HRA Digital Strategy

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Abbreviations and Glossary

HRA	Health Research Authority
REC	Research Ethics Committee
DSPB	The Digital Strategy and Prioritisation Board
ITS	Information Technology Services
BAU	Business as Usual
ROI	Return on Investment
NLP	Natural Language Processing

RPA	Robotic Process Automation
AI	Artificial Intelligence
UI	User Interface
NIHR	National Institute for Health Research
MHRA	Medicines and Healthcare Products Regulatory Agency
IRAS	Integrated Research Approval Service
TOM	Target Operating Model
CSF	Critical Success Factor
KPI	Key Performance Indicator
EA	Enterprise Architecture
CRM	Customer Relationship Management
CDTO	Chief Digital Transformation Officer
SLA	Service Level Agreement
ITSM	IT Service Management
API	Application Programming Interface
SSO	Single Sign On
ISO	International Organisation for Standardisation
BI	Business Intelligence
MVP	Minimum Viable Product
CWOW	Combined Ways of Working
RSP	Research Systems Programme
DHSC	Department of Health and Social Care

Glossary

Pega	A US-based enterprise software company. HRA are adopting the central Pega case management platform as our solution to transform IRAS.
COVID-19	A disease caused by a newly discovered coronavirus that was first identified in 2019.
Artificial Intelligence	A term used to describe several innovative technologies that are considered in some way to mimic human intelligence. Includes robotics, natural language processing and machine learning.
Digital transformation	In the context of sweeping social, economic, technological, and demographic changes, digital transformation (sometimes abbreviated as DX) is a series of deep and coordinated culture, workforce, and technology shifts that enable new operating models and transform an organisation's operations, strategic direction, and value proposition.
Agile development	Refers to a group of software development methodologies based on iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams.

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Executive Summary

The HRA is currently operating in a challenging and volatile environment. The pressures brought about by the COVID-19 pandemic, regulatory changes due to the UK's departure from the European Union, and expectations from government and industry that clinical and health research should be done 'faster, better, cheaper' are combining to create great pressures for change. When these pressures are combined with the opportunities presented by the ongoing emergence of new technologies such as machine learning and natural language processing, and the approval in late 2020 of the Research Systems business case for the re-development of the Integrated Research Application System (IRAS), it is an appropriate time to develop a new strategy to support the digital transformation of the HRA.

This strategy includes several key elements, including the overall value statement, critical success factors and investment priorities. The value statement encapsulates the value that will be created for our stakeholders by our digital assets and capabilities and describes the overall value proposition for HRA Digital:

We work in an agile and flexible way to design, develop and support easy to use, intuitive and accessible systems that reduce complexity, provide valuable insights to support improved decision making and deliver a consistent, predictable, high-quality service that allows researchers to plan effectively.

Critical success factors are the things that must be achieved in order to realise the overall value proposition for HRA digital. These critical success factors are the things we must absolutely do well as an organisation in order to deliver this strategy and create the intended value for our stakeholders:

1. Advanced skills and capabilities in user research and usability design.

2. Enterprise and solution architecture capabilities with a strong focus on integration.

3. Make HRA Digital an attractive place to work so that we can recruit, develop, motivate and retain good staff.

4. Provide highly secure systems and manage data in a way that supports both security and accessibility.

5. Ability to effectively procure and orchestrate services and capabilities.

Finally, there are the priority initiatives and activities that will deliver the strategy and the future state for digital capabilities at HRA. These priorities relate directly to the value statement and critical success factors identified in the strategy and comprise major organisational projects as well as various improvement initiatives. They can be grouped into the following priority areas:

1. Deliver transformational investment in support of HRA organisational objectives

2. Enhance HRA organisational digital capabilities, encompassing people, technology, processes and governance

3. Enable integration and data sharing with our partners

4. Deliver effective and efficient digital services

Purpose and Objectives of the Strategy

The purpose of this digital strategy is simple: to ensure that investments in digital capabilities at the Health Research Authority (HRA) support the strategic objectives of the organisation.

Specific goals for this strategy document are as follows:

1. **Ensure business and systems alignment.** This strategy will ensure that there is strategic alignment between digital investments and wider HRA strategy, in order to avoid spending budget on things of less importance to the organisation. The purpose of the digital strategy is to support and reinforce the business strategy.

