

Science Digital Program

VERSION	1.0
DATE	19 October 2023
DRAFTED BY	Dana Sanchez, Mel Smith
ENDORSED BY	Ben Aldham, Sowmya Injeti, Aaron Quigley
APPROVED BY	Jon Whittle

This paper summarises what we know about Science Digital in its current state.

The Science Digital Program is still forming and we expect things to change as the new Director comes on board and as the program develops.

This paper is a work in progress and will be updated as required. If you have any comments or questions about the contents of this paper please contact Dana.Sanchez@data61.csiro.au.

Category	Statement										
Program Overview											
What	Science Digital is an APaIRs funded program which aims to develop a technology platform, currently code named, Sigma Eight.										
Governance	The Science Digital Program reports into CSIRO’s Digital Strategy Steering Committee chaired by Elanor Huntington.										
Mission	We are building an end-to-end AI-powered platform to revolutionise the scientific process with three core functions: 1) Synthesis and Suggestion 2) Hybrid Experimentation 3) Impact and Commercialisation										
Value Proposition	Unlike existing platforms for science, Sigma Eight (σ8) will overcome knowledge overload and enable novel discoveries by deploying a trusted digital-physical AI scientific partner and enabling cross-disciplinary collaboration. You can learn more at Viva Engage .										
Why CSIRO?	CSIRO delivers high quality science, has a deep understanding of the physical world and is connected to end users and industry. CSIRO is one of the few multi disciplinary translational research institutes in the world.										
Customers	Scientists and research engineers working in universities, government, research organisations and industries. We also expect Science Digital to be relevant to industry more broadly, including revenue generation.										
Funding	<table><tr><td>24FY</td><td>25FY</td><td>26FY</td><td>27FY</td><td>Total</td></tr><tr><td>7,451M</td><td>9,001M</td><td>10,379M</td><td>8,915M</td><td>35,746M</td></tr></table>	24FY	25FY	26FY	27FY	Total	7,451M	9,001M	10,379M	8,915M	35,746M
24FY	25FY	26FY	27FY	Total							
7,451M	9,001M	10,379M	8,915M	35,746M							
Timeline	1 July 2023 – 30 June 2027										

Category	Statement
Engagement	If you are interested in Science Digital you can engage via Viva Engage
Approach	<ul style="list-style-type: none"> • Work to agile values and principles • Prioritise action over planning • Apply human centred design thinking • Collective success, not individuals • Effective and open communication • Product approach, not individual components
What we will <u>not</u> do	<ul style="list-style-type: none"> • Lots of small and loosely connected projects • Planning paralysis • Nice science that has little impact • Work in silos • Incremental digital science
Program Leadership	
Leadership	The Science Digital leadership team will comprise: Jon Whittle, Aaron Quigley, Ben Aldham, Sowmya Injeti, Dana Sanchez + Science Digital Program Director + Science Digital Product Manager.
Director	The new Science Digital Program Director will be onboard 30 October and take on the role of Product Owner with Product Manager support.
Program Success	
How we will measure Program success	<ol style="list-style-type: none"> 1. We will build a robust and usable technology platform together 2. We will build capability across CSIRO to apply digital science 3. We will achieve global recognition in the scientific community 4. We will form a large scale, inclusive and diverse team of CSIRO staff working collaboratively to create a culture change in the way we work 5. We will build general tools that can address a range of different problems 6. We will partner with domain experts from across CSIRO 7. Our technology will be used collaboratively by scientists and research engineers working in universities, government, research organisations and industries 8. We may open source some tools 9. Our work will lead to revenue opportunities for CSIRO
The Way we Work	
Roles & Responsibilities	When the Science Digital Program Director is on board we will confirm roles and responsibilities (RASCI matrix).

Category	Statement
Teams	<p>Science Digital will not comprise a set of loosely connected projects. We will work as one integrated team working toward a shared outcome.</p> <p>Refer to Attachment A as an example of how the teams might be structured in future.</p>
Technology Development	The program will be a continuous, iterative cycle of development.
Why Work to Agile Values?	<p>Working in an inclusive agile way means we can focus on the 4 core agile values:</p> <ul style="list-style-type: none"> • Individuals and interactions over processes and tools • Working software over comprehensive documentation • Customer collaboration over contract negotiation • Responding to change over following a plan <p>Agile gives us visible increments of progress toward a long term vision.</p>
Agile Implementation & Support	<p>Working in an agile way may be new to some team members.</p> <p>There are many different ways to apply agile values and principles to the way we work. The project manager will collaborate with Science Digital teams to develop an approach that works for this program.</p> <p>We expect the approach to develop and change over time, this is a learning journey.</p> <p>A training plan, list of resources and agile coaching will be offered from 27 October 2023.</p>
Sprints	Currently, in the initial period of discovery, teams can choose to work in 2 or 3 week sprints. This may change in future.
Demos	<p>Demos may be an informal discussion, scenario, roadmap, or working technology etc.</p> <p>Science Digital teams will be advised of the expected format ahead of time.</p>
Program Backlog	Program level backlog will be implemented in November to start to bring individual components together.
Technology Done	Once the build begins, technology/demo 'Done' criteria will be defined and clearly communicated by the Product Owner/Manager.
Resourcing	

Category	Statement
Allocations	<p>Currently, staff are allocated to Science Digital on a case by case basis based on progress being demonstrated at demos.</p> <p>When product development starts, staff will be allocated for a fixed amount for a fixed period of time. These will be allocated based on delivering Science Digital outcomes.</p>

Attachment A: Example of how the Science Digital Team Integration might work

Science Digital will not comprise a set of loosely connected projects. We will work as one integrated team working toward a shared outcome.

One option under consideration is to form teams based on a use case/technology component that is integrated into the platform.

Team composition would change as different capabilities are required during the technology development lifecycle. Teams would close as the use case/technology component is delivered and members would return to other projects. New teams would form as new use cases/technology components are identified.

