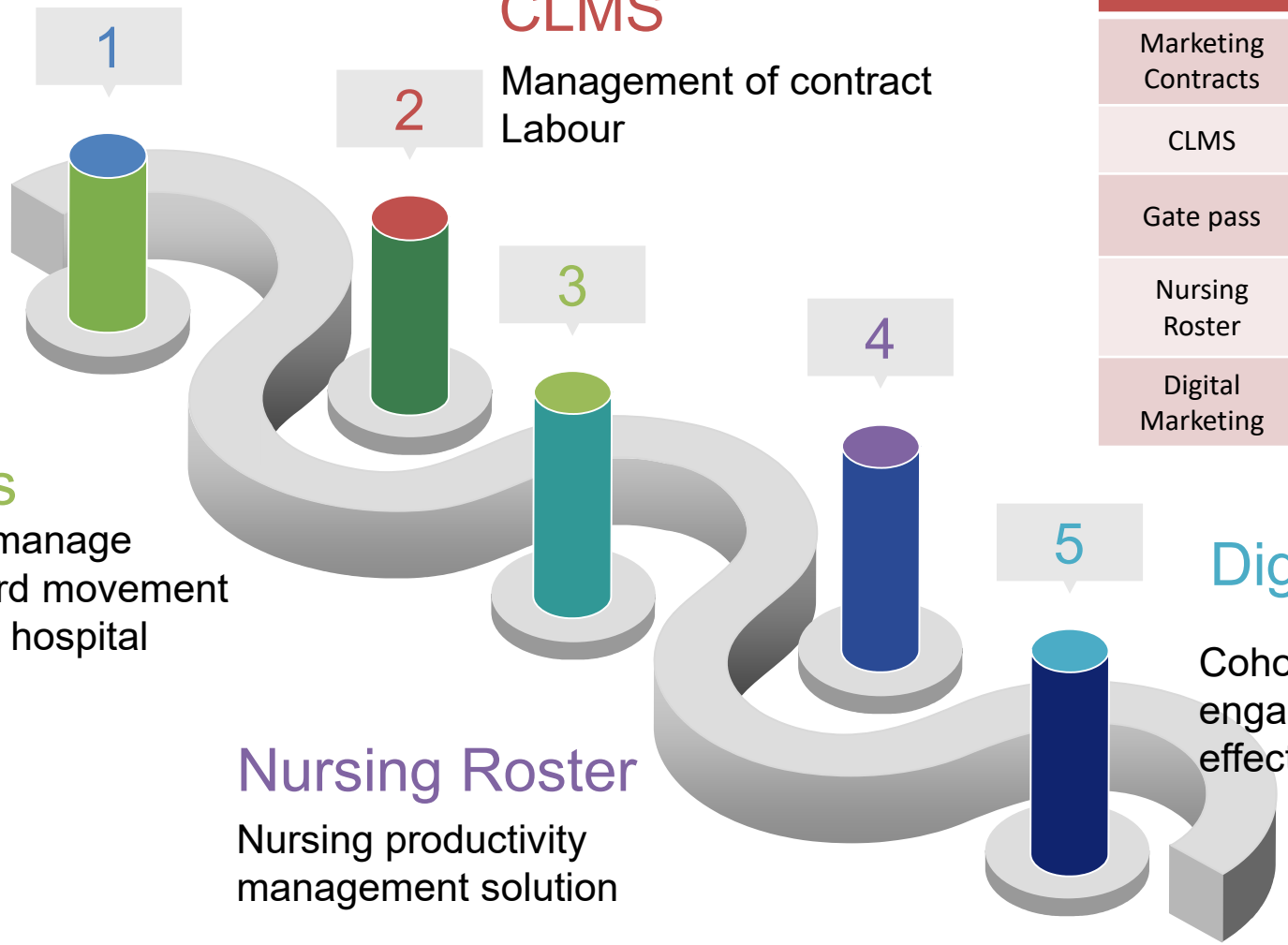
Application to manage inward / outward movement of goods in the hospital