2. **Deliver an integrated organisational approach.** This strategy seeks to ensure that all digital investment and operational activities are aligned in support of the organisational strategy regardless of the specific department in which the capabilities reside or the project that is delivering them.

3. **Make informed strategic investment and prioritisation decisions.** The strategy provides a clear picture of how each proposed investment supports HRA objectives by addressing identified gaps between the current state and target state.

Scope of the Strategy

The scope of this strategy is the information systems, technology and digital capabilities at the HRA, including both project, programme, operational and staff activities. The strategy will focus both on how HRA develop and support these digital assets, and the way they are utilised by our stakeholders across the system to deliver research outcomes. The Research Systems programme is the largest single digital investment currently underway at HRA, but it is only one of a number of initiatives involving a significant digital component and therefore the digital strategy will encompass a range of activities across the organisation.

Strategic Environment

The HRA is facing a challenging operating environment that includes the impact of the COVID-19 pandemic, a challenging government funding environment, technological changes and cyber-security threats. The following is an assessment of key factors within the strategic environment that are likely to have the greatest impact upon the execution of this strategy.

Global pandemic

It is reasonable assume that the many of the changes the pandemic has brought, including a move away from office-based working, will persist in the long term. It is also anticipated that UK government expectations about the ability of HRA to respond in a rapid and agile manner to high-priority research requirements will extend to non-COVID related research and the desire to 'build back better' will lead to significant pressure to permanently embed these improvements.

Key take-outs for HRA digital strategy:

- Large-scale home working, including a reliance on virtual REC meetings will continue in the long term. The future of working is likely to be increasingly hybrid, which will require ongoing investment in collaboration capabilities and knowledge management.

- Government and public expectations of the HRA and our ability to quickly and flexibly support high-priority research will be permanently raised.

Government funding environment

Ongoing pressures on government finances are likely to continue for an extended period as a result of the impact of the pandemic. Whilst health spending has been prioritised in 2020, it cannot be assumed that this will continue, particularly if the COVID-19 threat is largely addressed through an effective vaccine roll-out in 2021.

Key take-outs for HRA digital strategy:

- Should incorporate a strong focus on cost reduction for those components of the digital landscape not directly contributing to the organisational strategy. This should include the adoption of technologies such as automation to improve efficiency across the organisation, and to release cash to be reinvested in the HRA.

- Extended economic downturn may impact upon the funding available for researchers to undertake research, both globally and within the UK, leading to a potential reduction in demand, and a strong need for HRA to demonstrate operational flexibility to facilitate investment.

- Any potential reduction in funding across government will increase the expectations on organisations to work as a system increasing the requirements for interoperability and associated relationships.

Government expectations for Clinical Research

In late November 2020 the UK government released set out a strategic vision for transforming the future UK clinical research environment, with a range of priorities including more patient centred trials and investigations, and faster, more efficient and innovative trials.

In addition to these considerations, the challenges of Brexit, and the significant government drive to ensure the UK remains a highly attractive place to undertake clinical research are likely to lead to ongoing challenges and changes in this area.

Key take-outs for HRA digital strategy:

- **Alignment:** The need for significant and ongoing investment in digital capabilities is reinforced by this Government strategy. However, it also reinforces the fact that the digital assets we create must be flexible and interoperable, so that we can work in a highly integrated way with other organisations throughout the sector.

- **User-expectations:** The fact that enhanced digital tools and infrastructure will be deployed across the sector means that the expectations of our users will continue to increase in relation to such things as integration, speed and usability.

- **Regulatory flexibility:** Changes to the regulatory environment are likely to continue, and the HRA will need to update systems and processes accordingly.

Technology developments

Technological advancements will continue over coming years, with the ongoing adoption of machine learning, natural language processing, robotics, workflow automation, block chain, quantum computing and extended reality leading to substantial changes in the way that organisations and societies function. The combination of machine learning and NLP will combine to drive the increasing adoption of 'AI as UI', with natural language interfaces, both voice and text (e.g. chatbots) becoming an increasingly dominant channel for interacting with complex systems.

Key take-outs for HRA digital strategy:

- The rapid adoption of new, disruptive technologies and the associated impact upon the Health sector will require an increasingly rapid and flexible approach to digital initiatives and related organisational change. Agile development methodologies will become the norm, and we will need to partner with organisations that are able to identify and implement relevant new technologies and approaches quickly.

