CONVENZIS

2023

Headlined by: exponential-e

Welcome to the NHS Innovation Conference 2023

5th July 2023
08:00am – 16:00pm
15 Hatfields, London

THE NHS INNOVATION CONFERENCE

2023

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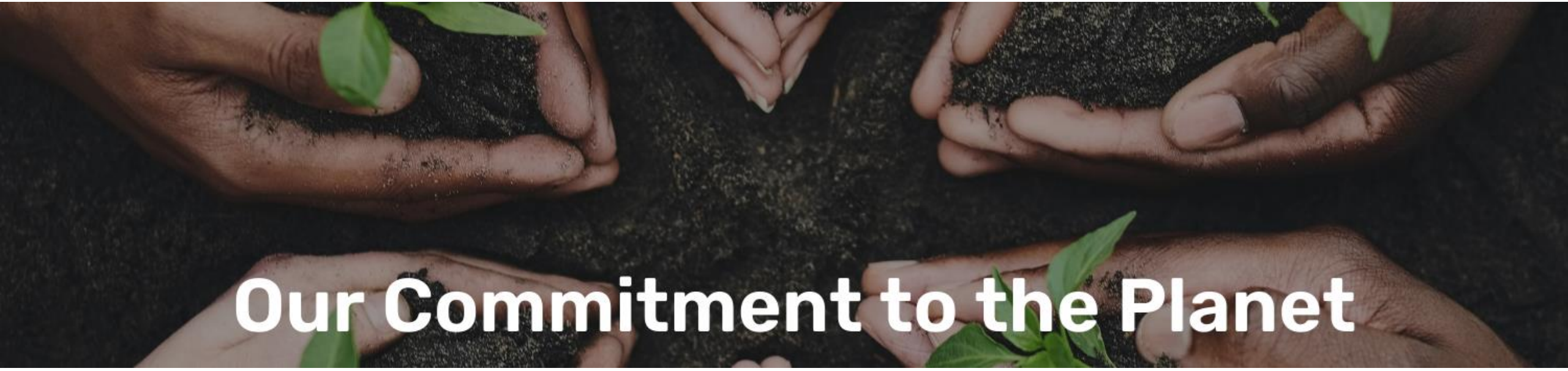
SCAN ME

Current Trees Planted to date: 10,444



For Each Delegate Attending Our In-Person Event Today, we will be planting 1 tree with our Key Sustainability Partner

PLAY IT GREEN

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Chair Opening Address

Douglas Hamandishe

Chief Digital Officer/Broadcaster and Presenter - **Context Heath and Centric Health Media**

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Speaking Now…

Dr Claire Bloomfield

Director of Centre for Improving Data Collaboration - **NHS England**

Data for R&D PROGRAMME

Creating a data ecosystem for research and innovation

Dr Claire Bloomfield

5 July 2023

Data for R&D
PROGRAMME

NHS

Health data is critical to enable life science research and development

Finding patients who may be candidates for clinical trials

Measuring real world effectiveness of medicines and other interventions

Training models which can help predict and diagnose disease

Data for R&D
PROGRAMME

NHS

Powerful moments, powered by NHS data

Data for R&D PROGRAMME

NHS

Enabling secure and efficient use of health data is a key area of UK Government and NHS England policy

Up to £200 million to boost NHS healthcare data research

March 2022

Investment to be used for:

- A system of national and regional Secure Data Environments for research
- Boosting data-driven clinical trials
- Enhancing access to NHS genomics data for research

The Data for R&D Programme

Goldacre review

published April 2022

The review recommends to:

- Adopt data access platforms as standard across the NHS
- Transform career paths and leadership for NHS analysts
- Commit to open working practises to increase transparency
- Earn public trust through concrete action

Data Saves Lives Strategy

published June 2022

The strategy includes:

- Greater access to GP records through NHS App
- Commitment to Secure Data Environments, 11 clear guidelines
- Using data to combat the COVID-19 backlog
- £25m for rapid digitisation of social care

Our programme is investing in skills and technology to make data available for R&D purposes whilst protecting privacy and confidentiality

Volume

Access to **national and other large-scale data assets** to support clinical trials and epidemiological studies.

We are focused on 3 'V's of data

Velocity

Streamlined decision-making processes on research governance

Variety

Enabling access to a **variety of linked data sources**, e.g. primary and secondary care, disease-specific data, multimodal data (e.g. imaging, genomics, patient-generated data), demographic, prescribing and outcomes data.

Data for R&D PROGRAMME

NHS

Different services for different user needs

Investments

Enablers

Data-enabled trials

DIGITRIALS
Health Data Research Hub for Clinical Trials

Research Secure Data Environment NETWORK

England SECURE DATA ENVIRONMENT

Sub National SDEs

- East Midlands SECURE DATA ENVIRONMENT
- West Midlands SECURE DATA ENVIRONMENT
- Kent, Medway & Sussex SECURE DATA ENVIRONMENT
- North West SECURE DATA ENVIRONMENT
- Thames Valley & Surrey SECURE DATA ENVIRONMENT
- Wessex SECURE DATA ENVIRONMENT
- London SECURE DATA ENVIRONMENT
- North East and North Cumbria SECURE DATA ENVIRONMENT
- East of England SECURE DATA ENVIRONMENT
- Connected Yorkshire SECURE DATA ENVIRONMENT
- Great Western SECURE DATA ENVIRONMENT

Patient and public involvement and engagement

Initial Service Model

Data Access Policy

Data for R&D PROGRAMME

NHS

These services are already enabling important, data driven innovation

DIGITRIALS
Health Data Research Hub for Clinical Trials

Supporting recruitment of 140,000 patients to Galleri Trial – a new blood test for 50 types of cancer

Thames Valley & Surrey SECURE DATA ENVIRONMENT

Investigating the deployment of AI technology in the prostate cancer pathway

Wessex SECURE DATA ENVIRONMENT

Prediction and planning of complex discharge using ML and optimisation algorithms

Yorkshire & Humber SECURE DATA ENVIRONMENT

Clinical trial recruitment utilising the Connected Bradford dataset, which contains individually-linked pseudonymised data for 1m+ patients across primary and secondary care, 111

Data for R&D
PROGRAMME

NHS

Where are we innovating in data enabled trials?

DIGITRIALS
Health Data Research Hub for Clinical Trials

Supporting recruitment of 140,000 patients to Galleri Trial – a new blood test for 50 types of cancer

Areas of innovation

- ❑ Using nationally collected data to support clinical trial recruitment- with first pass eligibility checks
- ❑ Unprecedented scale
- ❑ Legal directions to allow patients to be contacted
- ❑ Ongoing user experience research, leading to high conversion rate

Data for R&D
PROGRAMME

NHS

Where are we innovating in data access and linkage?

Thames Valley & Surrey SECURE DATA ENVIRONMENT

Wessex SECURE DATA ENVIRONMENT

Yorkshire & Humber SECURE DATA ENVIRONMENT

Areas of innovation

- Large scale linking of data across care settings (primary, secondary, community, ambulance) for research purposes, and making this available in SDEs
- Using real world data for trial recruitment, enabling granular inclusion/exclusion criteria, at multimillion population scale
- Applying machine learning to large data sets to help predict complex discharge

Data for R&D
PROGRAMME

NHS

Research underpinned by leveraging best practice

Agreement and adoption of common data standards	Supporting OMOP adoption across SDE network
Common approaches to de-identification and linkage	Facilitating common IG and technical approaches through an SDE community of practice
Facilitating collaboration across technical suppliers	Providing a range of opportunities for technical suppliers and experts to engage with the programme and delivery teams
Harmonising data access process and user experience	Providing central guidance on data access committees and developing a consistent 'Go-to-Market' model alongside commercial principles
New approaches to public communication and involvement	Supporting gold standard citizen juries, citizen engagement, and comms campaigns; utilising NHS app and other channels

Going forward..

SDEs will enable large scale, data-driven research to be conducted without data leaving the NHS.

We expect **DigiTrials to increase the number and complexity of recruitment activities** it can support

We expect hundreds of research projects to be conducted in SDEs, **with less burden on NHS staff, increased data security, and greater returns to the NHS**

Data for R&D
PROGRAMME

NHS

Thank you

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Speaking Now…

Dr Peter Thomas

Chief Clinical Information Officer and Director of Digital Medicine - **Moorfields Eye Hospital**

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Speaking Now…

Adrian Byrne

Director of Informatics
University Hospitals -
Southampton Foundation Trust

2023

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Up Next…

Headline Sponsor

exponential-e
APPLIED INNOVATION

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Speaking Now…

Afshin Attari

Director of Public Sector & Unified Platforms - **Exponential-e**

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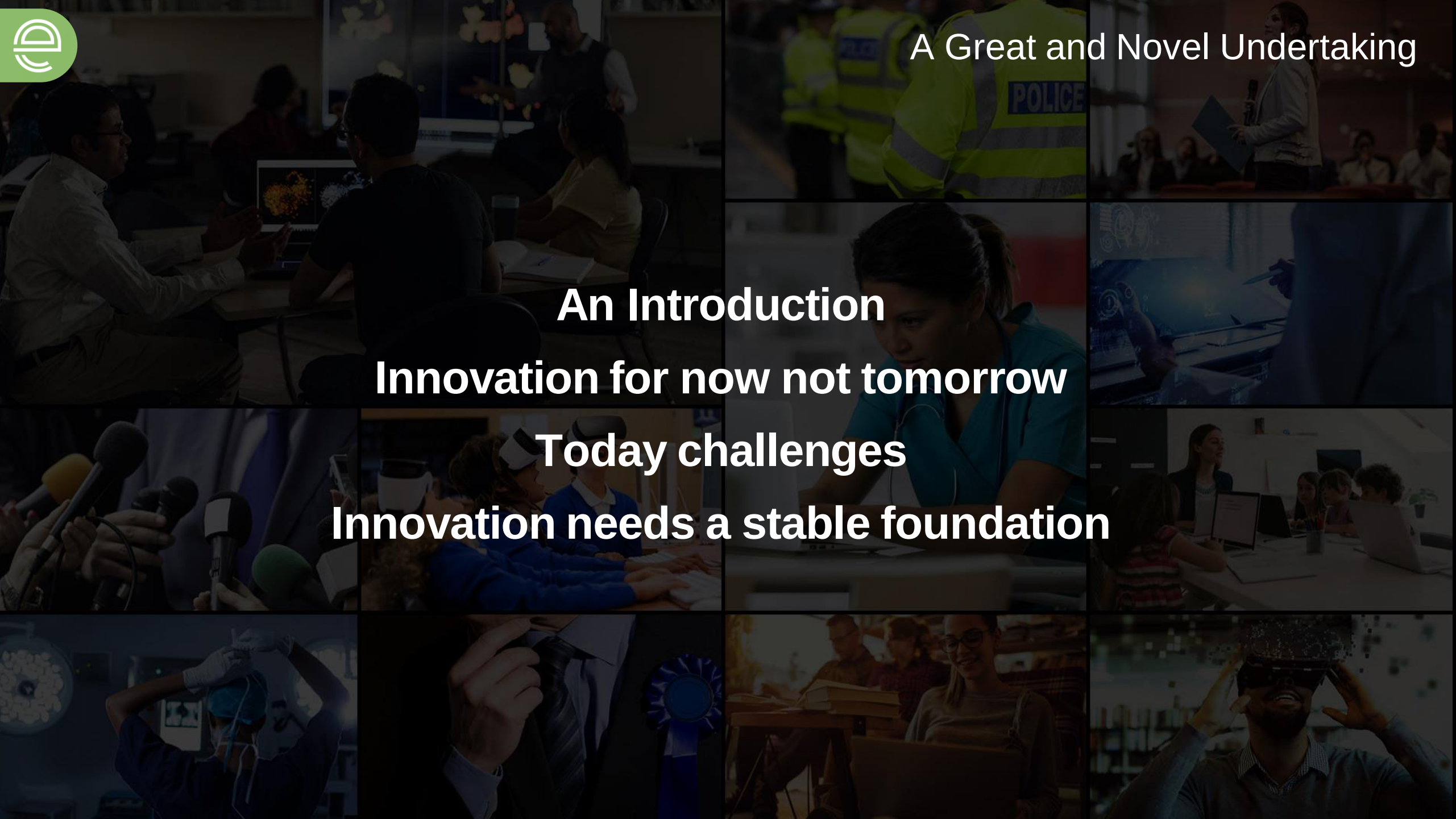
APPLIED INNOVATION

A New Era for the NHS:

Embracing Digital Innovations and Transformative Technologies

Afshin Attari
Director - Public Sector & Unified Platforms
MBA, MSc, BEng (Hons)



An Introduction

Innovation for now not tomorrow

Today challenges

Innovation needs a stable foundation

Well Pumps and Armchairs : A change of perspective

Dr John Snow –

- A pattern, not seen before
- Difficulty convincing community of findings

Esme Hadfield FRCS –

- A pattern intuitively discovered
- Not followed up for years

Successful outcomes needed 3 things:

- To SEE the pattern
- To DEVELOP the through COMMUNICATION
- To COLLABORATE to form a planned response

Digital Pathology

Safety

- Protection against misidentification errors
- Permanent non perishable record
- Potential Integration with patient identification systems

Efficiency

- Pathologist efficiency
- Parallel workflows
- Remote / Flexible working / part time workforce

Quality

- Second Opinions
- Specialist Opinions
- Rapid access and review of previous history
- Annotations and measurements

AI Enablement

- Large scale image comparison
- Predictive and Prescriptive outcomes
- Large scale data sharing and collaboration
- Deep learning based pattern recognition

Roadmap : Enabling continual Innovation

Service Management

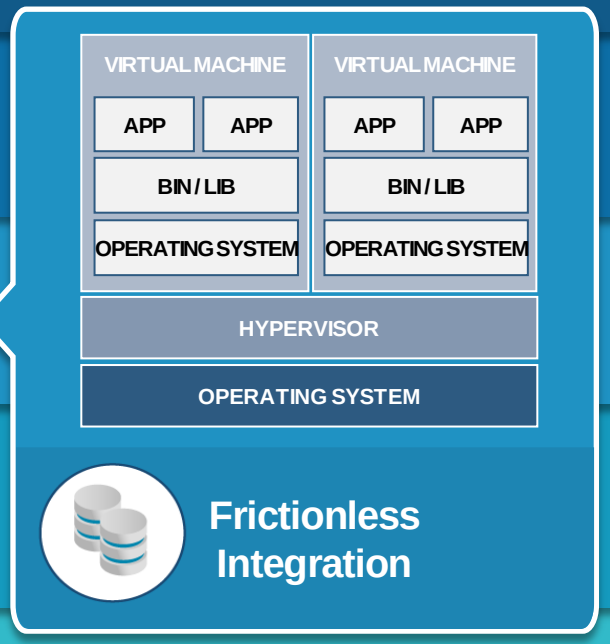
Collaboration

Integration

Cloud and Hosted compute

End User Compute – mobile, secure, fit for purpose

Embrace the Cloud, Robust Secure Connectivity, break away from silos to allow collaboration



SERVICE MANAGEMENT

Service Desk

Collaboration And communication

Application And Infrastructure management

End User Compute

Hosting : dedicated and public cloud

Connectivity and secure access

Supporting Innovation

- Enabling Innovation means looking both at the big things and the little things
- The foundation for innovation means getting the Infrastructure, its management and the user experience right
- COVID taught us how to be agile
- The service wrap and partner ecosystem supports it all
- Security and Information Management is mandatory

Innovation in Telemedicine's - Secure Access

Exponential-e Ltd is delivering a robust and innovative solution to allow NHS users access to telemedicine systems via a secure encrypted platform. This service, meeting all standards of Health and Social Care Network (HSCN) connectivity, will allow healthcare practitioners covering 133 locations within HM Prisons, Young Offender Institutes, Secure Children Homes and Immigration Removal Centres to reduce offsite and outside visits to less secure locations and provide assessment at the point of patient.

NHS England

- Adopting Innovation – Firm foundations
- Innovation – impacts large and small problems
- Stay focused on change and agility
- Stay Secure

In the next 5/10 years we will innovate more than in the last 75 years

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Q&A Panel

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Morning Break

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Chair Morning Reflection

Douglas Hamandishe

Chief Digital Officer/Broadcaster and Presenter - **Context Heath and Centric Health Media**

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Up Next…

DNV Imatis

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Speaking Now…

Michael Fjeldstad
Solution Consultant - **DNV Imatis AS**

Christopher Betts
Business Development and Sales Leader - **DNV Imatis**

DNV Imatis

Care synchronised

The NHS Innovation Conference 2023

About

Scandinavian software company
Founded 1991

E-health solutions since 2003

Head office in Norway

A part of DNV since 2021

85 employees
Norway, Denmark, Australia, UK, Italy, and Vietnam

DNV Imatis

Number of patients in DNV Imatis: **38 975 000**

8 countries

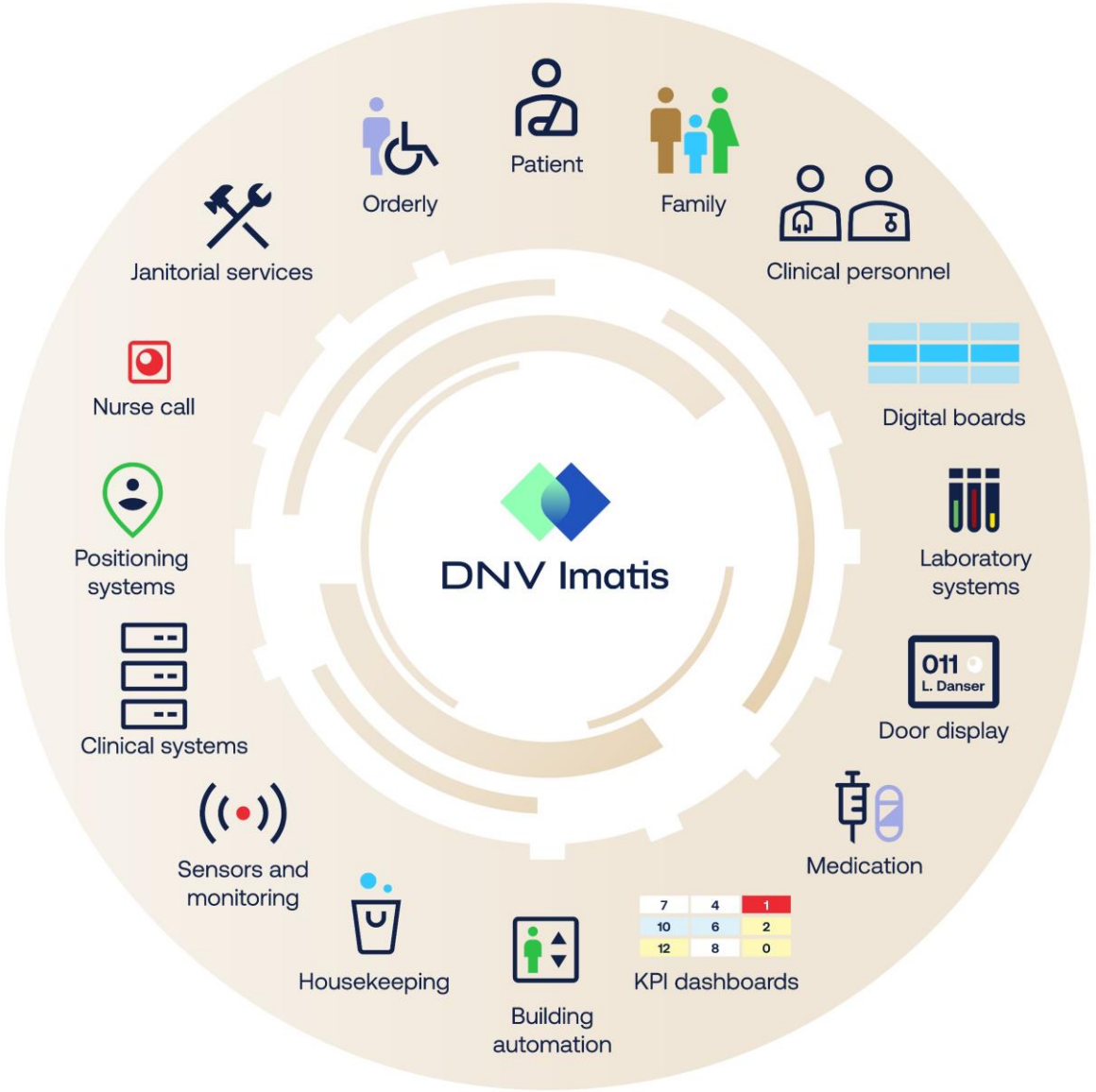
40 hospitals

6 750 beds

41 900
professional users

DNV Imatis Platform

- Voice, video, chat, text messages, images, presence status and contracts all integrated into the same Unified and role-based Nurse Communicator
- Enable silent nurse call for all wards
- Request orderly housekeeping, meal service and technical services in context from same device
- Critical alerts from lab, X-ray, telemetry and medical devices silent to the responsible resource
- More than 250 more SMART apps to add (fall risk, NEWS2, check-lists and much more)



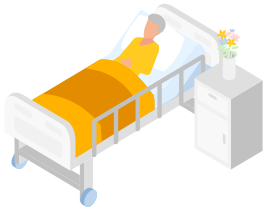
DNV Imatis

Patient application

An innovation project with Western Norway Regional Health Authority

What were the challenges and needs?