Nursing Roster

Nursing productivity management solution

Digital Marketing

Cohort based patient engagement platform & for effective lead management



Application	LKO	Patna	Indore	GGN
Marketing Contracts	Q1	Q2	-	
CLMS	Q2	Q3	Q1	
Gate pass	Q2	Q3	Q1	
Nursing Roster	Q3	Q4	-	
Digital Marketing	Q2	Q2	Q2	Q2

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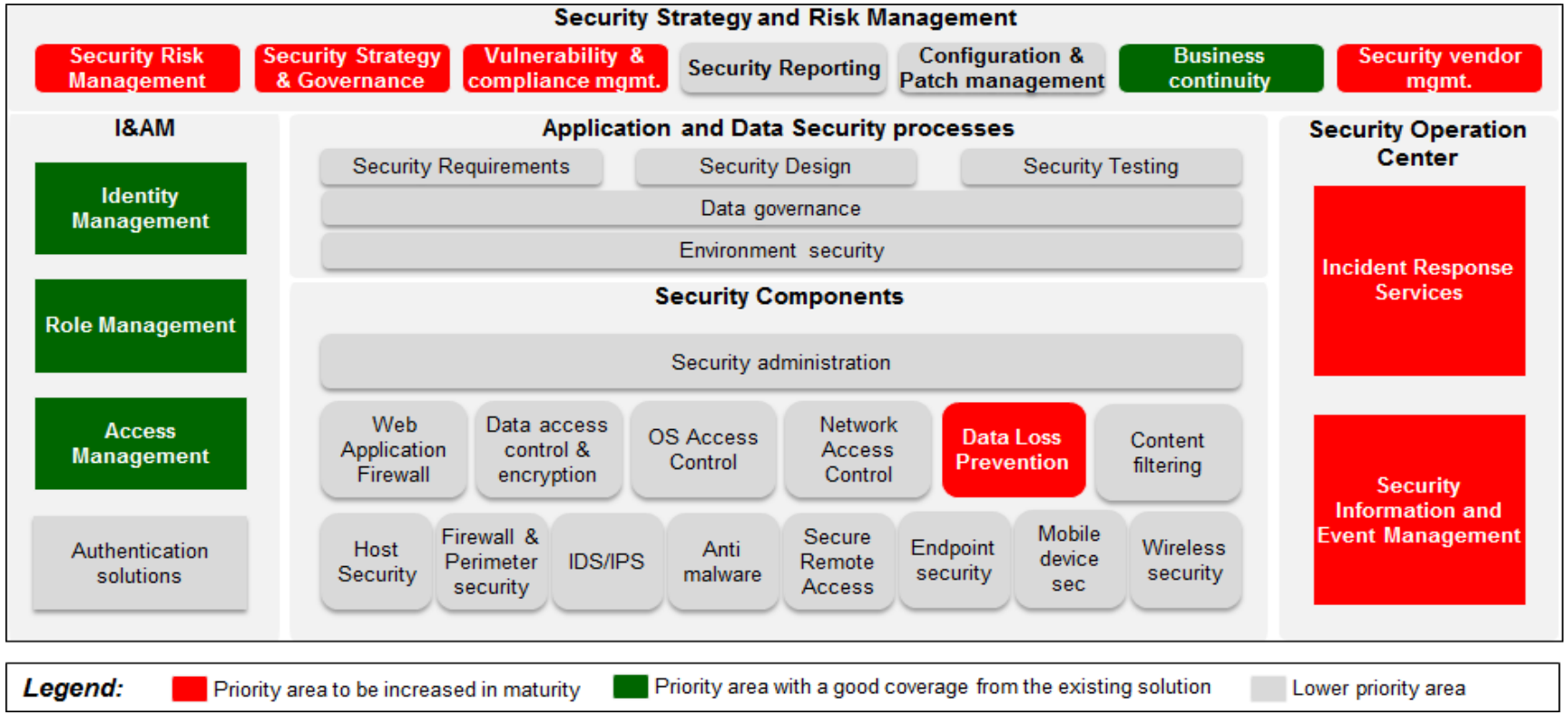
Risks

Cybersecurity risks

Gaps & Priorities

Gaps creating considerable risk to be addressed in short term:

- Security risk management establishment
- Data loss prevention management
- Vulnerability management
- Security governance implementation
- Security Operation Center (SOC) set-up
- Security vendor management