- The cultural impact of new technologies should not be underestimated, and significant focus given to helping staff and stakeholders (e.g. committee members) understand and fully embrace the transformative possibilities of these technologies.

Growing cyber-security threats

An issue of growing importance for all organisations that depend upon digital business processes and key data resources, which in recent years has escalated to become a major source of corporate scandal and organisational risk. This landscape is populated by a growing range of threat actors including cyber-criminals primarily motivated by financial gain, state-based actors seeking to steal clinical research data and spread social discord, 'hacktivists' motivated by ideological opposition / support for particular issues, and individual hackers seeking to opportunistically exploit vulnerabilities.

Key take-outs for HRA digital strategy:

- Cyber-security will remain a growing and sustained organisational risk, that will require significant and ongoing investment in order to manage and mitigate. Security requirements will have to be 'baked in' to all decisions.

- Our close relationships with organisations such as the NIHR, DHSC and MHRA mean that we must ensure that we do not become a weak link for cyber-criminals to exploit, as interoperability can increase points of vulnerability. We need to build an intelligence network with our partners to ensure we are sighted on security issues that may impact on the research informatics ecosystem.

- Cyber-security must remain closely aligned with information governance to ensure that key data sources are protected, and we remain compliant with key legislation (GDPR).

The digital consumer

The modern consumer has very high expectations of the digital services they engage with. They demand high levels of usability and expect services to work across a range of platforms and devices, including mobile. It can be quite jarring for these individuals who use sophisticated digital platforms provided by companies such as Google, Apple, Amazon, Facebook in their personal lives, to then be forced to use non-intuitive, complex systems not designed with high levels of usability when in the work environment.

However, there is also a challenge with a growing digital divide in society which has become particularly apparent during the COVID-19 pandemic. A significant portion of society do not have access to the basic infrastructure (e.g. reliable, affordable broadband) or digital skills necessary to properly engage with new digitally enabled services.

Key take-outs for HRA digital strategy:

- The adoption of key design principles to ensure a consistent experience across systems, effective design for mobile platforms etc. will help ensure that usability and accessibility are at the core of our system design.

- The HRA user base has highly diverse levels of digital literacy. We should therefore ensure that our deployment plans include a strong emphasis on providing training and support to enhance the digital skills of our stakeholders. Targeted investment in equipment and infrastructure may also be necessary in specific circumstances.

Alignment with HRA Strategy

The HRA strategy lays out the vision for the organisation and forms the backdrop for the development and implementation of the HRA digital strategy. The HRA Digital strategy is designed to directly enable and support the organisational strategy, which sets out three key objectives to achieve the vision of high-quality health and social care research that improves people's health and wellbeing:

1. Enable high-quality research which is in the interests of participants and carried out with patient and public involvement and high standards of transparency

2. Provide a user-friendly and efficient service which facilitates a strong research environment

3. Be a knowledgeable, well-run organisation that's true to its values

The requirements embodied in these objectives are reflected throughout the HRA digital strategy, including the value proposition and critical success factors. However, all these goals reinforce the importance of the digital presence and capabilities of the organisation as a driver of stakeholder satisfaction and research outcomes. We must prioritise ease of use and accessibility and ensure that when our stakeholders need to interact with us, they are able to access digital channels that offer the right blend of intuitive self-service and joined-up personal support. We must work with our partners to adopt an integrated view of the needs of researchers, recognising that we have a joint responsibility to minimise duplication and maximise efficiencies in our end to end processes.

The detailed alignment between the HRA digital strategy and the organisational strategy takes place at the level of the HRA business strategy. This strategy sets out a series of goals that will help deliver the overall HRA strategy. The following table depicts the clear alignment between these goals and how the digital strategy will directly go about supporting them.