Current situation with the nurse call system

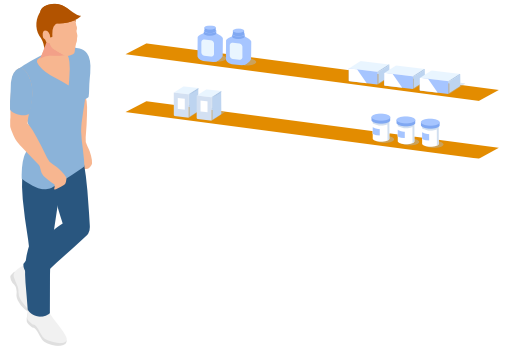


Peter is currently busy with a task in the medicine room

Current situation with the nurse call system

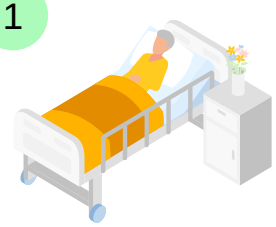
1

Carl signals Peter through the nurse call system



Current situation with the nurse call system

1



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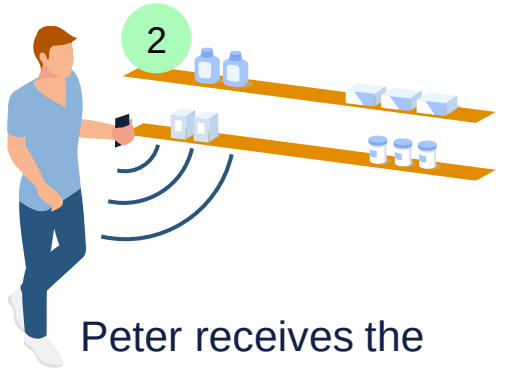
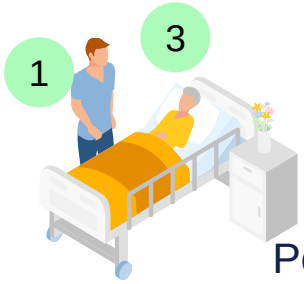
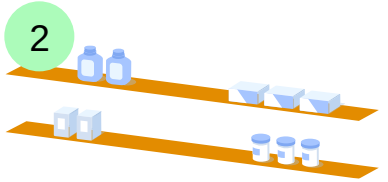


Peter receives the nurse call and does not know what the patient needs

Current situation with the nurse call system



Peter goes to Carl who asks for pain medication



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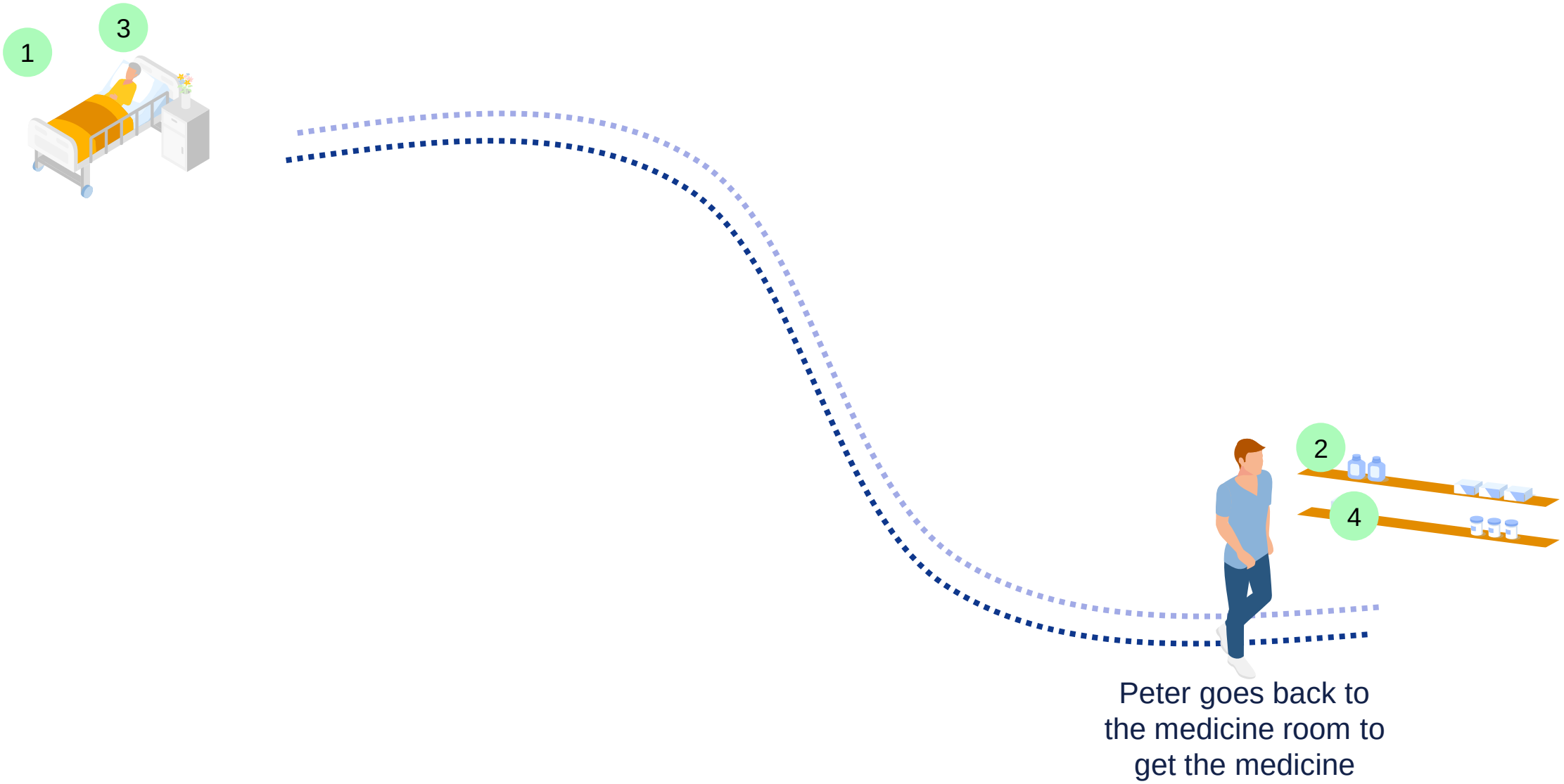
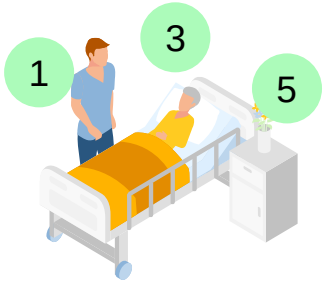
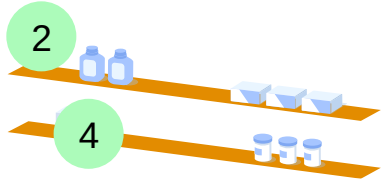
Current situation with the nurse call system



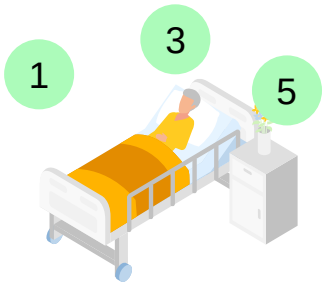
Current situation with the nurse call system

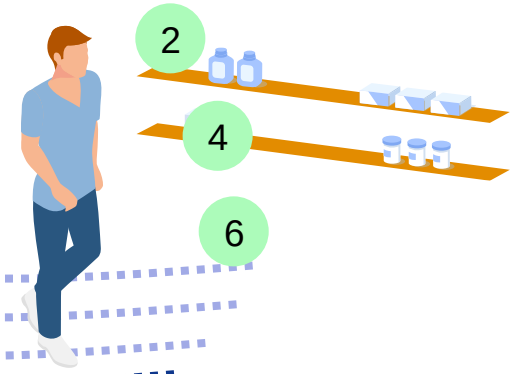


Peter delivers the medicine to Carl



Current situation with the nurse call system





Peter goes back to the task he was working on before the nurse call

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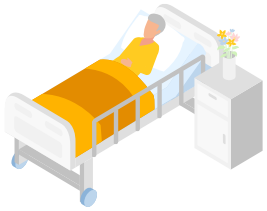
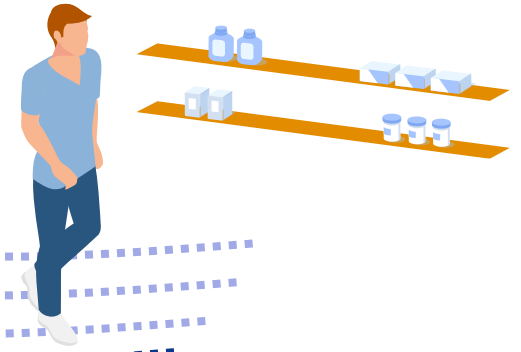
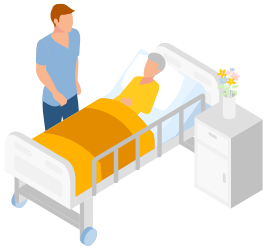
Current situation with the nurse call system



What if you could reduce the time and distance walked during the shift for these tasks?

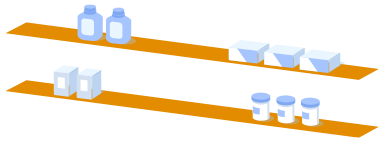


With patient requests in addition to the nurse call system



When you see what the patient needs, you could:

- Decide if there is time to finish the task at hand
- Stop by any relevant location to get what the patient needs, on the way to the room
- Prioritise between patient requests
- Reduce the time spent on walking and increase the time spent with patients



New hospitals

with many single rooms

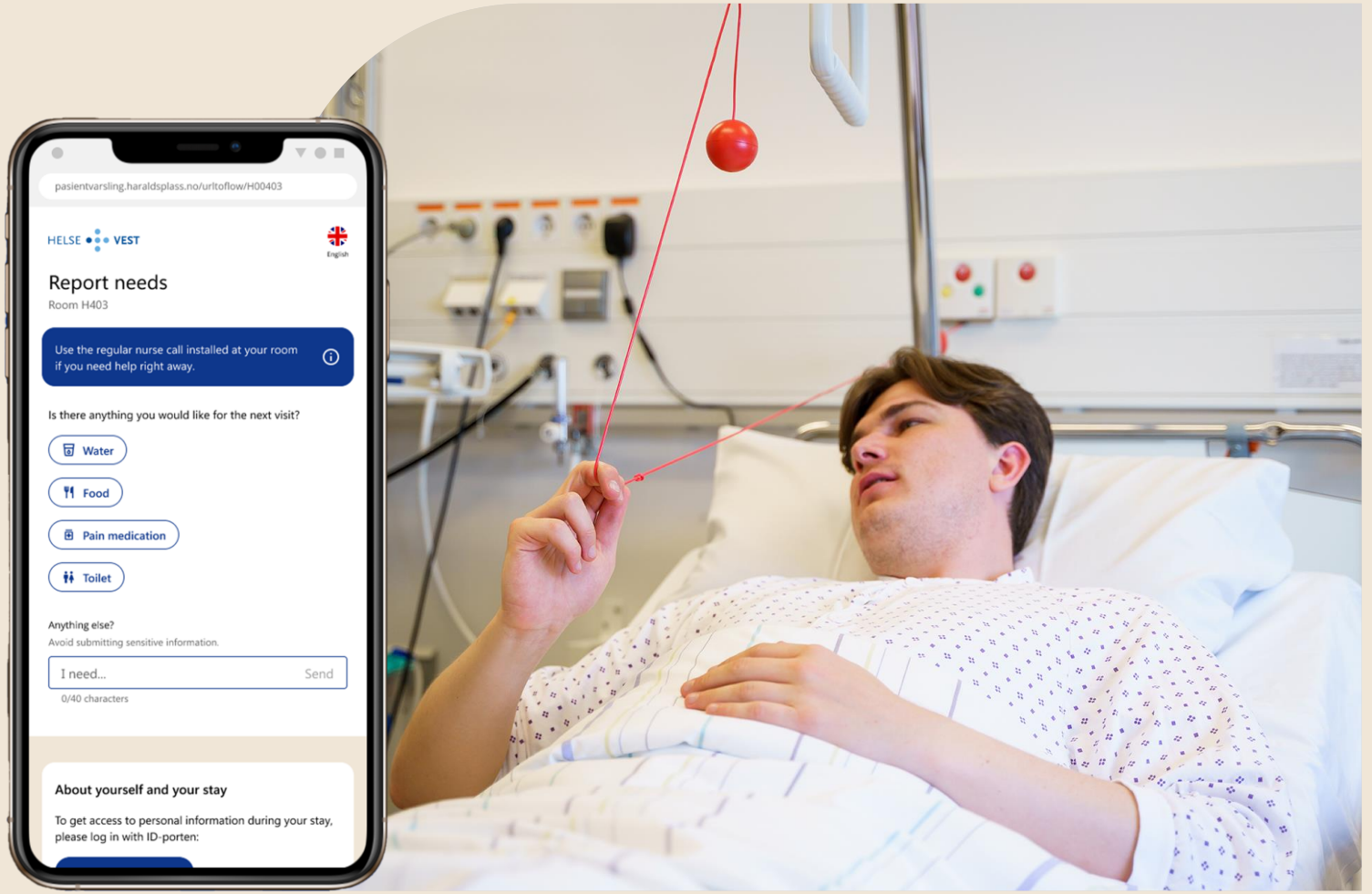
Haukeland University Hospital

Covid 19

Passive Patients

We empower patients to use their own resources

Deliver additional value to existing nurse call systems



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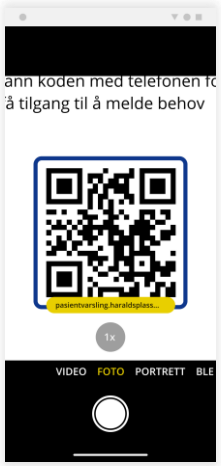
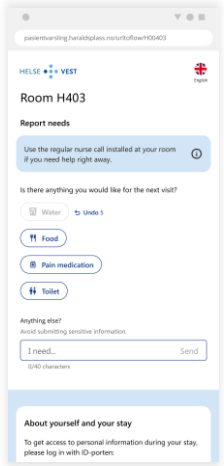
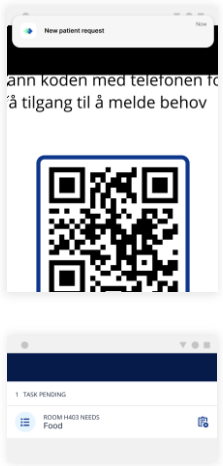
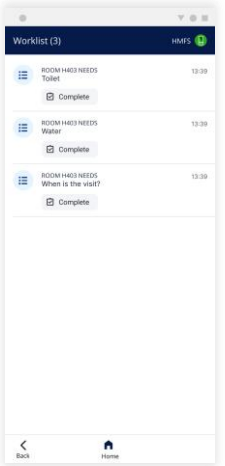
What does it look like?

