



Proposed Content for a DiSSCo Digital Maturity Tool

DiSSCo Prepare WP3 – Milestone 3.4

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Abstract

This report aims to describe the proposed content for a DiSSCo Digital Maturity Self-Assessment Tool, to support development and discussion with potential users. It defines the levels against which users will assess ('score') their current and target capability under each category; defines the categories and subcategories that will form the structure of the tool questions / assessment; provides full text examples of category content - i.e. the text that will be seen by users to guide them in identifying the right current and target levels for their team or institution's capability in that category; and provides more depth about the requirements for accessing the tool (registration etc) and the reports that the tool might generate.

Key words

DIGITAL MATURITY, SELF ASSESSMENT TOOL,
CAPABILITY, COMPETENCY, LEADERSHIP



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01 Introduction

A critical factor in the success of the Distributed System of Scientific Collections Research Infrastructure (DiSSCo) will be to enhance the digital capability and maturity of members to provide content and leadership for the DiSSCo infrastructure. This digital transformation requires capability, flexibility and resilience across a wide range of areas including all aspects of the DiSSCo Implementation Readiness Levels (IRLs) in the five dimensions of organisational, scientific, technical, data and financial readiness. The transformation also needs to recognise the variety in size and type of member institution and the fact that strengths can be distributed across institutions and sometimes procured externally through contracting or outsourcing. To support this we propose the development of a DiSSCo Digital Maturity Self-Assessment Tool to enable institutions to self-assess their digital maturity across a range of parameters, and support the DiSSCo Coordination and Support Office (CSO) in their efforts to level-up delivery of digital activities across DiSSCo members. This paper builds on the Design Blueprint for this Tool¹, giving more details and examples of proposed content. The other papers produced as part of DiSSCO Prepare Task 3.1 provide further context for the proposed tool including analysis of examples of similar Tools².

This report aims to describe the proposed content for the Digital Maturity Tool, including:

- Defining the levels against which users will assess their current and target capability under each category;
- Defining the categories and subcategories that will form the structure of the tool questions/assessment (building on the first version of this in milestone 3.2);
- Providing one or more full text examples of category content - i.e. the text that will be seen by users to guide them in identifying the right current and target levels for their team or institution's capability in that category; and
- Providing more depth about the requirements for accessing the tool (registration, welcome etc) and the reports that the tool might generate.

This is intended as an input to the development process going forward, potentially including wireframing for consultation/testing, as well as functional development.

To give a high level view of the tool, we have mocked up one area in Google Forms here: <https://forms.gle/iq6cveCL4XQgSG1z5> - screenshots are also shown at Annex A. This does not fully reflect the content and scoring suggestions in the document below but is intended to give a quick idea.