HRA Business Goal	How the Digital Strategy will help deliver
Transparency and openness in research	• Enhance our analytical capabilities to provide clear insights into study reporting and performance • Provide web capabilities that allow easy online access to research summary and detail information
Trustworthy use of patient data in research	• Providing appropriate guidance, support and systems to help researchers use data properly. • Ensure all data entrusted to the HRA is stored and managed in a highly secure way • Provide our staff with the skills and knowledge so that they can work effectively with sensitive data
Streamlined research approval	• Delivering the system changes to expand the Combined Ways of Working project • Transform the core IRAS platform to simplify our processes, enhance usability and provide end to end integration with partner systems • Developing a new online resource for guidance, decision tools and e-learning for health and social care researchers across the UK, integrated into new IRAS modules. • Develop a new IRAS website that allows simple and highly usable access to study information
A diverse organisation which includes and respects all	• Ensuring high levels of accessibility to all systems for all users
Skilled high-performing people	• Investing in the digital competencies of our staff and providing them with high quality virtual tools • Providing our volunteers with high quality virtual tools to allow them to the ability to engage and collaborate regardless of location
An organisation that makes good use of public funds	• Continuing to modernise our IT infrastructure to enable smarter working and reduce costs

Future state for digital at HRA

Based upon this analysis of the strategic environment and HRA strategic objectives, a number of key elements can be defined for the HRA digital strategy.

The first element of the future state is the value statement, that encapsulates what value will be created for the HRA and our stakeholders by this strategy, and how this value will be delivered:

We work in an agile and flexible way to design, develop and support easy to use, intuitive and accessible systems that reduce complexity, provide valuable insights to support improved decision making and deliver a consistent, predictable, high-quality service that allows researchers to plan effectively.

A number of critical success factors must be delivered in order to ensure this value can be realised. These are the things that we must absolutely do well as an organisation in order to deliver this strategy and create the intended value for our stakeholders.

1. Advanced skills and capabilities in user research and usability design and ability to adopt fundamental principles of usability and accessibility in all our services and systems. Understand our users and what it's like to be them and be responsive to their needs.

2. Enterprise and solution architecture capabilities with a strong focus on integration to create joined up, end to end processes and enable seamless interfaces to the stakeholder systems. Create an effective ecosystem of capabilities with our partners.

3. Make HRA digital an attractive place to work so that we can recruit, develop, motivate and retain good staff.

4. Provide highly secure systems and manage data in a way that supports both security and accessibility, so that we are trusted by our customers to provide highly secure systems and manage data.

5. Ability to effectively procure and orchestrate services and capabilities, utilising both internal resources and external partners in order to deliver our digital strategy.

These CSFs will be used alongside the key strategic objectives to develop the detailed HRA Digital business plan and programme roadmaps, as well as forming the overarching structure for all staff objectives and performance plans.

In addition to these critical success factors, there are a number of other key principles that help describe and guide the future state of digital at HRA:

Effective strategic governance: We will adopt a consistent approach to the governance of digital initiatives across the organisation, which will be overseen by the new Digital Strategy and Prioritisation Board (see below). This will include an enterprise-wide approach to initiative prioritisation, regardless of where in the HRA these initiatives originate.

Taking advantage of our size: We are a small-medium sized organisation and will always seek to act in a flexible, agile way where decisions can be made rapidly, and new innovative technologies quickly evaluated and implemented where they offer value.

Pega at the core: We are implementing Pega as the core of our IRAS replacement. However, it will not be the only component - we will avoid the adoption of Pega as a single monolithic enterprise system and will instead adopt a more flexible approach, adopting Pega as the core of an application eco-system that integrates with other key HRA and partner capabilities for collaboration, web presence, knowledge management and CRM.

Focus on usability: System design will focus heavily on delivering high levels of usability for the general user. There will be more emphasis on visual elements and less on text, with step by step guidance aimed at first time users, with the overall objective of delivering maximum usability in an information rich environment.

Partner interoperability: We will utilise common data models and standards, master data management and open architecture incorporating APIs to ensure HRA systems can integrate seamlessly with systems delivered by partners including MHRA and NIHR.

Information Security: Strong capabilities for information and cyber-security will be built into the design and development of all new solutions. All new projects and initiatives will consider the human aspects of security, ensuring appropriate focus on training and behavioural change.

Focus on SaaS: We will focus on adopting cloud-based software as a service (SaaS) solutions that require minimum customisation. In some cases, this will require the organisation to map its processes to the needs of the packaged solution, rather than the other way around.

Data as a strategic asset: Data will be treated as a key strategic organisational asset, owned and managed at an enterprise level and held in integrated, well-governed sources. We will utilise this data to derive valuable insights for the HRA, our partner organisations and key stakeholders.

Staff and volunteer digital experience in support of the new way of working: There will be a strong emphasis on significantly enhancing the digital experience for staff and volunteers, working in a hybrid / smart way, in order to help them better support our stakeholders and achieve the HRA mission.