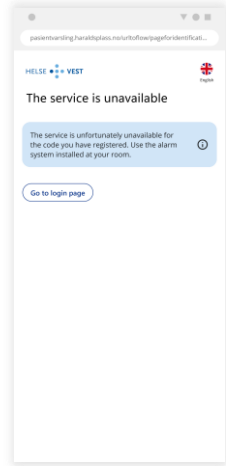
User journey to report needs











BEFORE

DURING

AFTER

Care personnel register the phone number of the patient in the digital interaction board

The DNV Imatis solution automatically sends out an SMS with a personal login code

The patient scans the QR code to get to the login page

The patient enters his/hers personal code

The patient gets access to submit any needs

The patient submits needs

The button becomes inactive

Responsible nurse receives the task

Responsible nurse performs the task

The responsible nurse changes the task to done

The button goes back to activated

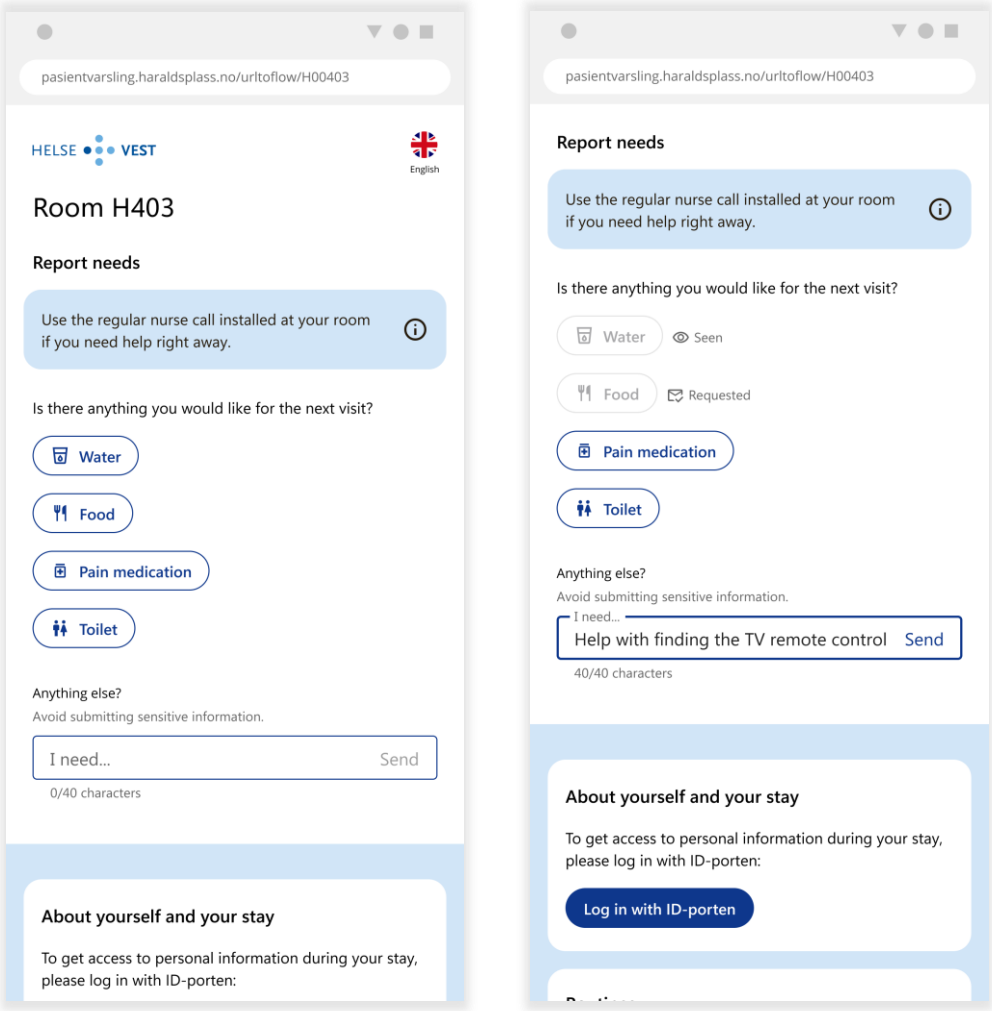
Repeteres

The patient is discharged and loses access to report needs

DNV Imatis

The patient – reports needs to the nurse

- The patient logs in via a QR code (available in the room)
- A number of fixed choices and free text are available
- The patient marks the wishes and presses ‘send’
- Nurses or assistants receive the task on their work mobile phone

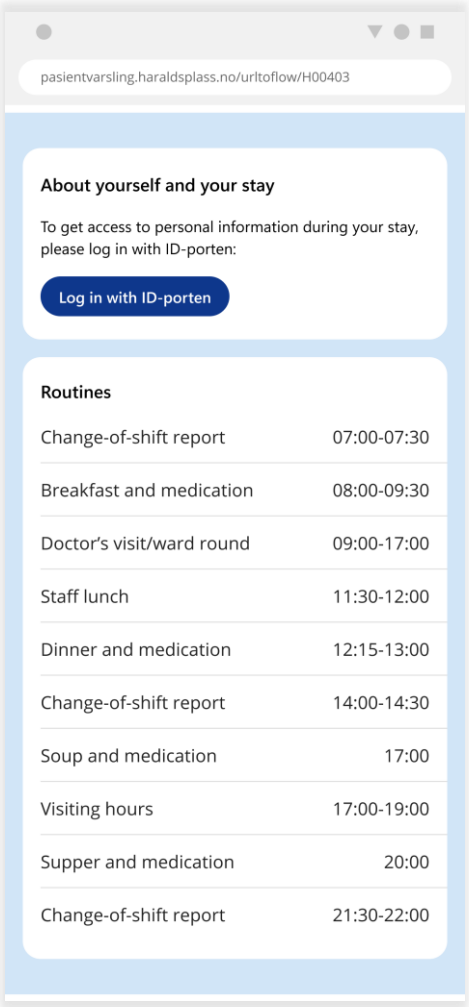


The patient – Access to the department's routines

- General routines can be visible without patient authentication, as we already know which department the patient belongs to.
- Familiarity with routines can create increased security

Criteria:

- It must allow to provide information about general times that may affect the response time of carers
- Information about routines must be provided in such a way that the patient does not need to ask for general routines



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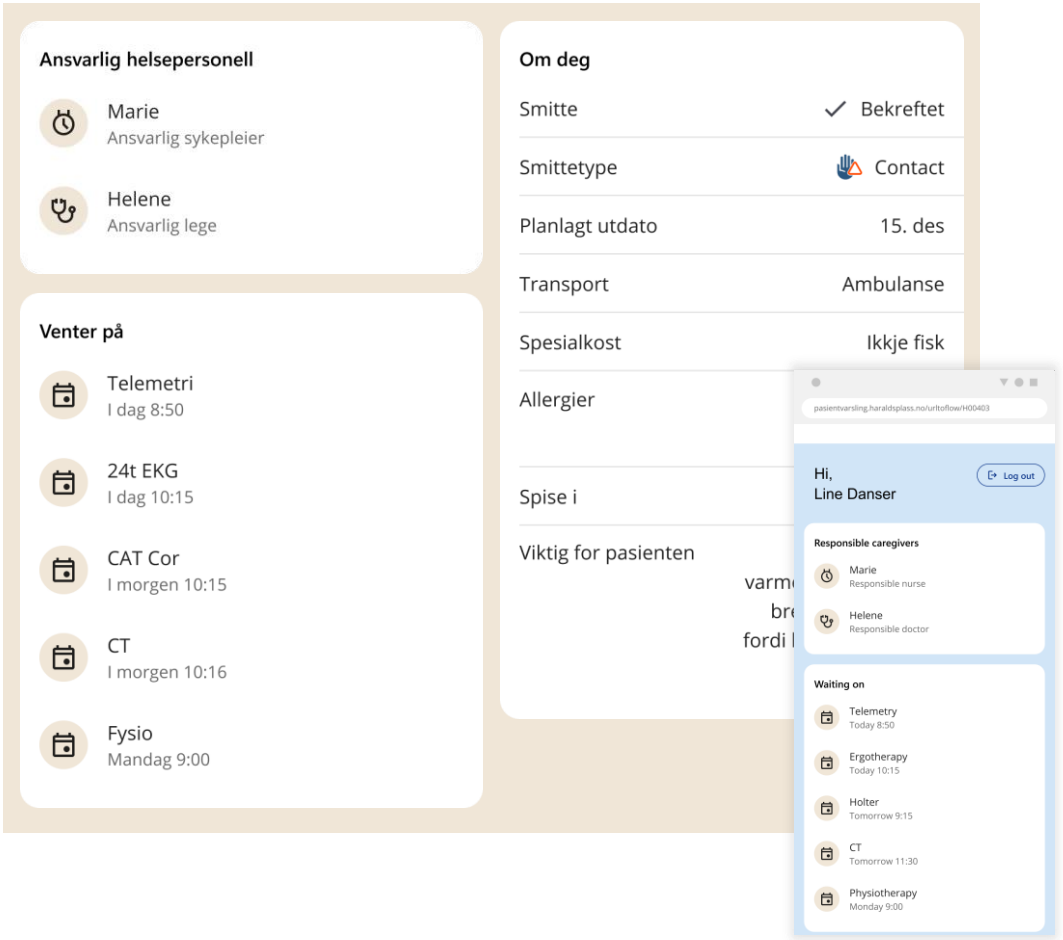
The patient – available information

- To view sensitive information, you must log in through an authentication service

- Three types of information:
  - ***Who*** is responsible for me and my care?
  - ***When*** are my hospital appointments?
  - ***What*** information is registered about me?

Criteria:

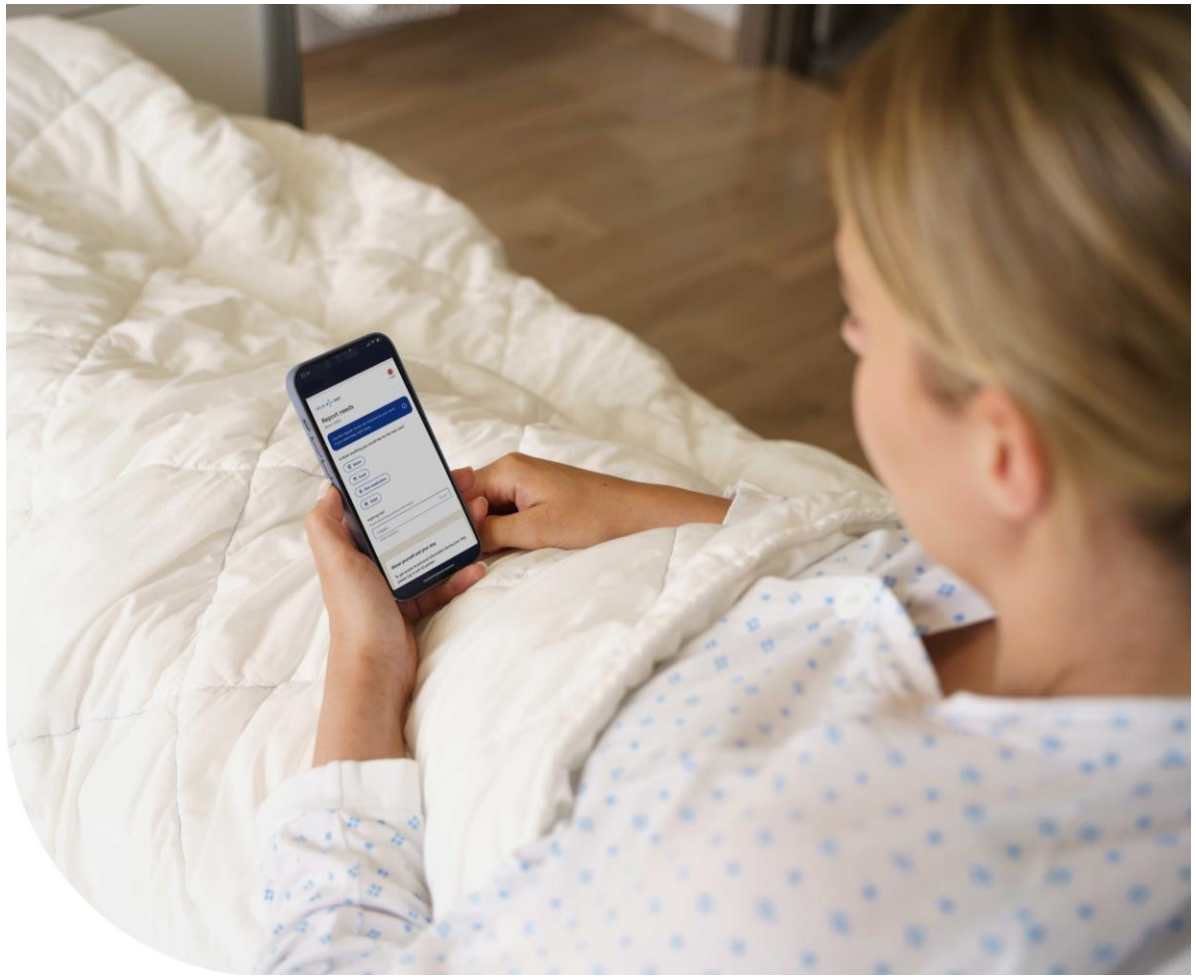
- Display useful information for the patient
- DO NOT display information that can make the patient uneasy – only display known and already registered information
- Do not cause additional work for carers



Benefits

Benefits

- Clear communication between patient and healthcare personnel
- Increased patient engagement
- Appointments on the patient's own phone
- Extend the lifetime of the "Standard" nurse call systems
- Contribute to new hospitals being able to build private rooms
- Streamlined processes



How have we worked?

In close collaboration with the hospital and clinicians

- Acceptance test passed after the summer
- Relieve employees on the bedside posts and reduce unnecessary tasks.
- The woman’s clinic in Bergen, Western Norway Regional Health Authority, goes live in a couple of months
- Learning and iterating throughout the year
- Implement to other new hospital buildings in the Western Norway Regional Health Authority are scheduled throughout 2024

Contact

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Thank you.

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Up Next…

maintel

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Speaking Now…

Jaspal Singh Virdee
Principal Engineer UK -
Extreme Networks

Dan Davies
Chief Technical Officer -
Maintel

Simplifying the healthcare experience through digital transformation

July 2023

Extreme networks | maintel

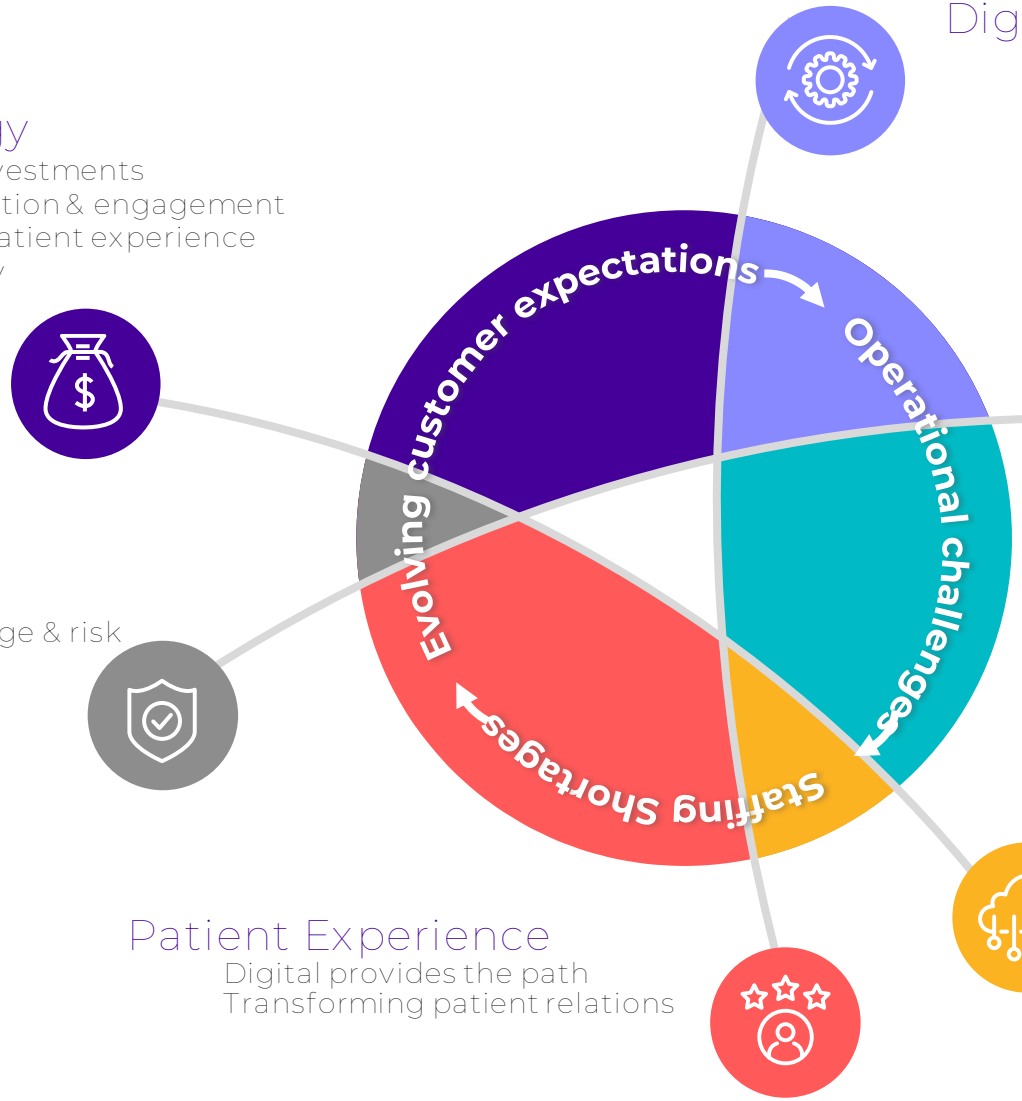
THE HEALTHCARE INDUSTRY IS CHANGING

Digital Transformation

Accelerated by the pandemic
More consumer friendly
Evolving operations & culture

Business Strategy

Aligning digital investments
Consumer satisfaction & engagement
Care quality and patient experience
IT & Cyber Security



Advanced Operations Management

Handling tasks at volume
Driving efficiency into care delivery

Cybersecurity & DSPT Compliance

Perhaps the biggest challenge & risk
Rapid digitalization
Legacy systems
Valuable data

The Internet of Medical Things (IoMT) will Transform Medicine

Connecting patients and physicians
Real-time data on patient condition
Location services & behavior tracking

Patient Experience

Digital provides the path
Transforming patient relations

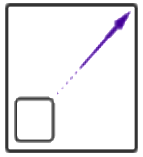
Why Extreme Networks for Healthcare?