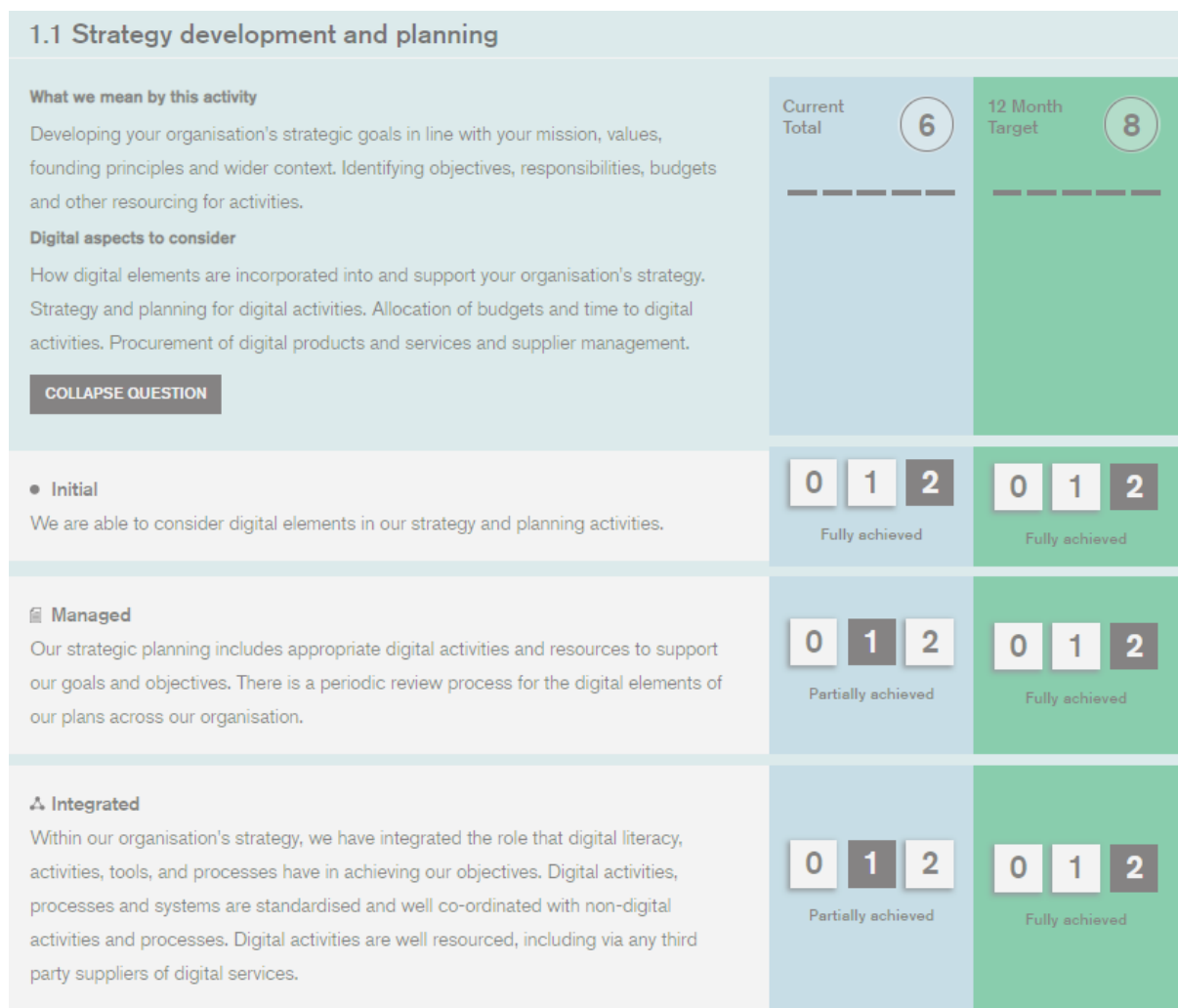
Google Forms or similar functionality could be used to mock up the tool more fully for user testing if desired, although the final version should be developed in the same platform as other DiSSCo tools.

¹ Hardy, H., Koivunen, A., Groom, Q., Mergen, P., Berger, F., Figueira, R., Arsénio, P., & Cartaxana, A. (2021). DiSSCo Prepare Milestone report MS3.2 "DiSSCo Digital Maturity Self-Assessment Tool - Design Blueprint". <https://doi.org/10.34960/Q1MZ-ZF45>

² Hardy, H., Koivunen, A., Juslén, A., Groom, Q., Mergen, P., Berger, F., Giere, P., Figueira, R., & Cartaxana, A. (2021). DiSSCo Prepare Milestone report MS3.1 "Improving Digital Capability - Case Studies & Analysis". DiSSCo Prepare. <https://doi.org/10.34960/W8F3-H851>

Hardy, H., Koivunen, A., Groom, Q., Huybrechts, P., Mergen, P., Berger, F., Giere, P., Figueira, R., Arsénio, P., & Cartaxana, A. (2021). DiSSCo Prepare Milestone report MS3.3 "DiSSCo Capabilities – Additional Case Studies & Analysis". DiSSCo Prepare. <https://doi.org/10.34960/APH7-RF10>

In general terms, the proposed tool is similar in purpose and appearance (though different in content) to the UK Arts Council Digital Culture Compass Tracker³ - a free account can be created to see how this tool works, or the screenshot below gives an idea of the appearance of the Tracker self-assessment:



In parallel to this report, Task 7.3 of DiSSCo are working on a Policy Tool - this has some different functional requirements but a joined up approach will now be taken to developing a platform for these that connects appropriately to the wider DiSSCo infrastructure including the European Loans and Visits system (ELViS) and the DiSSCo Knowledgebase, giving a consistent user experience. More details about this process will be provided in the Task 3.1 Deliverable report, to be published alongside this document⁴.