Delivering the strategy: priorities 2021-2024

The final, and most critical element of the digital strategy are the priority initiatives and activities that will deliver the strategy and the future state for digital capabilities at HRA. These priorities relate directly to the strategic objectives and critical success factors identified in the strategy and comprise both major organisational projects that support the delivery of HRA business objectives, as well as organisational change initiatives principally impacting upon HRA Digital.

The priority areas for investment are as follows:

Investment Priority One: Deliver transformational change in support of HRA organisational objectives. Deliver a strategic programme of investment to support HRA organisational objectives in transforming the end to end research management process. Strengthen project and programme delivery, enhance ROI and benefits realisation, and improve strategic alignment, prioritisation and risk management. Key initiatives to include:

> 1.1 Core IRAS transformation based upon the Pega platform, to ensure effective and efficient research application management.
>
> 1.2 IRAS website to support transparency, knowledge management and engagement.
>
> 1.3 Customer Relationship Management (CRM) platform to support effective engagement with customers.
>
> 1.4 Analytics platform and capabilities to enhance our organisational understanding and insights and creating greater visibility and certainty around key performance metrics.
>
> 1.5 Development and communication of clear Portfolio roadmaps that outline the new and improved systems and services to be delivered.

Investment Priority Two: Enhance organisational digital capabilities: Significantly upgrade and enhance organisational digital capabilities so they can properly support rapidly evolving needs for clinical and health research across the UK and fully exploit the digital future, encompassing major changes to process, people, governance and technology. Key initiatives to include:

2.1 Cyber security: define new cyber-security strategy and subsequent change programme to deliver substantial uplift in the security of HRA information assets and greater protection against a range of threats.

2.2 Intelligent augmentation: develop and deploy new capabilities in a range of disruptive technologies to enhance the usability and efficiency of our systems and processes, including natural language interfaces (aka 'chatbots'), machine learning and robotic process automation.

2.3 Organisational change: implement a comprehensive HRA-wide change programme incorporating training, communications to achieve a substantial uplift in digital skills across the organisation.

2.4 Governance: adopt a governance approach based upon clearly defined digital portfolios, with portfolio boards focused on strategy, initiative prioritisation and risk management and portfolio roadmaps that are regularly updated and communicated.

2.5 User engagement and research: Develop and implement organisational capabilities in user research incorporating system usability. Work with HRA colleagues to implement a clear user engagement framework with supporting processes and methodologies.

2.6 Enterprise Architecture: implement an enterprise approach to application and data architecture to be overseen by the information architecture board, including a full set of architectural principles, detailed landscape assessment and clear processes for ensuring that digital investments are properly assessed for alignment with the architectural plan.

2.7 Operating Model: fully implement Research Systems Target Operating Model (TOM), adopting a joined-up approach with other HRA Digital capabilities to ensure an integrated operating model is realised.

2.8 Staff engagement and development programme, with clear development and training plans for all HRA digital staff that clearly align with this strategy. Effective leadership at all levels supported by a clearly defined model for leadership and team management to promote a culture of successful project and service delivery.

Investment Priority Three: Enable integration and data sharing with our partners: Implement a series of joint initiatives with our partners in NIHR and MHRA (and potentially additional organisations such as ISRCTN) to ensure high levels of integration and interoperability, in order to significantly enhance the end to end experience of researchers in the UK. Key initiatives to include:

3.1 Ecosystem wide logical data model: this will support the effective sharing of data between systems and partners, reducing the need for re-entry and supporting enhanced analytics.

3.2 Universal identification and single sign on (SSO) across the research eco-system: Work with partners to implement an SSO mechanism within systems used by HRA, MHRA and NIHR.

3.3 API / messaging platform and unique study ID: implement an API / messaging platform and unique study ID model to connect our systems with partner systems at MHRA and NIHR, supporting study tracking.

3.4 CWOW programme to support new combined ways of working with necessary system changes.

Investment Priority Four: Deliver efficient and effective services: Strengthen service management, optimise operational efficiency and improve customer service and satisfaction for our staff and users across the research eco-system. Key initiatives to include:

4.1 Service Desk for Research Systems: implement an effective, customer-centric capability, providing a range of technical and non-technical support to users of the integrated research system. Incorporating the implementation of a fit for purpose service management tool.