DIGITAL TRANSFORMATION

Inherent Security

- Elastic Hyper-Segmentation
- Native Stealth
- Improved Compliance

HIPAA HITRUST AICPA SOC GDPR PCI



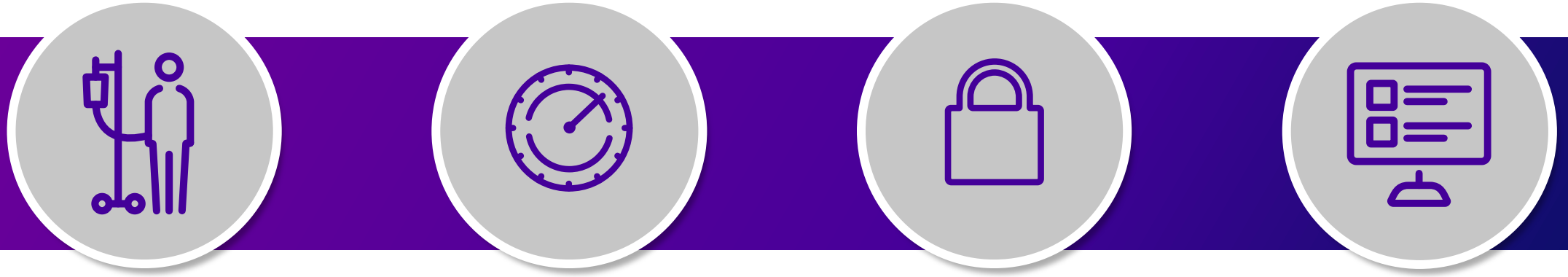
Increased Efficiency

- Universal
- Scalable
- Secure Automation
- Integrated

Industry Leading TCO

- Provable Savings
- 11x Faster Time to Service
- Government Funding & Extreme Capital Solutions Support

HEALTHCARE INDUSTRY KEY DRIVERS



Patient, clinician and guest experiences

Operational efficiency and availability

Cybersecurity

Data-driven decision making for medical innovation

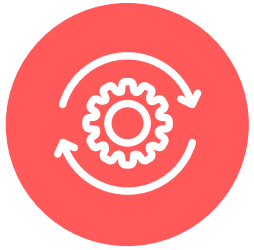
PATIENT SAFETY AND SECURITY

Isolate and Protect Medical Devices

- Security profiles applied to devices
- Isolation of devices in secure segments
- Overlay or Extreme infrastructure solution
- Wireless IDS/IPS

Contain Breaches and Vulnerabilities

- End to end network segmentation with ease and scale
- Segment elasticity; extends when user/ device connects
- Stealth topology



Enable Secure and Resilient Telemetry

- High performance, scalable telemetry without complex PIM multicast
- Validated with 3rd party telemetry systems

Policy Based Control and Compliance

- "Zero trust" environment with role based access control
- Authentication and authorization
- Automated network configuration compliance

In-line Protection of Medical Devices

Inherently Secure & Segmentation

Simplified Rollout of Telemetry

Device Fingerprinting

Next generation Clinical Wifi

Welcome Guests

Zone Level Visibility

Location Analytics

Asset Tracking

Visitor Density Heat Maps

Patient journeys improved HCAHPS scores

Secure

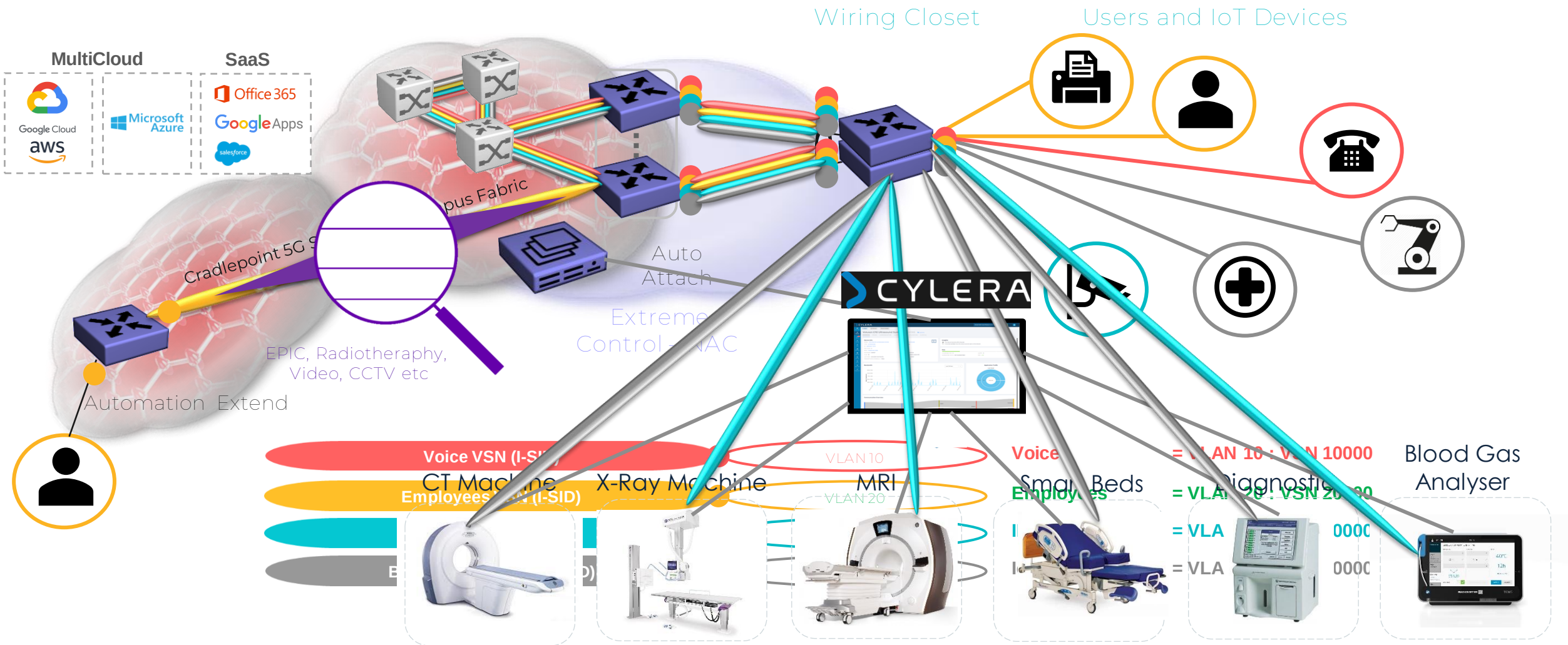
Patient/ guest analytics

TODAY

- Patient Entertainment Services
- Nurse Call
- Guest Wi-Fi
- Smart Beds
- Infusion Pumps
- Telemetry Systems
- Location Services
- Building Controls
- PoE Lighting

Automation, Security, Visibility, Optimisation

The Employee service was automatically created end-to-end upon connecting devices

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NG Bailey

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Speaking Now…

Inderpall Sall

Operations Director - **NG Bailey**

IT Services

NG Bailey

The Digital Hospital

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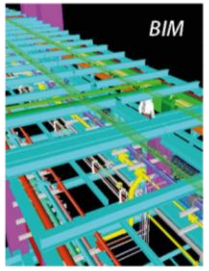
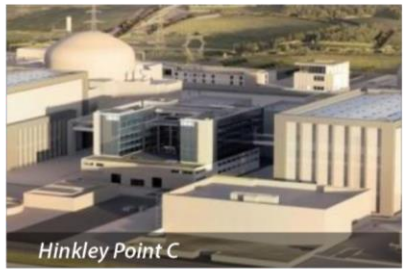
Who are we?

We are the UK's leading independent engineering and services business.

Everything we do at NG Bailey is driven by our vision: To create exceptional environments for present and future generations. We believe in bringing buildings and infrastructure to life and we know that the benefits of our work will be felt by generations to come.

Engineering



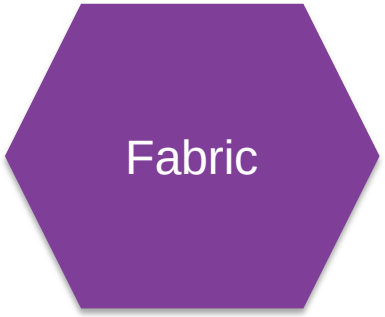


Services

Indi Sall
Operations Director
NGB ITS

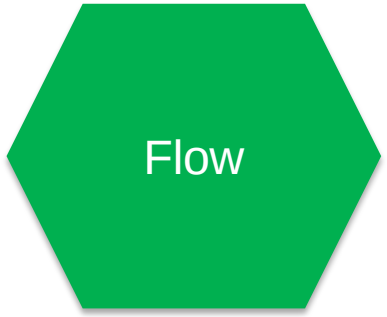
The Digital Hospital

The components of this digital hospital have been broken down into three fundamental categories; the fabric of the building, the footprint of the establishment and the flow of the operating model.



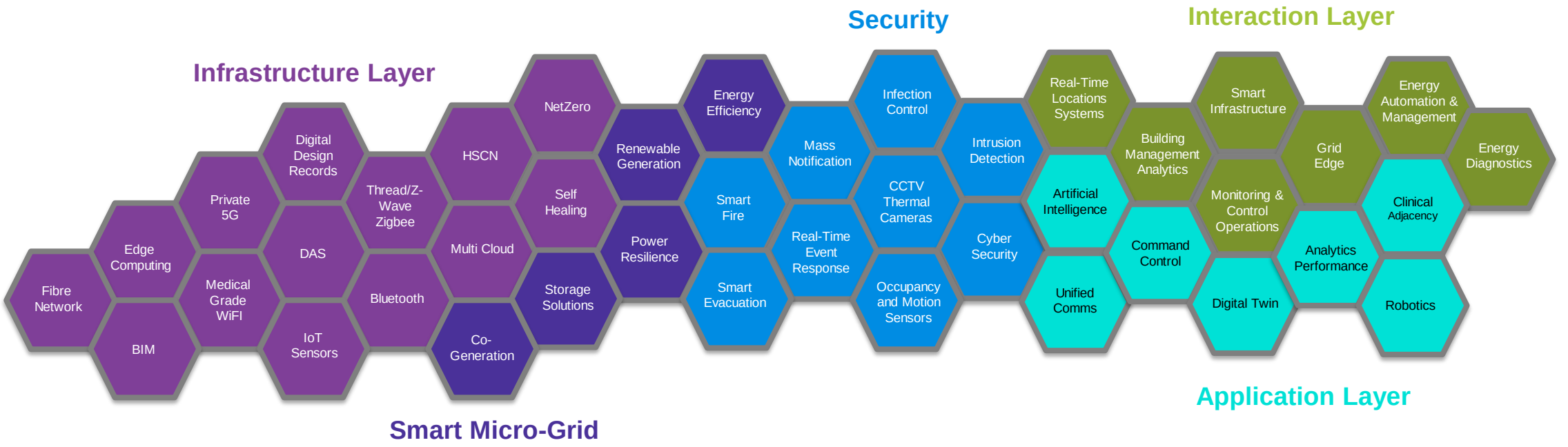
Fabric deals with delivering resource-efficient and sustainable buildings providing personalised experiences to staff, patients and their carers.

Footprint deals with the ability of non-clinical staff working remotely to support in building staff and patient care.

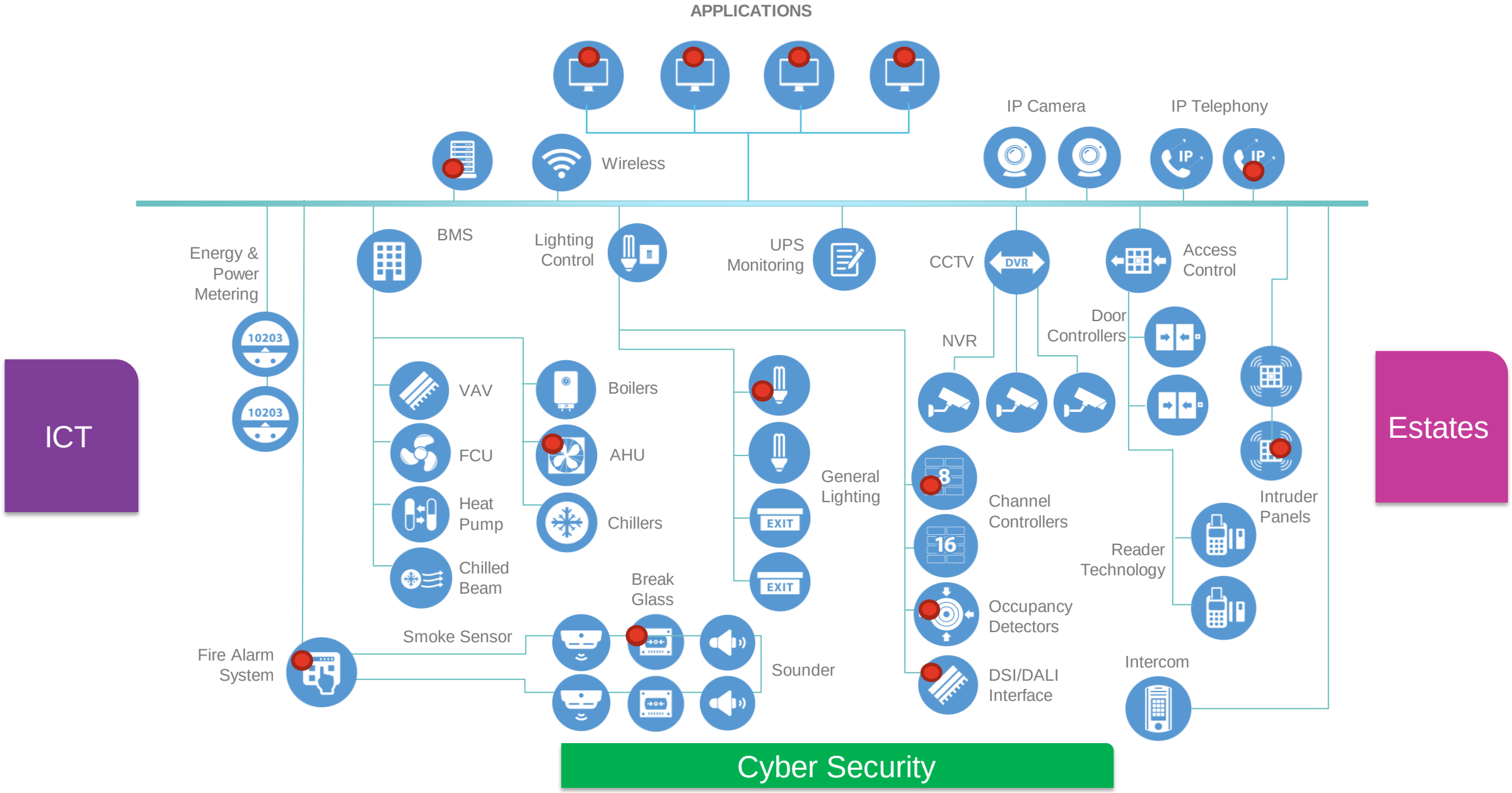


Flow deals with the operating model of establishment to describe the clinical pathways and governance surrounding it.

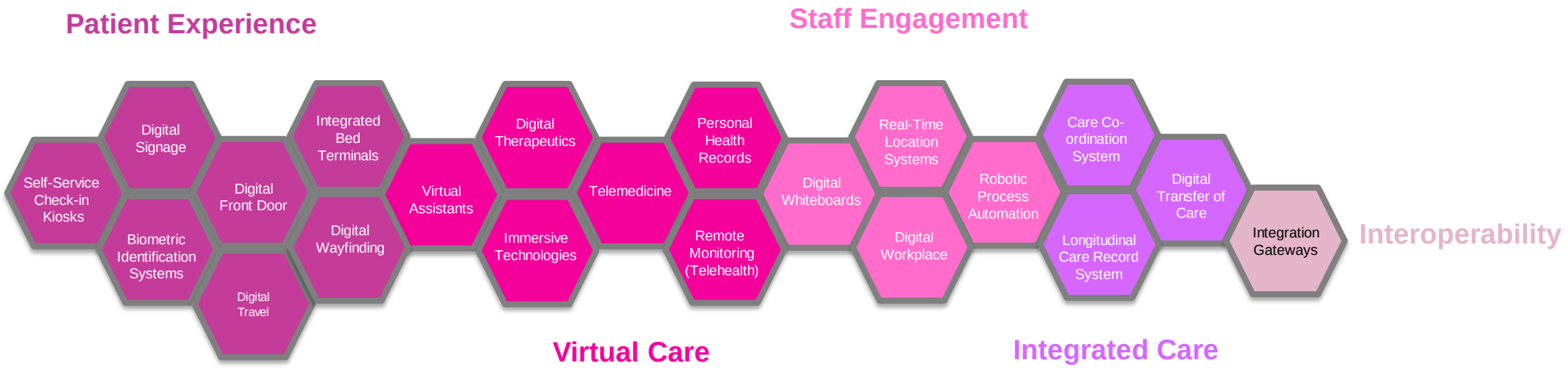
Fabric



The focus of Fabric is to enhance patient comfort and staff efficiency in newly constructed buildings. This involves optimising the infrastructure for digital systems and devices that benefit patients and clinical operations. It also involves implementing the Internet of Building Things for effective building maintenance and operations.

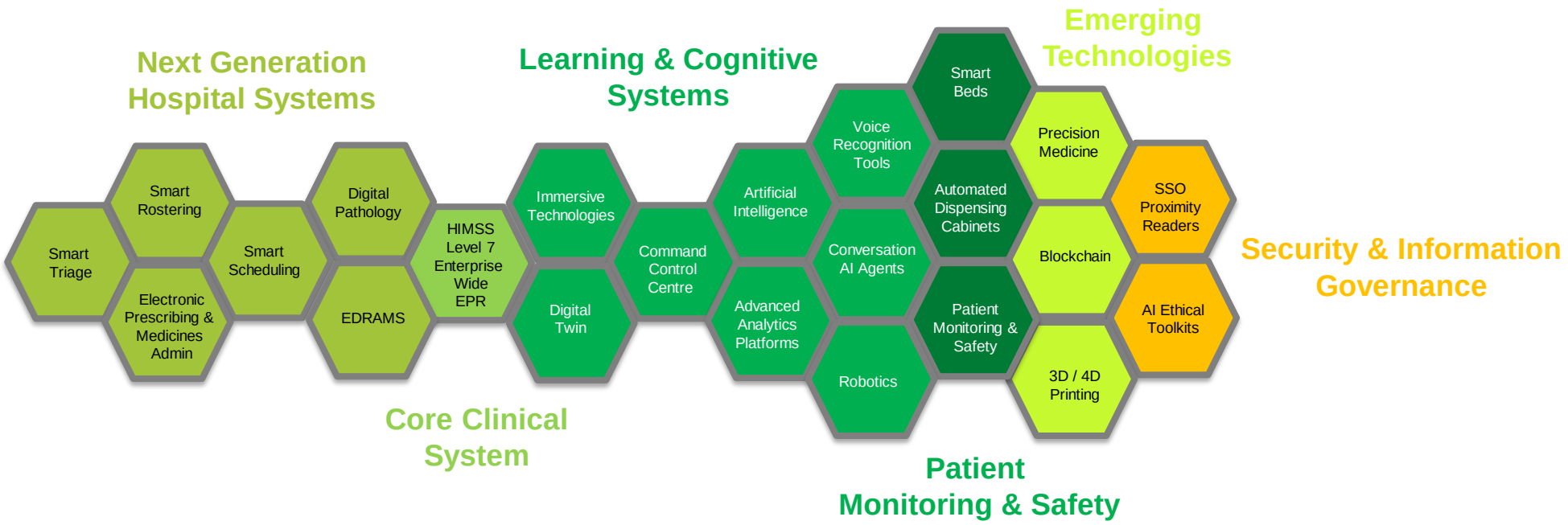

APPLICATIONS
IP Camera
IP Telephony
Wireless
IP
IP
Energy &
Power
Metering
BMS
Lighting
Control
UPS
Monitoring
CCTV
DVR
Access
Control
ICT
10203
10203
VAV
FCU
Heat
Pump
Chilled
Beam
Boilers
AHU
Chillers
General
Lighting
EXIT
EXIT
NVR
Door
Controllers
Channel
Controllers
8
16
Occupancy
Detectors
DSI/DALI
Interface
Intruder
Panels
Reader
Technology
Intercom
Estates
Break
Glass
Smoke Sensor
Fire Alarm
System
Sounder
Cyber Security

Foot Print



Footprint is all about how the building site interacts with other buildings of the organisation and with other care settings including social care and even supporting care in people's homes. It is to do with patients interacting with building and patient focused devices for interacting with building and also with supporting non-clinical staff working remotely the staff working onsite and supporting patient care.

Flow



Flow is all about how information flows in a clinical pathway - right from admission/check-in to discharge or transfer of a patient. This includes how this information is generated, captured, stored, consumed and exploited using digital technologies and processes. It aims to contribute to the wellness and safety of the patient as well as to increasing the efficiency of the treatment and to preventing disease.

Our Digital Journey

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Q&A Panel

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Lunch

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Chair Afternoon Address

Douglas Hamandishe

Chief Digital Officer/Broadcaster and Presenter - **Context Heath and Centric Health Media**

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Up Next…

Microsoft

+

NUANCE

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Speaking Now…

Dr Simon Wallace
CCIO - **Nuance Communications**

Glenn Winteringham
Chief Digital Officer - **Royal Free London NHS Foundation Trust**

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Speaking Now…

Ben Jeeves

Associate Chief Clinical Information Officer, AHP professional Lead, Advanced Practice Physiotherapist - **Midlands partnership NHS University Foundation Trust**

RELEASING TIME TO CARE IS NOT THE NEXT PANACEA.

DICTATION & SPEECH RECOGNITION

BENJAMIN JEEVES
ASSOCIATE CHIEF CLINICAL INFORMATION OFFICER
AHP PROFESSIONAL LEAD
MSK ADVANCED PRACTITIONER

WHAT'S THE PROBLEM?