Goals

- Asses security implication
- Maintain control of IT assets from a security perspective
- Protect confidential patient data
- Maintain compliance with local laws and regulations

What we don't know we don't know

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Cybersecurity Mitigation Planning

1

ASSESSMENT

Assess to Identify cybersecurity risks

Design cybersecurity framework based on roadmap

2

IMPLEMENTATION

Implement roadmap initiatives including tech implementations

3

VERIFICATION

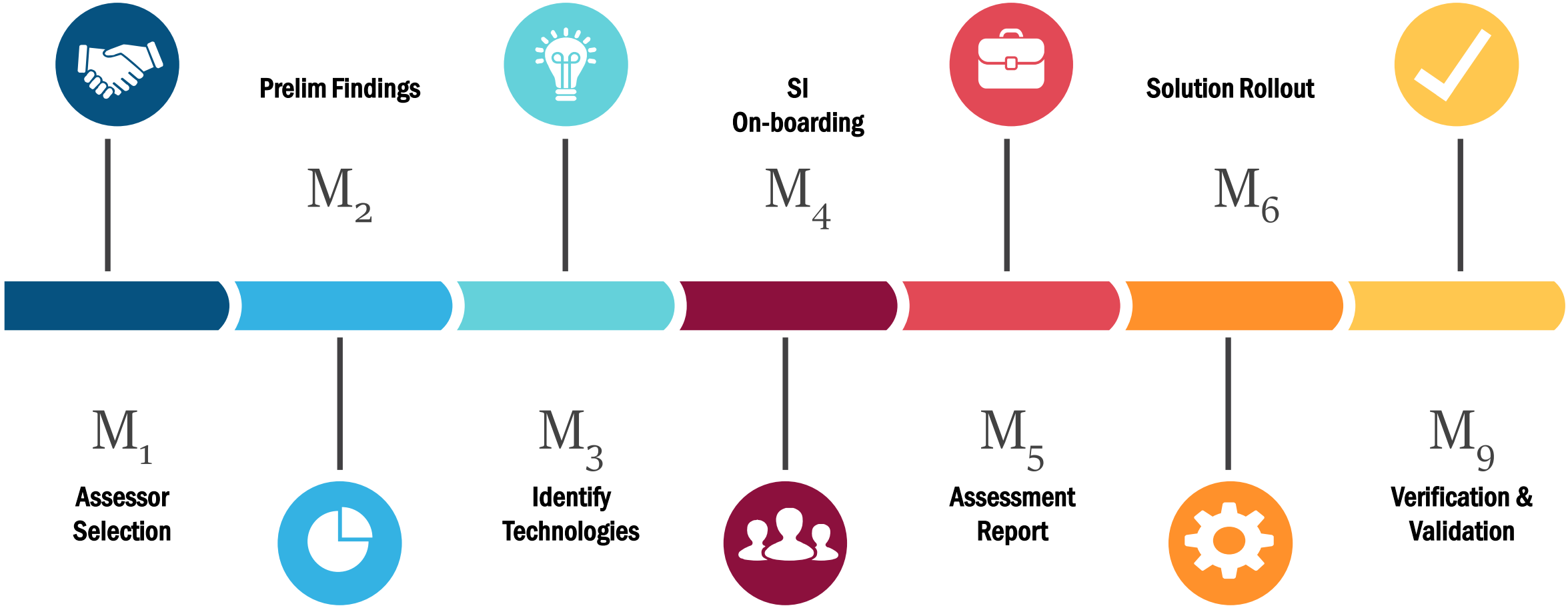
Verify and maintain security processes and technologies