4.2 Service transition model: design and adopt an approach to on-board all new Research Systems as they are ready for release, ensuring high levels of support, availability and reliability from launch.

4.3 Single sign on for internal systems: implement an SSO model for all internal HRA systems so that users can access without additional sign on or having to manage multiple passwords and user IDs.

4.4 SharePoint online / Office 365: Continue the implementation of the integrated cloud-based Microsoft collaboration and productivity tools, incorporating training and business change.

4.5 Service Management processes and capabilities: design and implement a framework and underpinning capabilities to govern and manage digital service delivery in a true end to end basis, incorporating ITSM process maturity and improvements, service level management, and the adoption of a new, fit for purpose ITSM toolset.

4.6 Smart working: Development of an IT service and support model, including new technology where appropriate, to support our staff and volunteers working in a smart and flexible way.

These core initiatives are specifically selected to ensure an appropriate mix of investment across the following three categories:

- **Continual improvement of core services:** These initiatives will ensure that existing and newly deployed services continue to function effectively and efficiently, and technical debt does not grow to become a significant issue. It includes investment in improved technology, new processes, staff training and development, digital governance, and performance reporting

- **Capability enhancement:** This includes the development and deployment of new capabilities not previously available at the HRA, or in need of major overhaul including the replacement of the core IRAS approval management platform, deployment of Office 365, Teams and SharePoint, and the implementation of organisational capabilities including enterprise architecture and cyber-security.

- **Strategic digital transformation:** These initiatives and activities will focus on developing and deploying new capabilities across a range of advanced areas including data analytics, artificial intelligence (incorporating natural language processing and machine learning) process automation, research transparency and customer relationship management. This investment will allow the HRA to adopt a leadership position in certain key areas related to the organisational strategy and make a meaningful contribution to the core mission to protect and promote the interests of patients and the public in health and social care research.

New approach to strategic digital governance

It is proposed to create a new governance body to oversee all HRA digital initiatives and services, named the 'Digital Strategy and Portfolio Board (DSPB)'. This board will be responsible for ensuring this digital strategy is successfully delivered. It will complement rather than replace other programme or project specific governance boards. Key objectives for DSPB are as follows:

1. Oversee, approve and champion the HRA digital strategy, ensuring that the organisation business requirements and objectives are reflected within the digital strategy and plans.

2. Undertake horizon scanning to identify and explore new technological developments and how these may create opportunities for the HRA. Commission and undertake research into these topics to explore how the HRA and wider sector may benefit from the innovative application of digital technologies and practices.

3. Evaluate digital initiative proposals, including projects and significant changes and provide input and make prioritised recommendations for investment.

4. Review, provide input on and approve digital portfolio strategies and roadmaps (see below for list and scope of portfolios).

5. Oversee and approve all applicable digital and IT policies.

6. Provide oversight for approved digital projects to ensure that they deliver best value and continue to be suitably aligned with HRA strategic needs. Note that this is not intended to replace the HRA Portfolio Office or formally constituted programme boards, who will continue to provide detailed management of for all prioritised HRA programmes. Rather, the DSPB will take a high-level view of the health of all digital initiatives and services, regardless of where they sit in the lifecycle.

7. Ensure alignment between the digital strategy and other HRA business strategies, including Estates.

8. Oversee the overall HRA Digital budget planning process and review allocations for specific portfolio domains.

9. Agree master service-level agreements that define the overall HRA Digital service levels for the organisation, encompassing topics such as service performance, incident response / resolution, service criticality and other relevant performance related metrics and KPIs.

10. Provide input on communications and engagement with the wider HRA community on digital matters. Note that the HRA Engagement and Communications teams will retain overall responsibility for these matters.

The following portfolios have been defined as part of the HRA digital strategy. They represent the key capability areas that directly underpin the fundamental components of HRA business strategy, and will form the basis for key prioritisation and planning decisions, including the development and approval of portfolio roadmaps. Note that these portfolios include technologies with the potential to transform HRA operations and capabilities, but that may not be currently employed by HRA. This includes, but is not limited to, machine learning, natural language processing, robotic process automation and other innovative technologies.

Portfolio	Scope – key systems
Research Systems	IRAS and closely related components, and analytics.
Enabling Technologies	Office365, SharePoint, desktops / laptops, print, telephony, networking, cyber-security, estates technology.
Business Systems	Finance and HR systems, Learning Management Systems
Web and Engagement	Web presence (incl. IRAS web), intranet, CRM

Risk Appetite and Management

We will always seek to be open to technological innovation and development where there is a clear demonstration of benefit to the research community. In certain situations, we may have an eager risk appetite where there is the opportunity to implement technology which meets user needs which has a high likelihood of return from modest investment.