- Admin burden
- Staff burnout
- Retention
- Digital
- Complexity of patients
- Fear of litigation
- Current financial pressures

- Expectation of benefits – setting ourselves up

CHANGE

- Digital innovations failure rate
- Human factors
- Change management
- Early engagement
  - Who?
- Benefits realisation and service follow up

EXPECTATIONS OF BENEFITS

- Time released to care
- How to realise the efficiencies
- Unpopular opinion
- Difficult conversations

LIMITATIONS OF BENEFITS

- Time saving – depends where
- Projected savings – upfront costs
  - ? True R.O.I
- Accuracy and quality
- Context specific

TIME SAVED WITH DICTATION

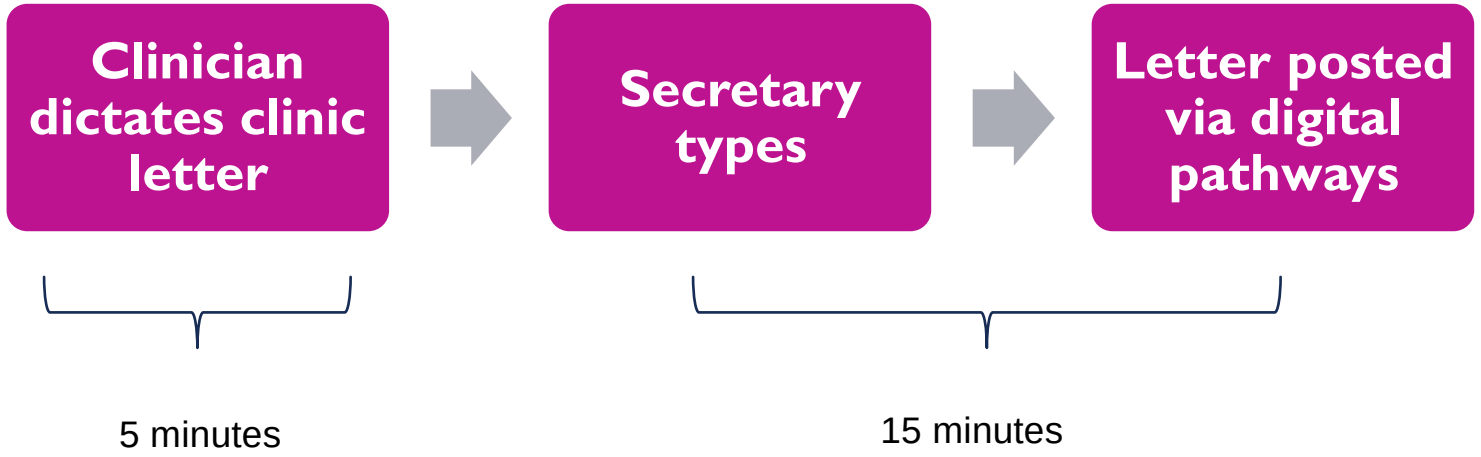
- Target deployment
- Where do you want to save time?

Time clinician types Pain clinic	Physio
40 mins	8 mins N/P
30 mins	8 mins N/P
36 mins	10 mins N/P
32 mins	5 mins N/P
60 mins	12 mins N/P
20 mins	5 mins N/P
30 mins	14 mins N/P
45 mins	9 mins N/P
31 mins	5 mins F/U
18 mins	5 mins F/U
43 mins	6 mins F/U
54 mins	4 mins F/U
45 mins	8 mins F/U
10 mins	7 mins F/U
20 mins	10 mins F/U
30 mins	5 mins F/U
50 mins	5 mins F/U
10 mins	
5 mins	
20 mins	
60 mins	

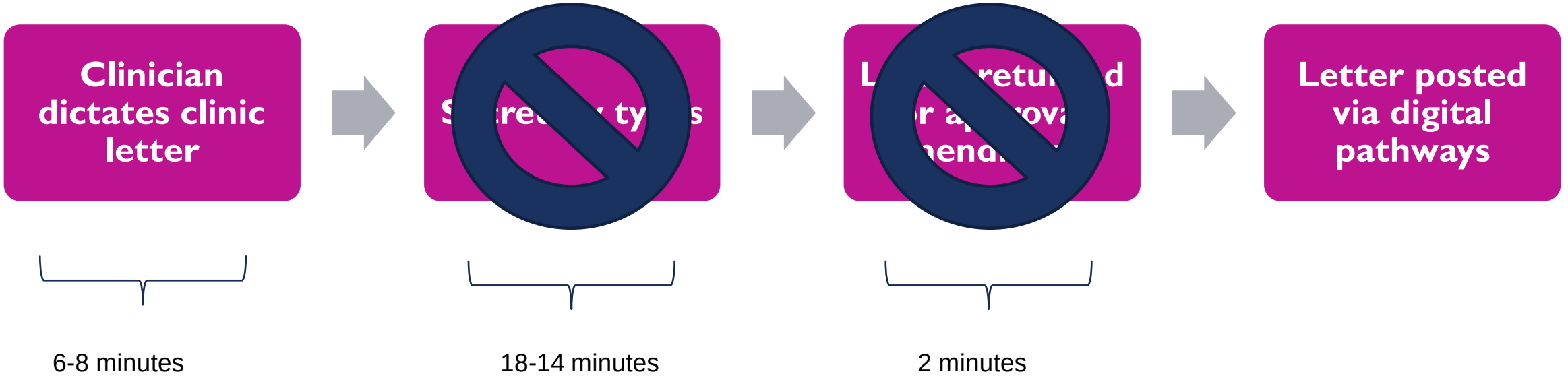
TIME SAVED WITH DIGITAL DICTATION

Saving one hour each day translates into hundreds of hours at the end of the year. The hundreds of hours saved with speech recognition software can be used on more demanding tasks.

- MSK example –
- Where in your process map does it save time?



TIME SAVED WITH SPEECH RECOGNITION



MSK EXAMPLE –

- Possible benefits with speech recognition
- £ saved with no additional typist time
- Keep letter typing to same day

THE EVIDENCE

Conclusions and relevance: Participants felt that SR saves them time, increases their efficiency and allows them to quickly document more relevant details. Quality analysis supports the perception that SR allows for more detailed notes, but whether dictation is objectively faster than typing remains unclear, and participants described some scenarios where typing is still preferred. Dictation can be effective for creating comprehensive documentation, especially when physicians like and feel comfortable using SR. Research is needed to further improve integration of SR with EHR systems and assess its impact on clinical practice, workflows, provider and patient experience, and costs.

Blakeley et al, 2020

experts during the intervention. The quality of training and the reliability of SRT in nursing documentation has been raised as areas of concern (Wheatley, 2017). Also, SR systems need to work on being

Joseph et al, 2019

THE EVIDENCE

Acceptance by professional staff may be the single most important determinant of whether a new technology-supported service succeeds or fails at a local level

have previously developed a theoretical model of clinician resistance to new health care technology made up of 4 elements: resistance to the *policy* reflected in the technology (eg, a policy of shifting the work of disease management from professional to patient); resistance to the *sociomaterial constraints* (eg, clunkiness, dependability) of the new technology; resistance to *compromised professional practice* (eg, less scope for exercising judgment); and resistance to *compromised professional relationships* (eg, a perception that a remote interaction is less professional than a face-to-face one) [93].

Greenhalgh et al 2017

THE EVIDENCE

It has become apparent in recent years that successfully introducing major information systems into complex health care organizations requires an effective blend of good technical and good organizational skills. A "technically best" system can be brought to its knees by people who have low psychological ownership in the system and who vigorously resist its implementation. The leader who knows how to manage the organizational impact of information systems can sharply reduce the behavioral resistance to change, including to new technology, to achieve a more rapid and productive introduction of information technology.

Lorenzi & Riley, 2000

THE EVIDENCE

With regard to cost-effectiveness, SRT no doubt involves great cost in its initial stages, oftentimes affecting extensive uptake of speech recognition systems (Tobin, 2005). Pezzullo et al. (2007) found that use of SRT leads the way to increased costs, owing to the growing cost involved per hour when high paid clinician hours are involved in proofreading the dictated content instead of transcriptionists. In contrast, the analysis of the results obtained from Saxena et al. (2018) denotes a monthly cost reduction of 81.3% established during the 31-month study period indicating potential long-term feasibility.

Joseph et al, 2019

Goss et al, 2019

WHERE ELSE?

- NON IMMEDIATE PATIENT FACING TASKS
- Clinic /annual reports
- Options appraisal papers
- Clinical safety cases
- Business continuity plans
- HR reports
- Service specifications
- Strategies
- Audits
- research
- CPD notes
- Datex reports
- R&I reports

THE FUTURE

- Realising our anticipated benefits
- Not just for clinicians
- Targeted deployment
- Accuracy improvements
- Fully automated data capture

CONCLUSION

Define the Problem

What are our expectations?

Plan your deployment

Tech is the way forwards

THANK YOU

BEN.JEEVES@MPFT.NHS.UK

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Speaking Now…

Simon Wilkinson

Public Sector Account Executive - **8x8**

AI, automation & the human touch

Simon Wilkinson Healthcare, 8x8

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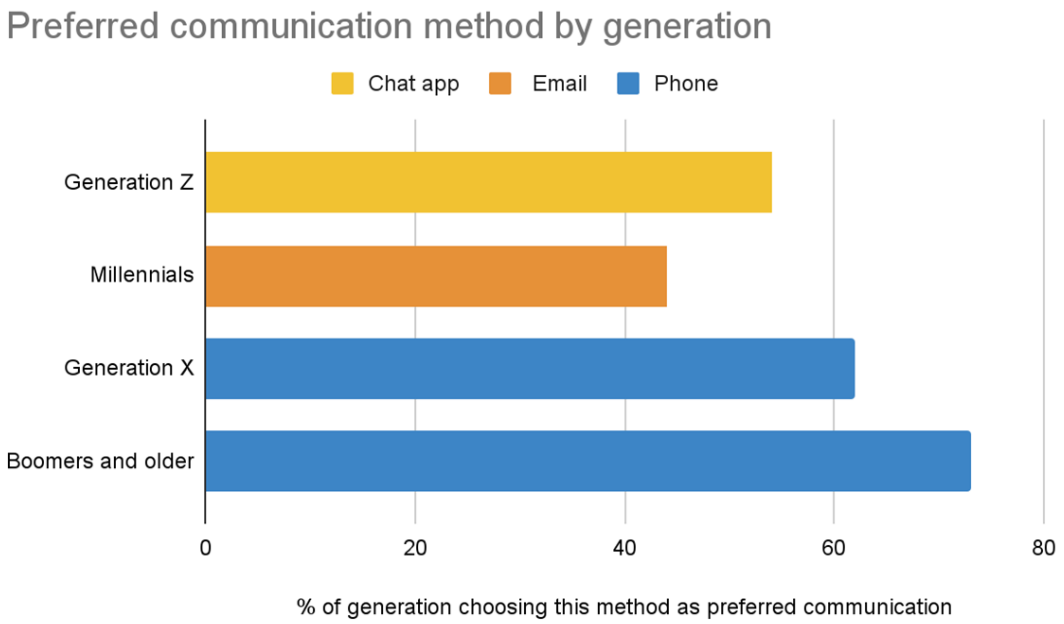
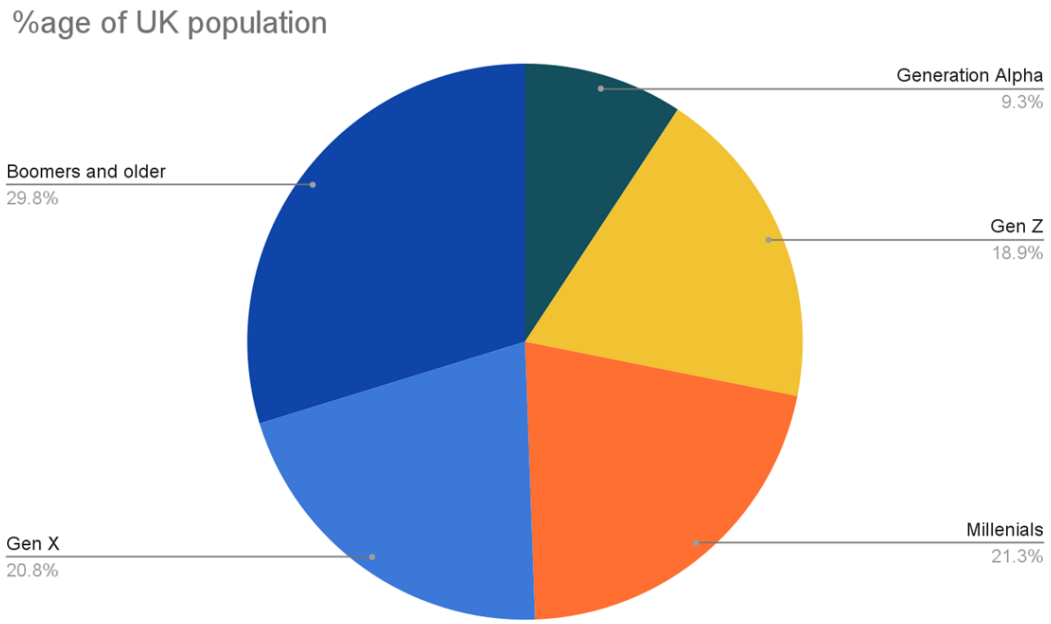
One platform.
Every communications experience.

Preferred communication channel by generation





The demand for digital channels will continue to grow

Source: 8x8 Research, UK healthcare, higher education, government N=456 Source 2 Statistica Population of UK from 1990 to 2020

Patients, Switchboard and Clinical staff benefit from AI

75%

of millennials want to avoid talking on the telephone at all costs

81%

of consumers say they want more self service

90%

of agents want to see more aspects of phone calls automated

Source: 75% and 90% ASAPP CX Report Source: 81% of consumers say they want more self-service - Nice, Digital-First Customer Experience Report: 2022

The Status Quo

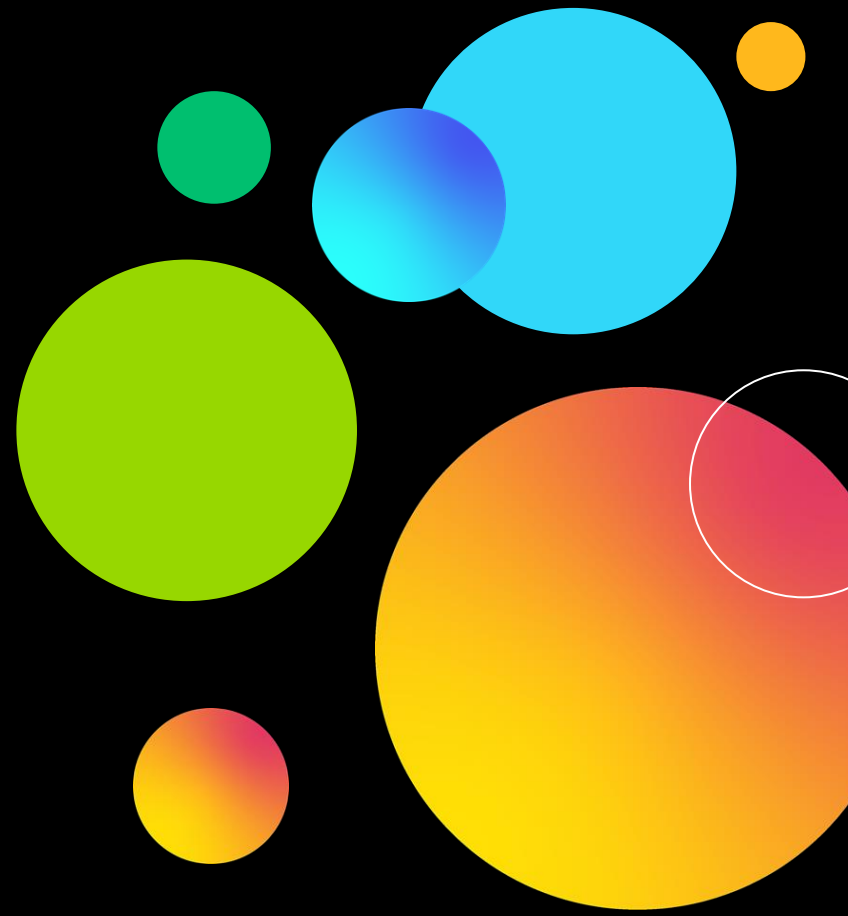
Acute Switchboard

Community Outpatient

Mental Health Insights

Source: 75% and 90% ASAPP CX Report Source: 81% of consumers say they want more self-service - Nice, Digital-First Customer Experience Report: 2022

Planning for AI



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Aligning AI with NHS Principles

NHS
The Princess Alexandra Hospital
NHS Trust

"The Trust's corporate goals are built around the 5 'P's – Patients, People, Place, Performance, and Pounds. With 8x8, we've met every one of these."

Jeffrey Wood, Deputy Director of ICT, Princess Alexandra Hospital NHS Trust

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3 things to consider before implementing AI

Define how AI can compliment people and processes

Listen to what the patient needs

Understand what insights are needed to be effective

8x8

Considerations when implementing chatbots

Purpose and goals	• What is the reason why you want to start a chatbot? • Are there processes you need to optimise?
Channel and touchpoints	• Where do you want your audience to engage with your chatbot? A chat on your website? Facebook messenger?
Integration with existing processes	• How does the process the chatbot is covering fit into your existing processes? • Does it replace processes?
Data and patient intelligence	• Which kind of data do you need to let your bot learn about the conversation it will cover?
Human intervention	• Where should the digital assistant hand over to a clinician? • What are the steps within, a conversation with your audience, for which a chatbot is responsible? • Where do you need to get humans into the process?
User experience and interface	• Design a user-friendly interface and seamless experience for your patients and staff.

