



The University of Manchester

# Research IT Strategy

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Overview

November 2015

# Strategic alignment

## World Class Research

“Our ambition is to be one of the world’s top universities, where internationally-leading researchers produce work of the highest significance and impact. We will be recognised for our interdisciplinary research, for training outstanding researchers and giving parity of esteem to discovery, application, knowledge transfer and impact.”

## Research IT value proposition

“We provide the eResearch capabilities including hardware and software to help University of Manchester researchers realise their aspirations and undertake world leading, high impact research. We provide timely, responsive service to eliminate barriers, increase researcher productivity and continuously expand what is possible in academic research.”

### ***Strategic Objectives***

Enhance research outcomes by enabling eResearch capabilities including hardware and software across a broad cross-section of the University research community and helping attract leading researchers to the University.

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Improve research impact by providing the tools that help researchers collaborate effectively with colleagues within and external to the University.

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Accelerate researcher productivity by leveraging technology and expertise to improve usability and protect researchers from unnecessary IT complexity, thereby reducing the time and effort to deliver meaningful insights.

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Expand the boundaries of what’s possible in academic research by enabling emergent and innovative eResearch technologies that help University researchers achieve their objectives.

# Research IT services 2015 - 2017

## STATE OF RESEARCH IT SERVICES IN 2015:

- Platform duplication and overlap.
- Pockets of excellent but limited overall franchise of researchers effectively utilising services.
- Unclear communications and engagement preventing full service utilisation.
- Limited focus on platform and service usability.
- External platforms not fully exploited.
- Limited capacity in RSDE capability
- No utilisation of cloud-based capabilities.

## KEY FOCUS AREAS FOR CHANGE

- Focused set of research applications and technologies
- Emphasis on usability & collaboration
- Integrated platforms for CIR
- Expand research software and data engineering practice
- Investment in hybrid cloud

## SUCCESS MEASURES

- Researcher satisfaction
- University research performance and ranking
- Platform and service utilisation
- Response and performance SLTs

## STATE OF RESEARCH IT SERVICES IN 2017:

- Clear continuum of platforms meeting needs across the research spectrum.
- Improved usability across all services.
- Significant expansion in researchers utilising services.
- Platform support integrated with RSDE, consulting and training.
- Significantly expanded RSDE capability.
- Clear and transparent engagement models for internal and external services.
- Integrated hybrid cloud providing right mix of on-premise and cloud-based capabilities.

# Research IT Future State - Service Portfolio

**What** we will deliver to enable research

Data collection  
and  
management

- Research and meta-data capture
- Research data storage
- Research data archiving
- Virtual machine infrastructure

Platforms for  
Computation

- Data-intensive high throughput computing
- Computationally intensive high performance computing
- Platforms for data visualisation

Applications for  
analytics &  
modelling

- Data visualisation and simulation apps
- Modelling and analytics apps






Systems for  
Collaboration

- Research collaboration and management
- Virtual laboratories & research environments






Enabling  
services

- Research software and data engineering
- Research applications support
- Training
- Consulting





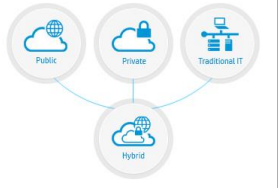
# Enabling the future state

Integrated services	Usability & collaboration	Platforms	S'ware & data engineering	Hybrid cloud
				
<ul style="list-style-type: none"><li>• Focused set of applications and technologies integrated with training &amp; support to provide end to end services.</li></ul>	<ul style="list-style-type: none"><li>• Improved usability and collaboration to enable significant expansion of community leveraging CIR</li></ul>	<ul style="list-style-type: none"><li>• Clear continuum of responsive services meeting needs across the spectrum without unnecessary duplication</li></ul>	<ul style="list-style-type: none"><li>• Expanded Research software and data engineering practice to help researchers achieve their goals</li></ul>	<ul style="list-style-type: none"><li>• Hybrid cloud providing mix of private and public resources to enable integrated, responsive, fit for purpose platforms</li></ul>

# Enabling the future state





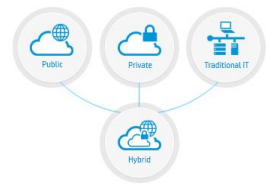
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<ul style="list-style-type: none"> <li>• In-depth support capabilities in a set of core research applications, technologies and techniques to help accelerate research and enhance researcher productivity.</li> <li>• Build capacity to undertake shorter term engagements focused on optimization of existing codes, and helping to identify where longer term RDSE engagements would add value.</li> <li>• Review training and implement enhanced offerings.</li> <li>• Plan deployment of platform for enhanced digital content management with focus on cultural objects.</li> <li>• Build enhanced business / research analyst capability to support integrated offering.</li> </ul>				

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- Investment in usability enhancements including revamped job submission engine to enhance current local platforms.
- Significant improvements to communications and self help resources to improve understanding and awareness of CIR and how Research IT can enhance outcomes for researchers.
- Integration and collaboration focus in all future developments, including single sign on (SSO) access to integrated self-service dashboard and innovative collaboration capabilities incl. virtual research environments (VRE) and application & data sharing.





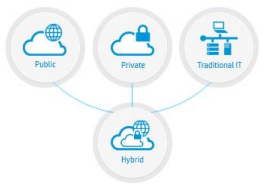
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- Integrated Scre@m platform incorporating investment in existing local platforms to enhance usability, capacity for data-intensive research and expanded free at point of use compute.
- Continue collaboration with N8 to plan best way forward for shared HPC facility refresh.
- IT platform architecture and roadmap incorporating detailed platform roadmaps to achieve future state.
- Progressively develop data visualisation lab capability.
- Supported by charge-out models that provide basic capability free at point of use.








# Enabling the future state

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- Expand research software and data engineering capability to ensure capacity to provide skilled staff with specific domain expertise, available for engagements of varying length to provide intensive local support to research projects.
- Increase expertise in development methodologies with particular skills in sustainable software engineering.
- Further develop understanding of the research process and capacity to work in ambiguous environment where specifications are poorly defined.
- RSDE practice underpinned by simple, transparent charge-out model.

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- Enable highly flexible mix of resources to provide option of undertaking research on the most appropriate platform for the task – locally or in the public cloud.
- Strong collaboration focus including application and data sharing and virtual research environments (VRE).
- Continue to leverage current investment in technology and processes where appropriate.
- Enable more rapid, incremental deployment of new and innovative capabilities and capacity to respond quickly to research needs.

# Want to learn more?

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[www.itservices.manchester.ac.uk/research](http://www.itservices.manchester.ac.uk/research)



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