We will operate a more cautious approach for the systems which support our core services e.g. finance and human resource systems. Functionality is important however value for money and overall cost remain critical for these more standard systems.

Specific project risks will vary from initiative to initiative, but there are certain strategic risks with the potential to impact significantly upon the success of this digital strategy:

- **Funding:** Whilst the Research Systems FBC has been approved, there are still conditions attached to the ongoing provision of funding beyond year one. Single year funding has the potential to significantly limit our ability to deliver genuine transformation and prevent us from delivering the full investment roadmap.

- **Interoperability and dependence upon partners:** Whilst there is general good will between the HRA, MHRA and NIHR and a strong desire to work together to deliver end to end transformation, each organisation is still subject to separate pressures and expectations that may impact our ability to genuinely work together.

- **Vendor orchestration:** There is inherent risk in delivering a challenging set of transformational initiatives in a complex multi-vendor environment. Whilst the selection of a single partner for all Pega development will help address this risk, there will still be a requirement to work with a wide variety of technologies and delivery partners across the full eco-system.

- **Organisational culture:** Digital transformation requires significant organisational change in staff behaviours as well as new technology. Experience indicates that this is often the most challenging aspect of any major transformation programme.

Success measures and performance metrics

Success measures and performance metrics are the basis for tracking, reporting and monitoring the effective and successful delivery of digital projects and services. It is proposed that each critical success factor that underpin the HRA digital strategy has a limited number of associated success measures and performance metrics that will be used to assess and measure progress. Success measures and metrics proposed for each of the CSFs are as follows:

CSF 1: Advanced skills and capabilities in user research and usability design

- Measurable improvement in customer experience, incorporating qualitative and quantitative feedback and hours saved in adoption of new technologies
- Improved digital literacy and adoption across all stakeholders and digital channels

CSF 2: Enterprise and solution architecture capabilities with a strong focus on integration to create joined up, end to end processes and enable seamless interfaces to the stakeholder systems

- Measurable acceleration in speed of clinical research approvals within the UK
- Successful delivery of joint initiatives with MHRA and NIHR
- Reduced time to deploy new integrated joint capabilities across system

CSF 3: Make HRA digital an attractive place to work

- Staff retention
- Staff engagement survey results
- 100% completion of staff performance and development reviews

CSF 4: Provide highly secure systems and manage data in a way that supports both security and accessibility

- Number of security incidents
- External audit results
- ISO 27001 certification

CSF 5: Ability to effectively procure and orchestrate services and capabilities, utilising both internal resources and external partners in order to deliver our digital strategy.

- Benefits realisation – key benefits achieved for projects, both qualitative and quantitative including financial
- % of projects completed on time on budget to specification
- End to end service availability and reliability, and incident / service request resolution metrics

Schedules that specify the targets for each of these success measures, including format and regularity of reporting, will be developed separately. In order to properly establish a baseline for measuring subsequent improvement, data will be gathered as part of the implementation.

Supporting deliverables

In addition to this strategy a number of further supporting deliverables will be developed that will underpin the strategy. These deliverables and their scope and purpose is as follows:

Information security strategy: The information security strategy will detail the overall approach to cyber security at HRA, as well as detailing the specific capabilities and deliverables that will enable this approach.

Enterprise architecture principles and landscape: Enterprise architecture is key to defining the detailed current and to-be state for the HRA systems landscape. It will also include a number of key

architectural principles that will inform the development approach for initiatives in the strategic roadmap.

HRA Digital operating plan: The operating plan will set out in detail the specific departmental objectives and activities that are essential for the delivery of the digital strategy. It will focus upon the critical success factors identified in this strategy and identity those specific actions that HRA Digital must undertake, and how it will do so.

Detailed service level agreements: Service level agreements (SLAs) will be developed in accordance with the success measures and metrics detailed in this document. The SLAs will contain specific targets for each of the metrics and how it will be measured and reported. They will form a core element of how HRA measures and assesses the performance of digital capabilities across the organisation.

Kurt Weideling

Chief Digital Transformation Officer

9 March 2021