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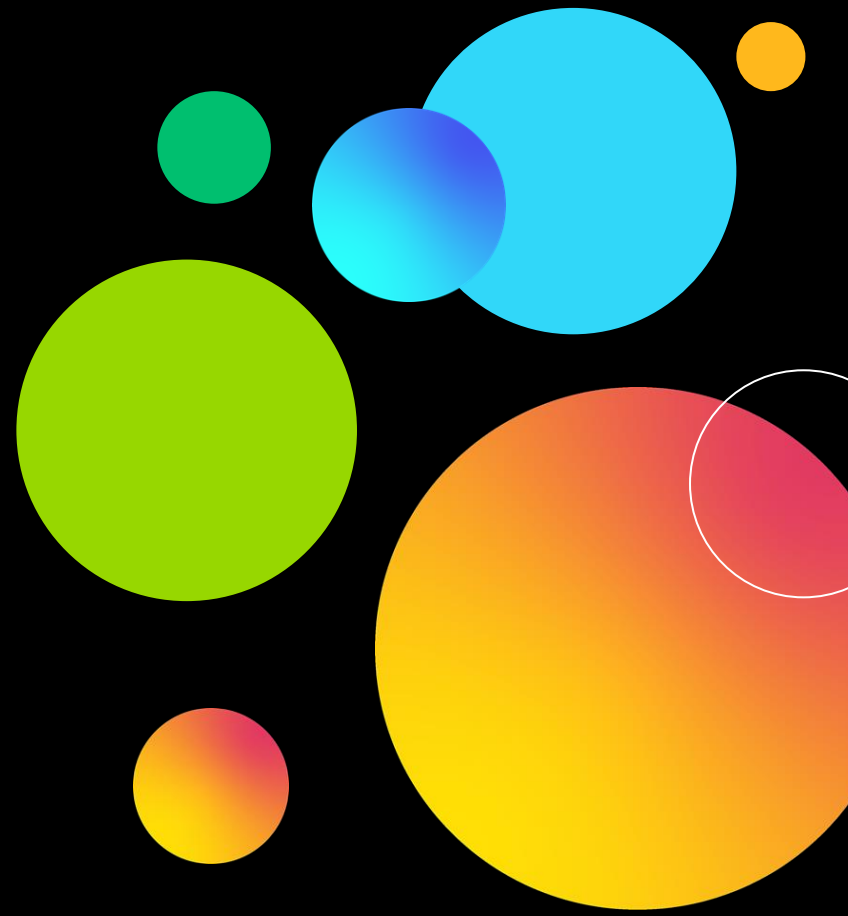
The Building Blocks for Success



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Key components of a conversational AI system

Mapped against target user profile requirements

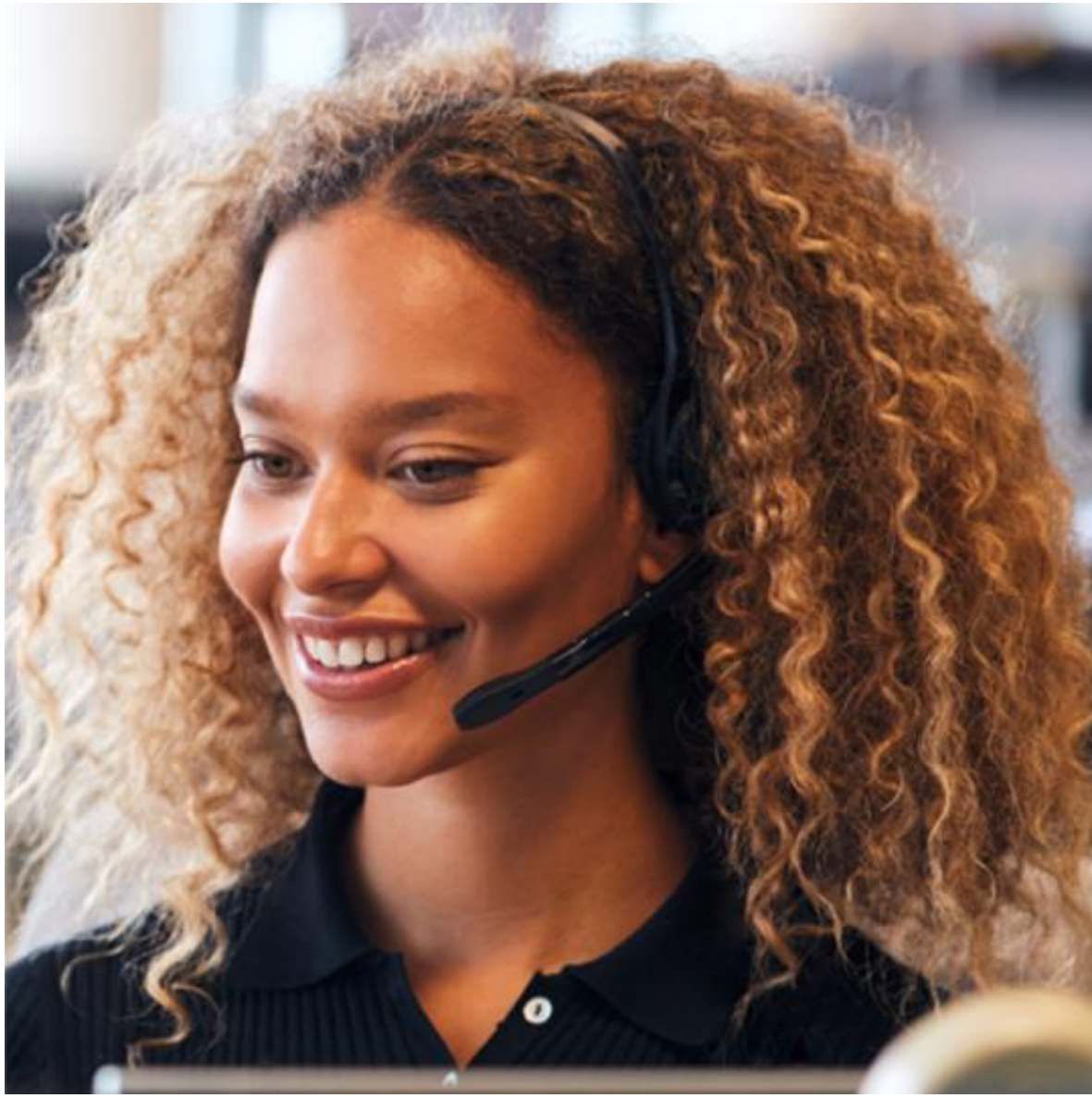
- Channel connector layer
- Natural Language Understanding / Processing (NLU / NLP)
  - Derive what the user is saying and what it means?
- Workflows builder layer (low code graphical builder)
  - Conversation Designer
  - Business process management
    - EPR / integrations
- Conversation Analysis
  - How can your bot respond with more accuracy?
  - Iterate flows and re-train the engine

8x8

Seamless Connection for Increased Satisfaction

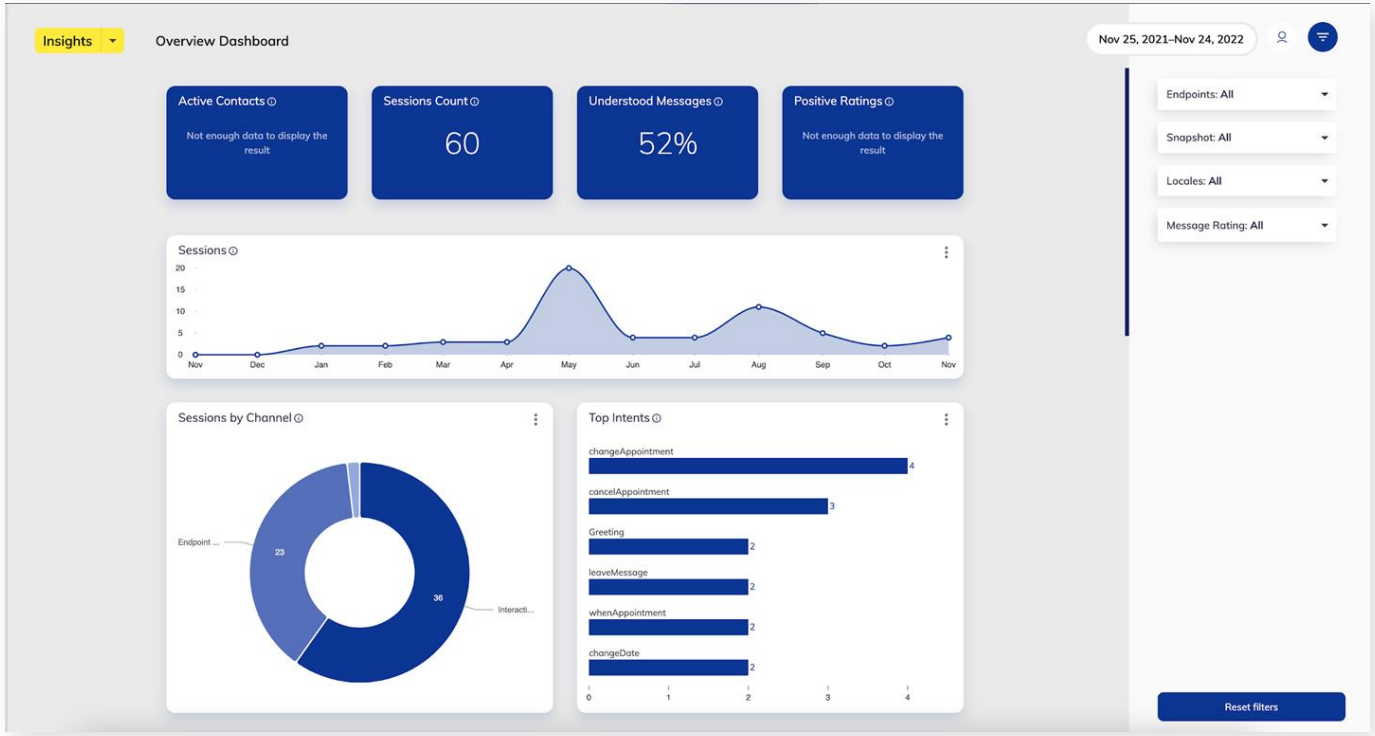
Escalate seamlessly to live agents when necessary

- Smooth transitions from bot to agent
  - Integrations
  - Hand-over to agents
- Empower with complete context
- Streamline for greater productivity
- Increased engagement and better patient services

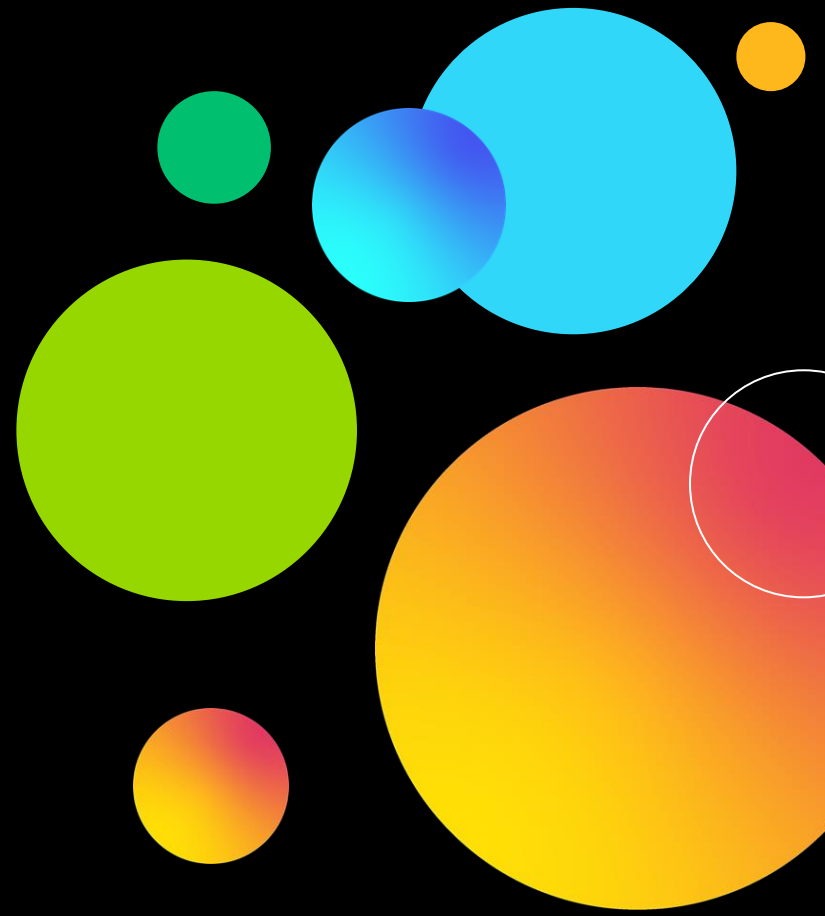


Actionable Insights for 360° performance optimisation

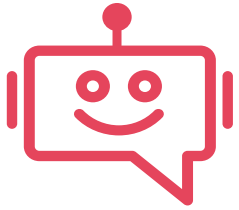
- Built-in, comprehensive analytics solution for and measuring KPIs
- NLU flags problem areas and presents recommendations for bot improvement
- Analysis of intent metrics and channel specific data for rich conversation insights across care pathways.



8x8 Solution



A simple, proven solution for results-driven conversations



8x8 Intelligent Customer Assistant

Intelligent Customer Assistant (ICA) is a powerful, user-friendly conversational AI platform that enables businesses to create simple to complex engaging self-service experiences across myriad channels, regions, and languages.

- ✓ Acute care
- ✓ Community care
- ✓ Mental health

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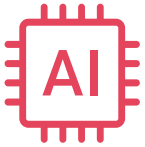

Automated, Personalized Experiences

Automate and personalize common processes like making or changing appointments, filling out questionnaires, answer common questions about medication and more.

Pretrained on Healthcare Terms

Prebuilt lexicons with the most used terms, for medical conditions, appointments and more

Preloaded with Industry Data

Pre-trained intents, flows and entities to speed up design and deployment.

.

Privacy First Deployment

GDPR, DSP Toolkit compliant

8x8

Powering positive patient and staff experiences with a single cloud communications platform

- Improve staff and patient experiences
- Meet the changing demands of generations
- Improve workforce management
- Reduce missed appointments and ensure every call is answered

8x8; Powering millions of patient interactions for 45+ NHS Trusts

Thank you

8x8

One platform.
Every communications experience.

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Speaking Now…

Jonah Aburrow-Jones

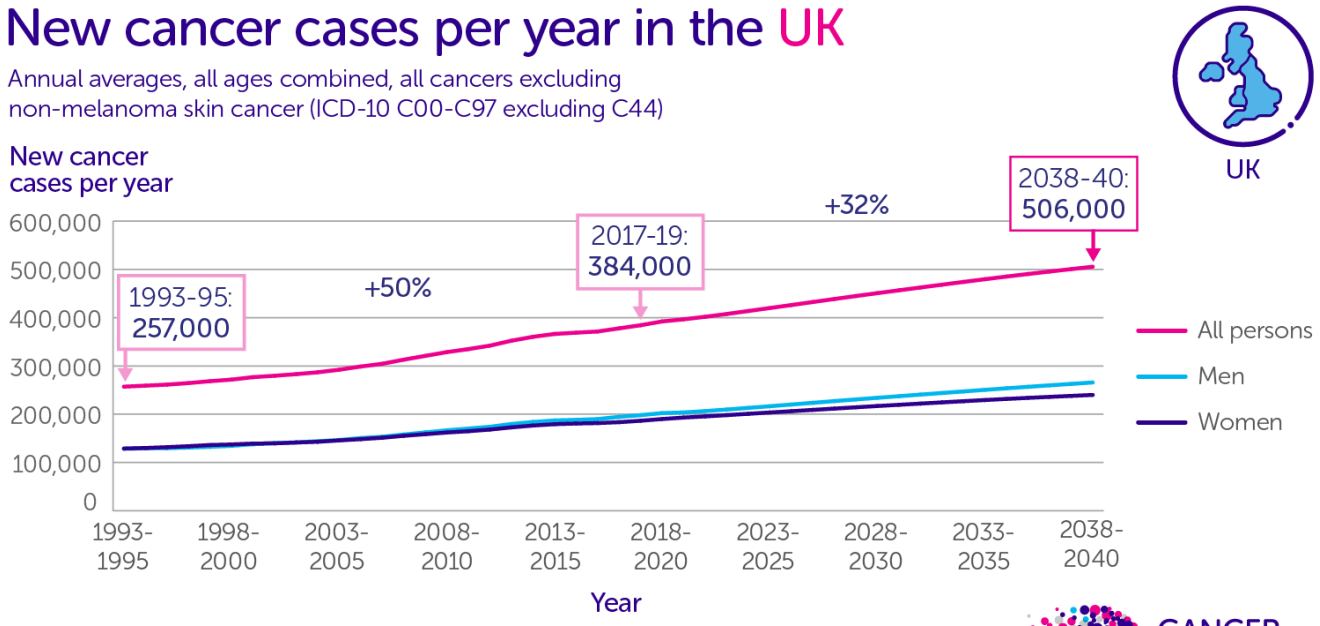
Deputy CIO - **The Royal Marsden Hospital NHS Foundation Trust**

Digitally Enabled Cancer Care – The next 5 years

Jonah Aburrow-Jones
Deputy CIO
The Royal Marsden NHS Foundation Trust

Drivers for Change

- Sustainability of cancer care will requires new models of care - changes to how and where prevention, treatment and monitoring of cancer is conducted.
- The pandemic forced change and highlighted impact of digital enabled care.
- Adopting new technologies requires reengineering of digital foundations – Infrastructure, Workforce, Delivery, Support and Training.



The Future of Cancer Care is Digital

The possibilities are almost endless:

- Virtual wards
- Remote monitoring
- Mobile devices and wearables
- Digital front doors will bring cancer care closer to patients
- Treating the whole patient (holistically)
- Personalized medicine and genomics
- AI - diagnosis, treatment planning, and monitoring

But…

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Digital Services
Delivering digital excellence

Ensuring future technologies are fit for purpose

- Ensure it is not technology for technologies sake – avoid ugly babies
- Clinical owned and led – technology is only component for success

1.7 million households have no mobile or broadband internet at home.

1 million people have cut back or cancelled internet packages in the past year.

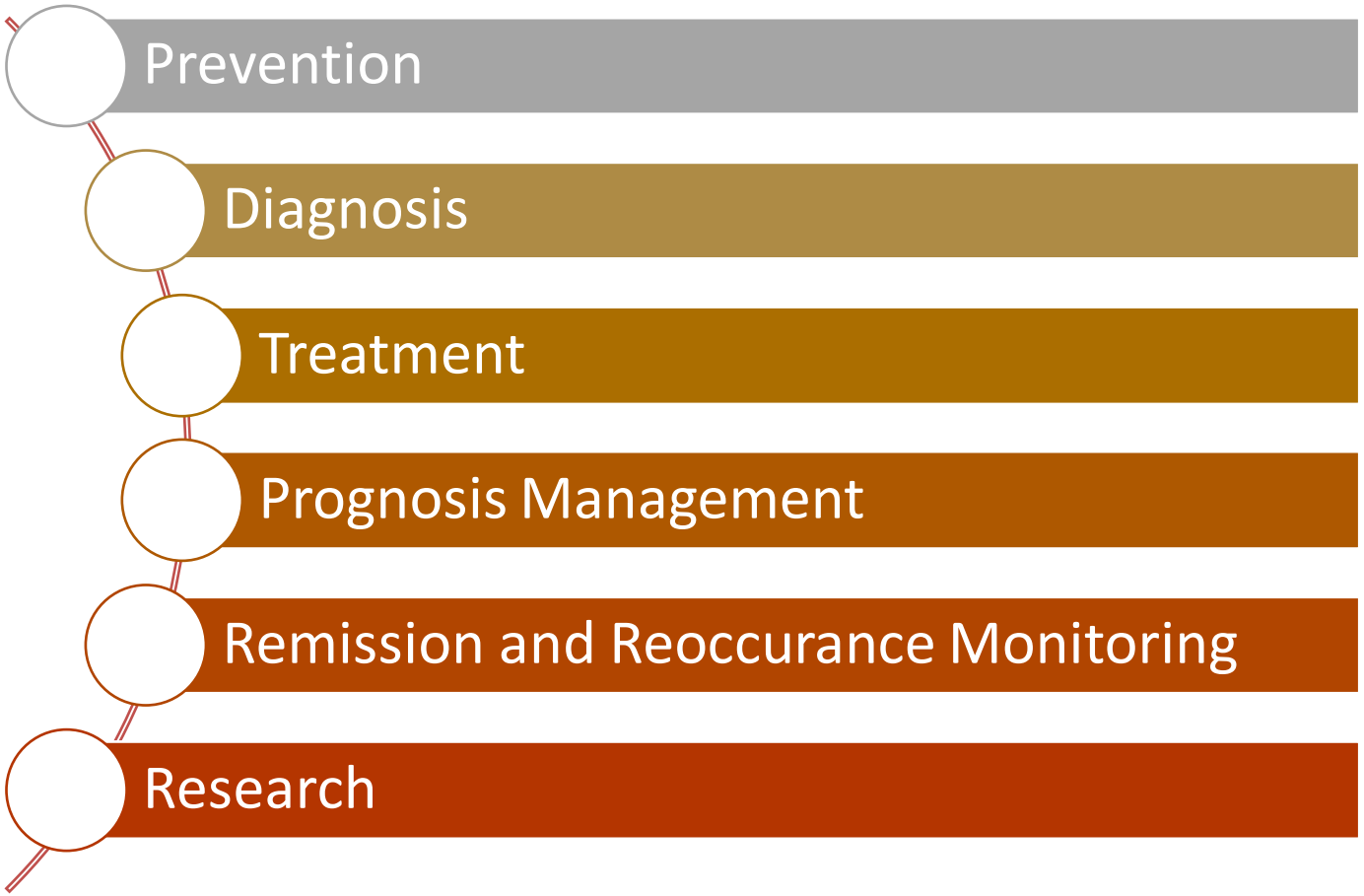
2.4 million people are unable to complete a single basic task to get online, such as opening an internet browser.