Engage **Big4** for performing assessments and designing frameworks

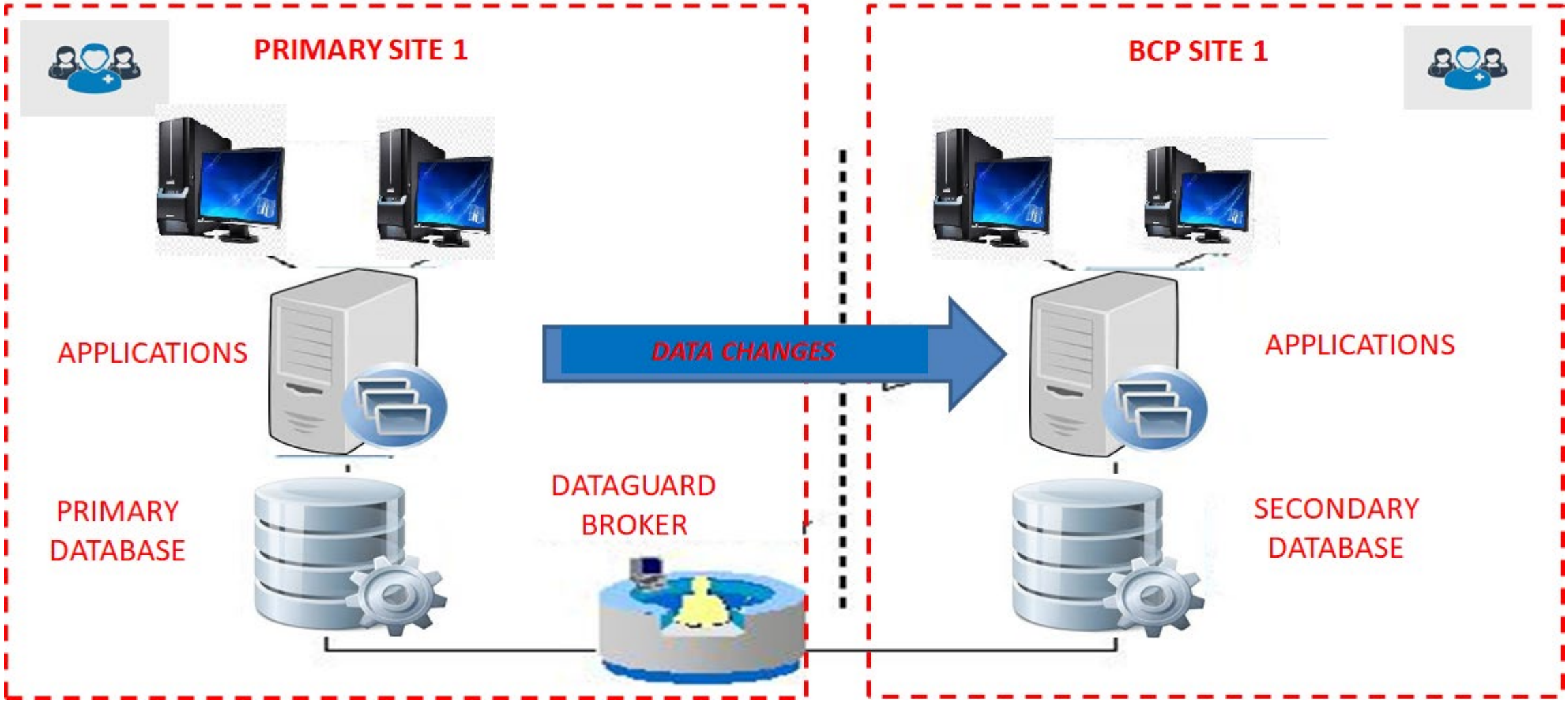
Leverage **niche technology** companies for implementation

Selected **Big4** to do the verification of implementation

Cybersecurity Mitigation Timelines



Proposed BCP / DR Sites



IN CASE OF PRIMARY SITE FAILURE APPLICATIONS USERS CAN CONNECT TO SERVERS OF BCP SITE OR CAN EVEN PHYSICALLY MOVE TO WORK FROM BCP SITE IF PRIMARY SITE IS NON FUNCTIONAL

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BCP / DR: Budget and Timelines

Application	Current Site	BCP/DR Site	Cost in (₹) Lakhs		Timelines in Months
			**Capex	*Opex	
Gurgaon HIS	Gurgaon DC	Mini DC at Jivaka	610	15	10
EMR App	Gurgaon DC	Mini DC at Jivaka	16	15	10
Patient Portal	Gurgaon DC	Mini DC at Jivaka	16	15	10
SAP	Gurgaon DC	Patna DC	27	5	7
LIMS	Gurgaon DC	Lucknow DC	29	5	7
OPD Pharmacy	Gurgaon DC	Patna DC	25	5	7
HRMS	Gurgaon DC	Lucknow DC	30	5	7
Total Estimated Capex & Opex			753	65	