>5 million employed adults cannot complete essential digital work tasks

- Digital First, not digital only – accessibility and inclusion
- Safe, secure and resilient
- How does it fit with care continuums like regional ICBs and clinical networks?
- Is the infrastructure in place to enable delivery and support – technical and human?

HOUSE OF LORDS Communications and Digital Committee 3rd Report of Session 2022–23

Digital Cancer Care Benefits



- Benefits can fall into one or several categories
- Perhaps more focus outside of “Treatment” than many clinical areas
- Universal digital benefits modelling
- Benefits don’t happen immediately
- Benefits are not reliant simply on technology

Virtual Cancer Care

- An adjunct, not a replacement for inpatient care
- Reduces unnecessary inpatient visits, supports remote communities and patients with access to care challenges
- Introduction needs a human centric approach – staff and patients
- Includes:
    - Tele-oncology has focused more on psycho-oncology counselling via video conferencing – grew dramatically during the pandemic.
    - Assessing pain management, managing anxiety, some physical symptoms
    - Chemotherapy and immunotherapy treatment and monitoring can require multiple devices (e.g. pulse oximeters and blood pressure monitors) – consider connectivity!
- Planning for rapid clinical intervention if the patient-submitted data falls outside expected parameters - plan for workforce and workflow changes

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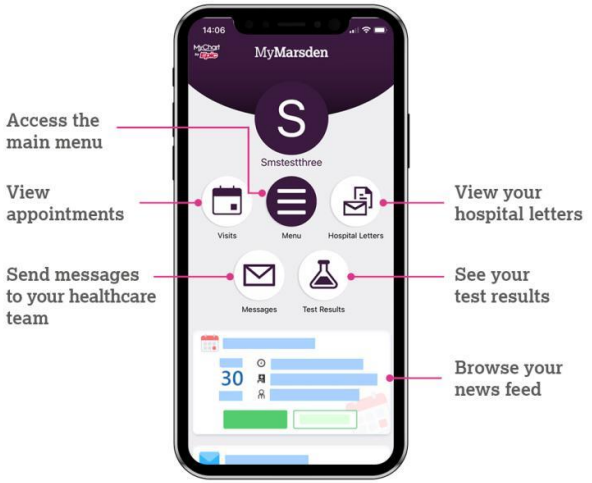
Delivering digital excellence

Getting Closer to Patients

Digital Front Doors & Outreach

- My Marsden allow patients to access information, resources, and support from their own homes
- Reduces the need for hospital visits and making cancer care more accessible.
- Provides patients with personalized care plans, symptom tracking, and access to support groups
- A holistic approach to cancer care, treating the 'whole patient' – physical, emotional, and social needs



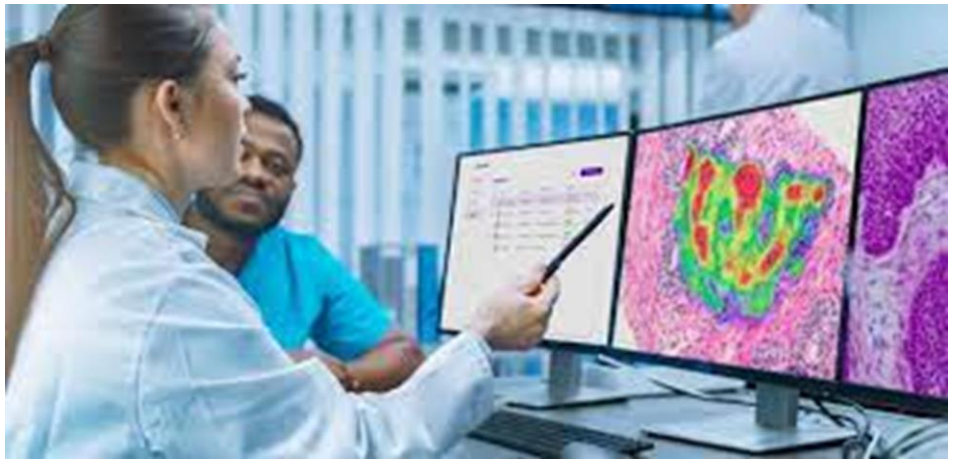
MyMarsden Patient Portal

- Greater than **13,000** active patients, **34%** of active patients (vs 25% target)
- Over **4000** patients using MyChart Mobile
- **1608** medical advice requests from patients via the portal
- **30%** of clinic appointments are eChecked-In prior to arrival at reception
- **96%** of all patient notes are shared with patients

Life demands excellence

Personalised Medicine, Genomics & Digital Diagnostics

- Potential to revolutionise cancer care by enabling more targeted and effective treatments
- Digital systems and infrastructure need to adapt to manage increased data and analysis
    - Where that takes place
    - Compute and storage capacities and capability
- Digital diagnostics also play a crucial role in early detection and monitoring of cancer
    - Advances in screening

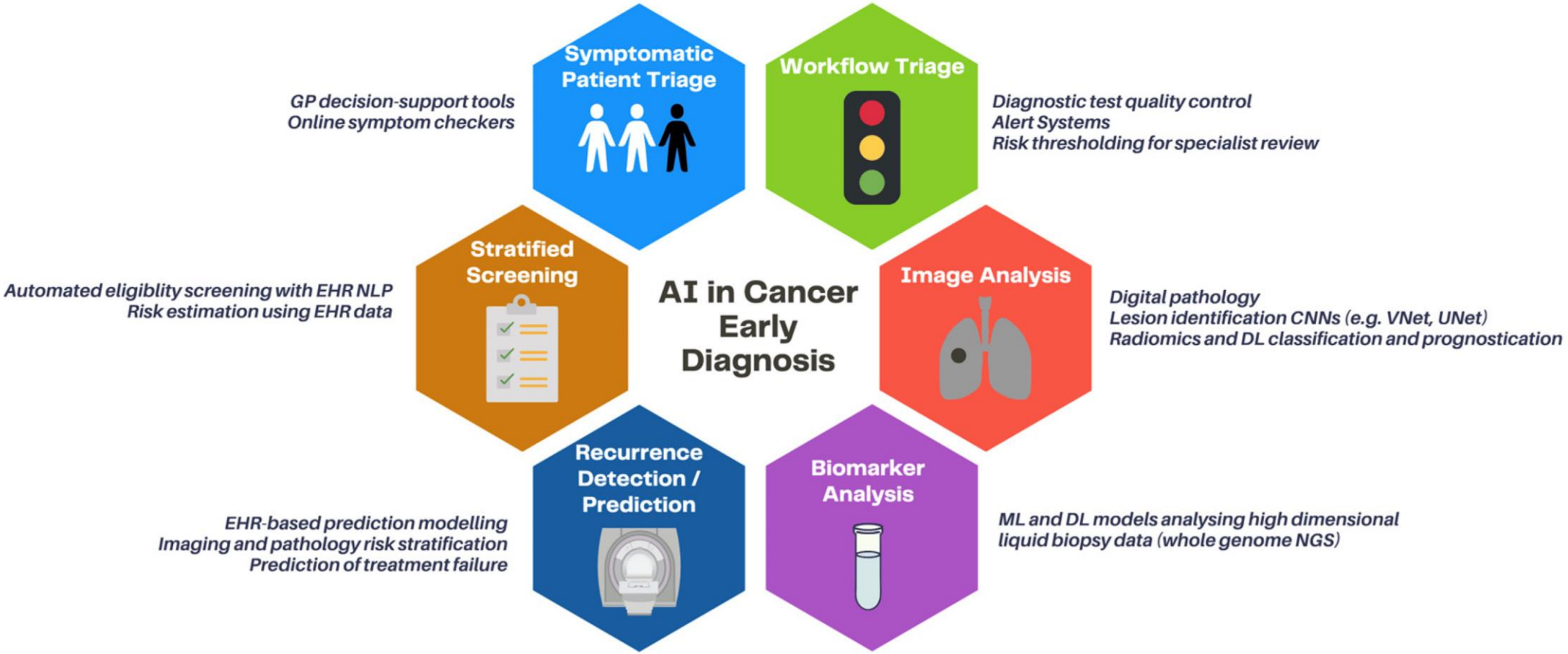


Digital Needs of a new diagnostic test

What does it take to provide digital enablement?

- Assume nothing
- Clinical workflows – data workflows and connected architectures
- Understanding IG, security and failure resilience
- Audit and resilience
- Having an API doesn't mean it is digitally enabled

The Role of AI in Cancer Diagnosis and Treatment



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Being part of Care Continuums

- Cancer Care interacts with all levels in the NHS – Place, ICBs/ICSs, clinical networks, nationally e.g. screening, research and internationally
- Interoperability key to these networks
  - Similar challenges to broader digital and data interoperability
- Cancer/Oncology networks are crucial components of modern cancer care
  - Can improve patient outcomes and streamline the delivery of care.
  - Boundaries do not align
  - Sub-speciality groups
  - Opportunities for scaling, economies of scale and sharing best practice
- Consider impact of digital cancer care across network and regional boundaries

Reengineering Digital Foundations

- Delivery teams will need to be more agile and being able to assess new technologies
- Support teams and functions have to adapt to providing support beyond organisation sites with virtual care and digital front doors
- Training for clinical and non-clinical staff e.g. AI and Cloud Infrastructure
- Technical and Infrastructure Impact and Preparation
    - Significantly more data in networks and between networks will impact WANs and TIEs
    - Interoperability – data not all the same and many vendors are still immature naive in regards to interoperability
    - Security and IG – AI and data
    - Cloud vs on Prem – understanding total cost of ownership and support

Summary

- Over the next five years, we can expect to see significant advancements in digitally enabled cancer care
- New tools and technologies will help bring cancer care closer to patients, making it more accessible and patient-centric.
- AI will play an increasingly important role in diagnosis, treatment planning, and monitoring, while regional networks and interoperability will improve care coordination and patient outcomes.
- Sustainability of cancer care will require new models of care - changes to how and where prevention, treatment and monitoring of cancer is conducted.
- Availability of information and social media will continue a shift in power and expectations with patients
- Adopting new technologies requires reengineering of digital foundations –

THE NHS INNOVATION CONFERENCE

2023

Headlined by: exponential-e

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Adam Igra

Director of Innovation - **Guy's & St. Thomas' NHS Foundation Trust**

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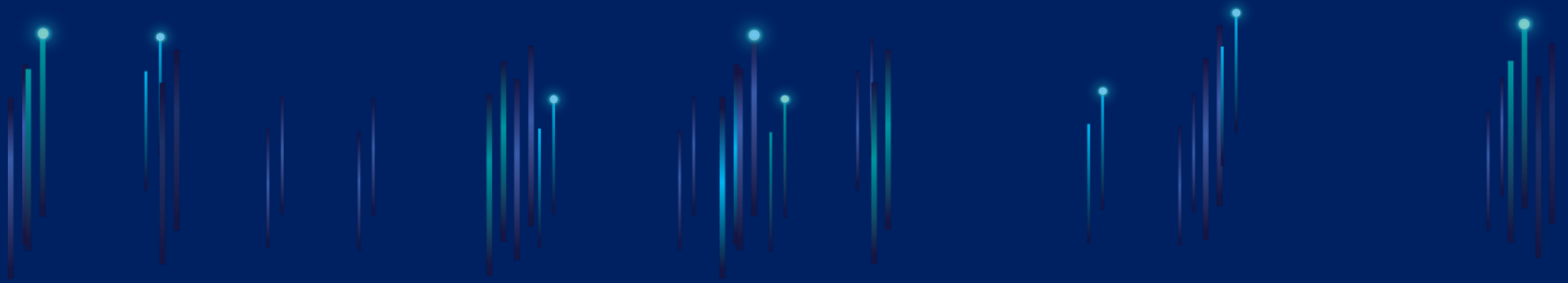
CITI

Centre for Innovation, Transformation & Improvement

Better, Faster, Fairer Healthcare



About Guy's & St. Thomas' NHS Foundation Trust

5 hospital sites across London

Guy's, St. Thomas' and the Evelina Children's Hospitals in Southeast London, and the Royal Brompton and Harefield Hospitals in Northwest London

>1,900 open research studies

Drawing on our cutting edge experimental medicine infrastructure, world renowned experts and world class collaborations

>4.5m people treated since 2015

Our patients come to us from across the country for our specialist services and our local boroughs are the most demographically diverse in the UK.

Primary-to-tertiary services

We offer a comprehensive range of clinical care, from highly specialised cardiology and oncology, to Accident & Emergency and community services

24,000 members of staff

Based on our 5 hospital sites and in our community services

Cutting edge digital infrastructure

At the forefront of the development and deployment of novel therapies and artificial intelligence, and implementing a best-in-class Electronic Healthcare Record.

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We operate within a unique academic system through Kings Health Partnership

KING'S HEALTH PARTNERS

NHS King's College Hospital NHS Foundation Trust

NHS Guy's and St Thomas' NHS Foundation Trust

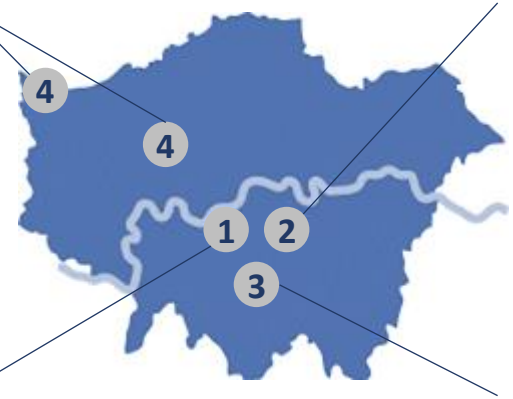
NHS South London and Maudsley NHS Foundation Trust

Royal Brompton & Harefield

Cardiorespiratory Excellence

London Bridge

MedTech Hub



Westminster Bridge

MedTech Hub

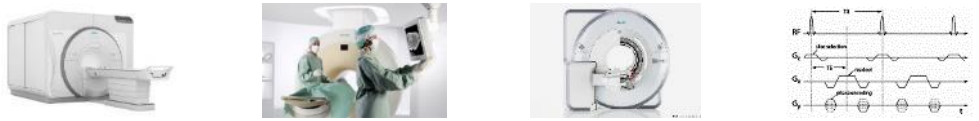
Denmark Hill

Neurosciences Hub

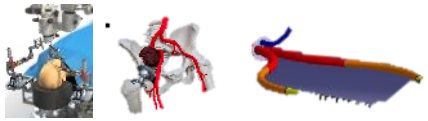
School of Biomedical Engineering & Imaging Sciences

KING'S College LONDON

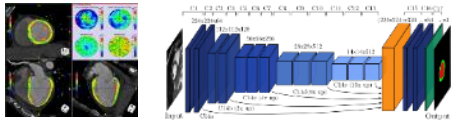
Cutting edge imaging



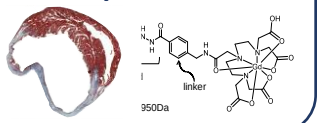
Surgery & intervention



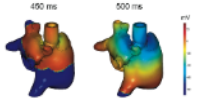
AI-enabled imaging



Smart imaging probes



Computational modelling



Affordable technology

CITI

NHS Guy's and St Thomas' NHS Foundation Trust

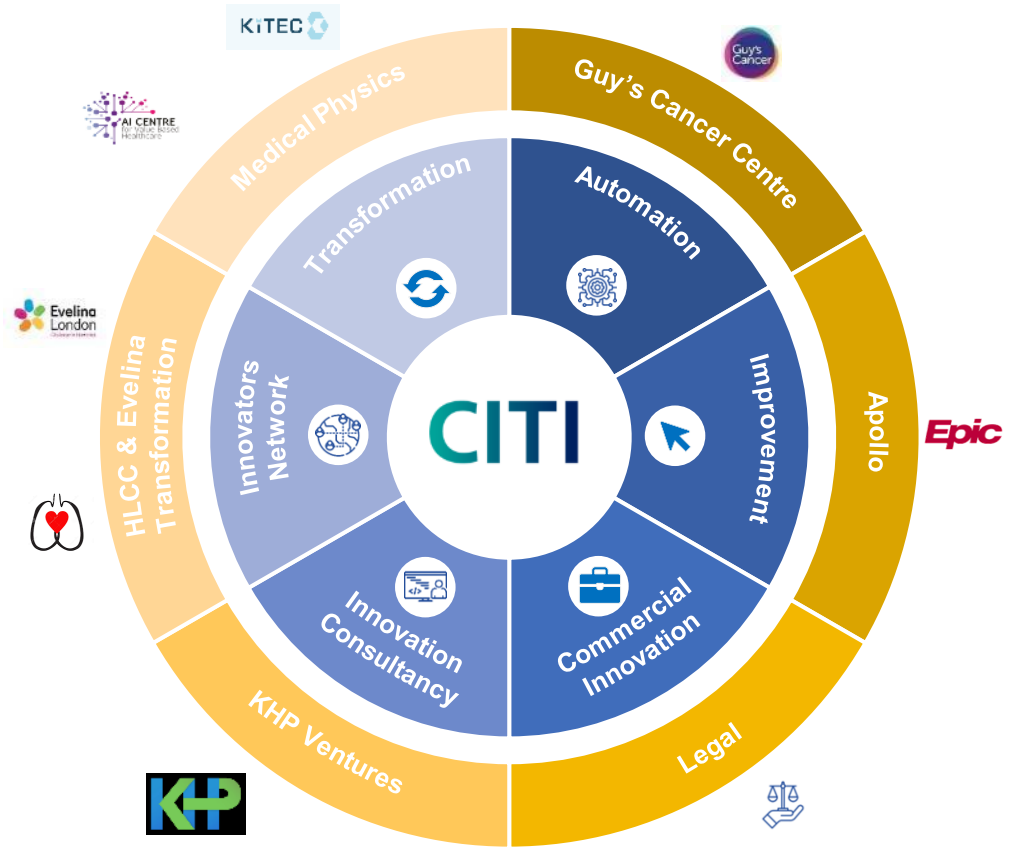
The Centre for Innovation, Transformation and Improvement

CITI brings together a range of capabilities within the Trust and our wider ecosystem to develop solutions to meet our most pressing needs and partner effectively with industry to this end

Innovating by incentivising and supporting staff to invent, commercialising our intellectual property for long-term growth, and collaborating with leading industry partners

Transforming by challenging existing practices and developing fundamentally new service models that deliver better, faster, fairer healthcare

Continuously improving our services through broad and deep understanding of quality improvement methodology and hands-on support to staff



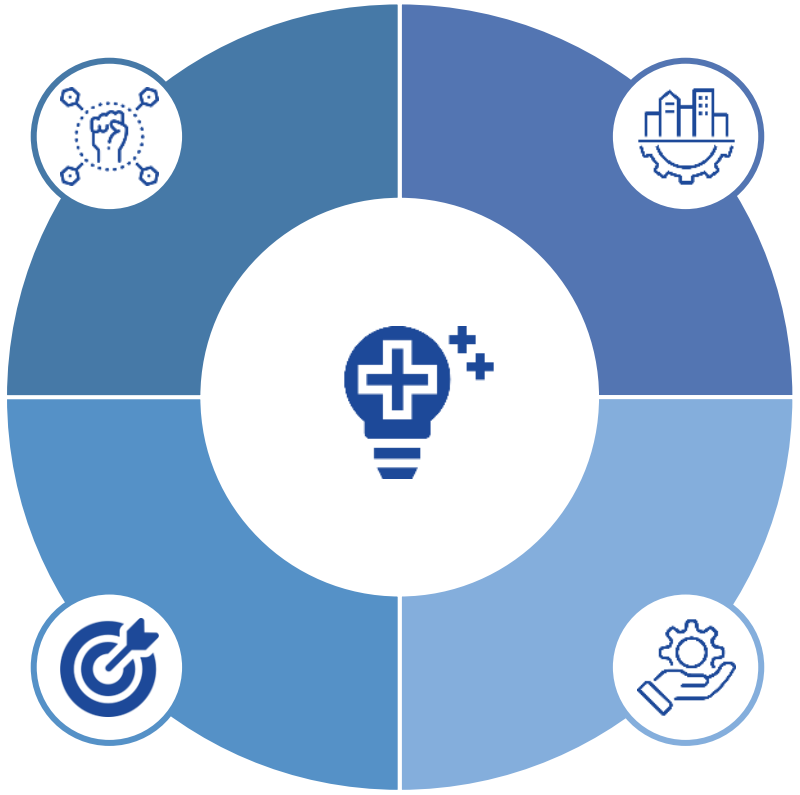
Our healthcare innovation system at Guy's & St. Thomas'

Capabilities

The unique knowledge, skills & assets to which we have access within GSTT & our partner organisations that allow us to develop, evaluate & deliver meaningful innovation.

Grand challenges

Our strategic priorities for innovation, transformation & improvement, informed by policy, technological developments & the needs of our staff and population.



Infrastructure

The philosophy, policies, processes & people that underpin all our work in CITI, incentivising & supporting staff to innovate, & governing & effecting impactful engagement with industry.

Services

How we advance healthcare innovation through the application of our capabilities and methodologies, either in support of internal staff or in collaboration with external partners

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Our grand challenges

AI & Automation

AI and automation are vital for the future of healthcare, enabling efficient data analysis, faster diagnosis, improved treatments, and enhanced patient care. They have the potential to revolutionize healthcare, making it more accessible, personalized, and effective.

Remote Care

Remote care holds immense potential, allowing healthcare providers to monitor patients out of hospital, provide timely interventions, and reduce hospitalizations. It enhances accessibility, improves patient outcomes, and has the capacity to transform healthcare delivery.

Surgical Productivity

As with all NHS Trusts, we face a pressing need to recover our elective performance and reduce waiting times for treatment. Relentlessly driving productivity in our operating rooms whilst continuously improving the quality of care is central to our efforts to achieve this objective.

Genomics & Precision Medicine

Genomics and precision medicine hold immense potential, enabling personalized treatments based on an individual's genetic profile. By tailoring therapies to specific genetic variations, healthcare can become more effective, targeted, and tailored to each patient's unique needs.

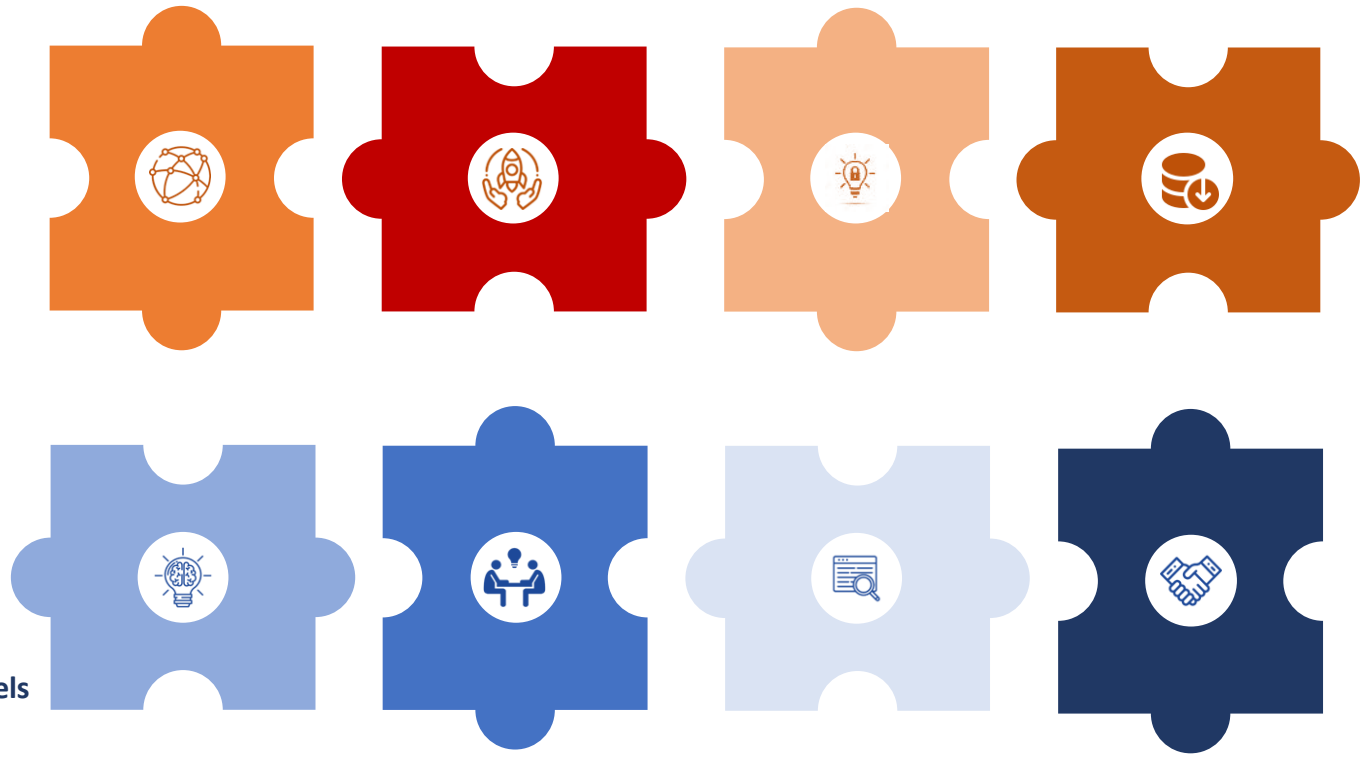
Putting in place the enablers to become the most innovation friendly healthcare system in the UK

CITI network
Engaging GSTT staff in healthcare innovation to foster innovation, transformation & improvement

Spin-out support
Clearly outlining the roadmap & support available for innovators wishing to start their own business.

Innovation consultancy
Assessing advising, navigating & directly supporting all innovators that approach CITI.

Commercial collaboration models
Defined models by which we can work with industry, from product co-development to consultancy.



IP policy
Setting the most inventor-friendly IP terms to incentivise invention & commercialisation.

Commercial data partnerships
Defining the terms & process by which we share data with external parties to securely generate social & commercial value to the NHS.

Research models
Defining clear models for research that broaden staff involvement & generate greater collaboration with industry, large & small.

Strategic partnerships
Establishing close working partnerships with key industry actors to generate mutually beneficial, leading edge innovation opportunities.

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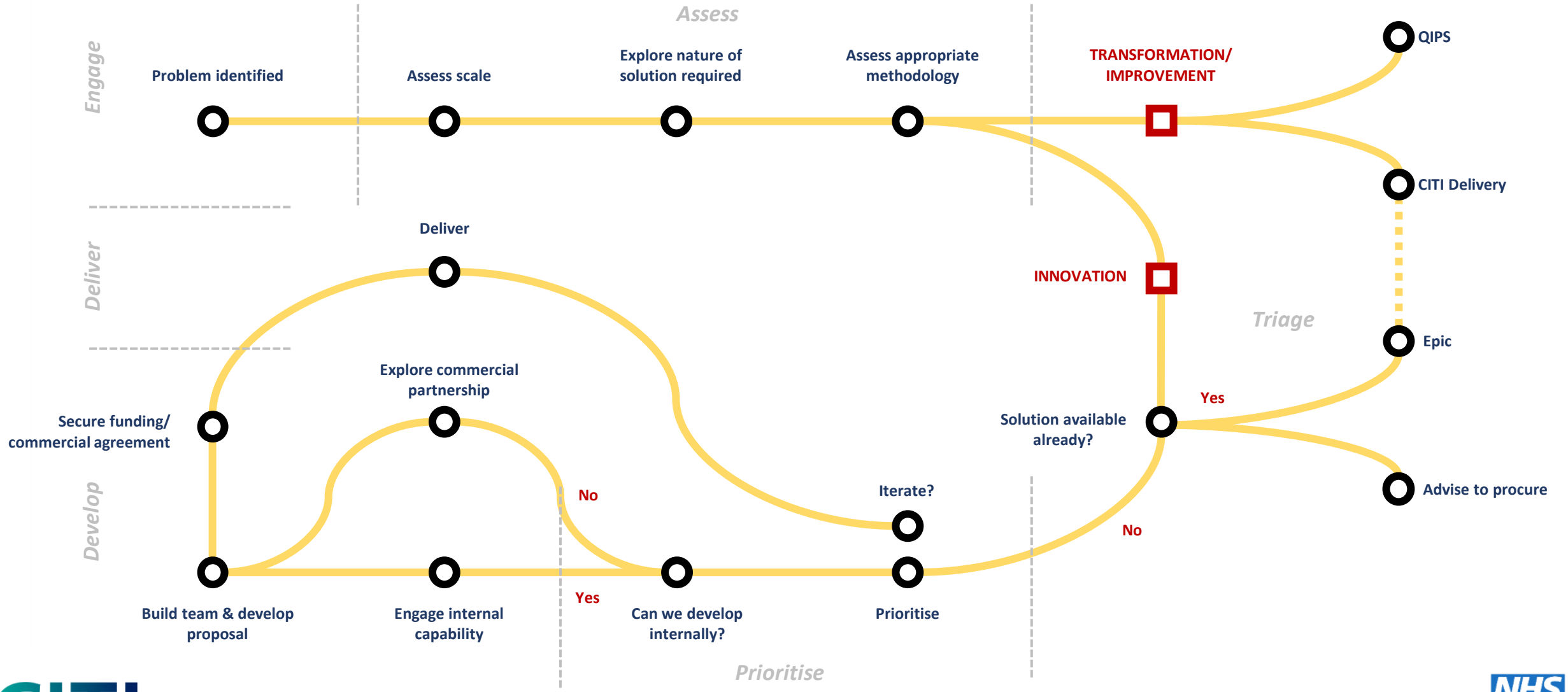
Providing a pathway to delivery for staff with a problem or an idea



Our services to support collaborative innovation

Product and value proposition development

We work with commercial, academic and other NHS partners to co-develop new products or services, evaluate and generate evidence for those already on the market, and act as an early adopter for novel solutions that are yet to penetrate the UK healthcare market.

Consultancy and analytics

We provide a range of services-for-fee to provide access to our technical, clinical and analytical expertise. Perhaps our most valuable asset is our data, which we curate, analyse and provide to external partners for research or commercial reasons, with the appropriate governance and patient engagement.

Research with partners

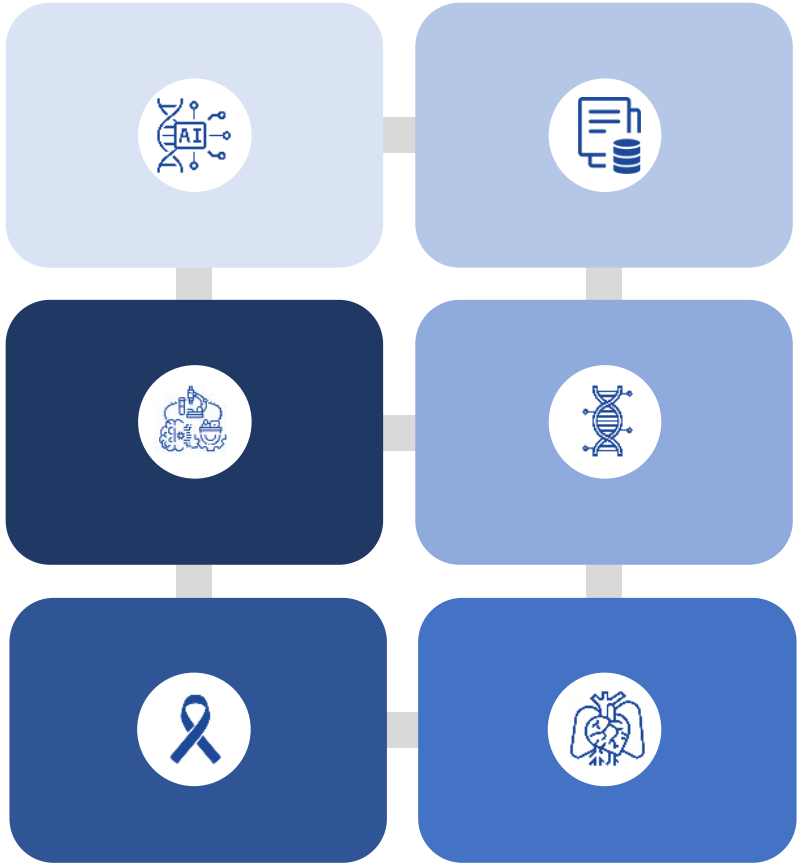
We provide different models of conducting clinical research with external partners depending on sponsorship and intellectual property considerations, including investigate-led research, commercial research and collaborative research.

Our capabilities as a system to drive innovation

AI & Automation
We are unique in the people, platforms & policies we have access to for the development, evaluation & deployment of AI & Automation solutions

Clinical Engineering
Our team has deep expertise in generating evidence for & safely adopting medical devices, & also 3D prints & manufactures new products

Cancer
Guy's Cancer is a centre of excellence for Oncology, with an international reputation for clinical care, real world evidence, research & innovation



Data & Analytics
We have the most diverse population in the UK & provide a breadth of services across community, secondary & tertiary care, which is reflected in our data

Genomics
We host the Southeast Genomic Laboratory Hub, & are developing a Genomics Innovation Unit that creates diagnostic tests using sequenced genomes

Heart and Lung
We are one of Europe's largest providers of cardio-thoracic &respiratory services, across the Royal Brompton & Harefield, & Guy's & St. Thomas' sites

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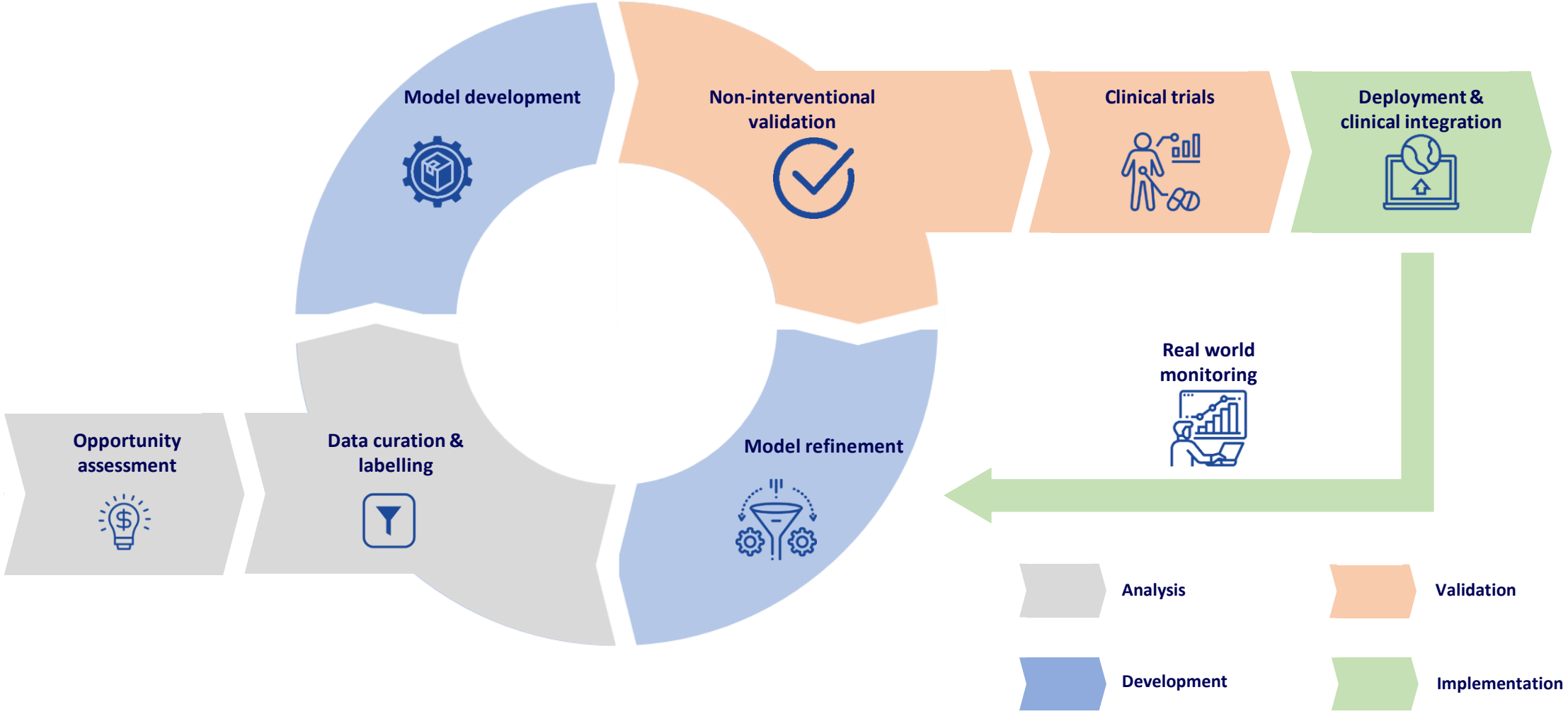
Bringing this all together across one key area of innovation



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Mr David Norton

Senior Innovation Consultant - **NHS**

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Q&A Panel

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Thank you for attending the NHS Innovation Conference!

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