** Capex includes costs of Infra and software licenses

- Opex cost is per annum and includes cost of network connectivity, man power and operation
- Lucknow HIS, Patna HIS, BI and other applications will be considered in next phase

Data loss elimination | Minimize critical process interruption | Continuity of business

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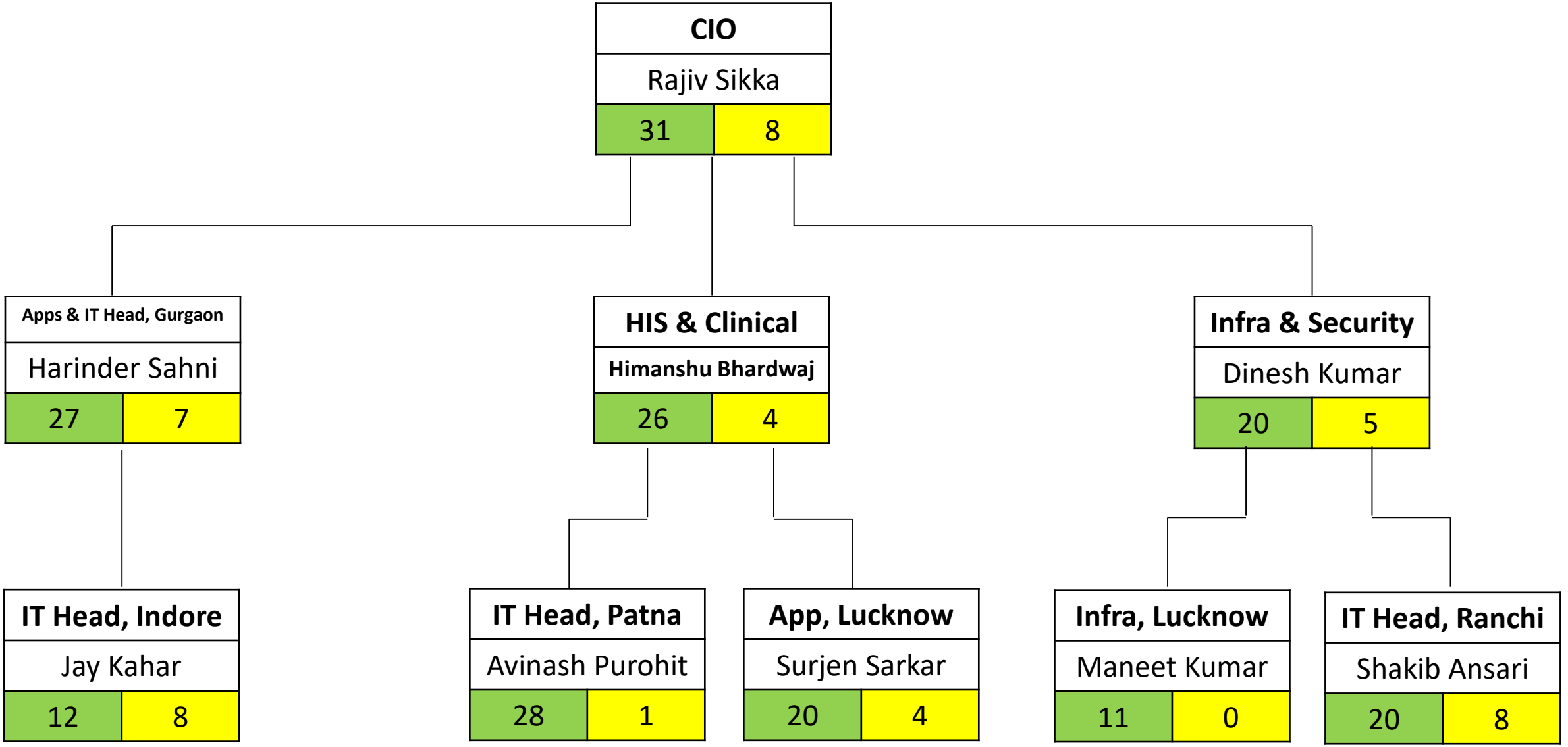
IT Organization

Infra: Assets under management



Thank You