³ <https://digitalculturecompass.org.uk/using-the-tracker/>

⁴ <https://doi.org/10.34960/3pc3-pp32>

02 Levels for the Self-Assessment

This chapter looks at the levels against which users can 'score' in the proposed Tool. Each subcategory question/statement for scoring in the tool should enable the user to enter both their current level, and a target level in 12 months time.

The UK Arts Council Digital Culture Compass Tracker⁵ uses three levels:

- 0 - not achieved;
- 1 - partially achieved;
- 2 - fully achieved.

They also, however, present five statements for scoring in each subcategory/question, to establish whether the relevant capability is present or not at the following levels: Initial; Managed; Integrated; Optimising; and Transforming. Separate scoring of each of these allows for a non-linear progression, for example, an organisation may have progressed further in transforming a certain capability than in managing it. While the 5 levels are present in each topic, the statements for scoring each level are tailored, although they have elements of common phrasing e.g. mentioning cross-institution standardisation at the same level in any relevant topic.

GBIF's Capacity Self Assessment Tool / Survey⁶ uses a top level 'yes/no' boolean response for key questions, followed by a three-part scoring below this. The three levels are undefined and use different wording relevant to each question, but are broadly 'not yet'; 'basic' or 'not fully'; and 'complete', 'in place' or 'agreed' - i.e. similar to the Culture Compass scoring above.

For the DiSSCo Digital Maturity tool we believe a slightly simpler approach is desirable, with one or few statements to be scored per subcategory, and a single scoring system of four levels as follows:

- 0 - Disagree
- 1 - Partly agree, or agree only for particular individuals or teams
- 2 - Mostly agree, or agree for most teams
- 3 - Completely agree

Scoring could, if preferred, use terms such as 'true', 'present' or 'met' instead of 'agree' - this could be tested with users.

This is similar to the scoring used for the SYNTHESYS Collections Self-Assessment Tool (CSAT), which used a rating of "Met", "Mainly Met", "Partially Met", or "Not Met" (although this also allowed an "Exceeded" category where appropriate - we do not think this is likely to be relevant for the Digital Maturity tool). In addition, the CSAT assessment assigned a criticality RAG (red, amber or green) status based on the scoring, to indicate priorities for improvement. We do not need to replicate this for the Digital Maturity Tool as it is for each institution or team to decide what their own priorities for improvement will be.

Either each category or each sub-category of questions should allow a text box for commentary to help explain current or target scoring. It is probably useful to do this at category level, as these notes about reasons for scoring may apply to more than one subcategory. This narrative is primarily for the user, so space should not be unduly restrictive, however text such as 'add any brief comments to

⁵ <https://digitalculturecompass.org.uk/using-the-tracker/>

⁶ <https://www.gbif.org/tool/6Y2Sqk8XokHUqIFUn6TLxX/online-capacity-self-assessment-tool-for-national-biodiversity-information-facilities>

explain your scores' may be useful and a reasonable character limit could be imposed - this should be tested with users.

In the Digital Culture Compass Tracker, text describing the meaning of the score (e.g. 'partially achieved' for score 1) appears underneath when the radio button for the relevant number is selected - this is a space-efficient way of ensuring that the scoring descriptions are in front of the user whenever they need them. Users should be able to select for each particular question/statement whether this is not relevant / not applicable for them to score.

03 Tool content categories and subcategories

A first description of possible categories was provided in the Milestone 3.2 Blueprint, including strategy; policy; leadership; resources and organisation; competencies & skills; data management & mobilisation; digital processes and services; programme & project management; measurement & reporting; and fundraising & development. In this section we aim to refine these categories including suggesting subcategories where relevant, first looking at some additional comparators to enrich our initial classification.

3.1 Implementation readiness levels and training objectives

Since work on our Milestone 3.3, SYNTHESYS+ work on training has been published in the report *D2.3 Catalogue and recommendations for development of a proactive, efficient and evolving DiSSCo training programme* (Castelin et al., April 2021). This work analyses the Implementation Readiness Levels (IRLs) for the five DiSSCo Prepare Dimensions of scientific, technological, data, organisational and financial readiness, using these to identify 29 training objectives. These IRLs and objectives provide a useful source to check possible categories for a digital maturity tool, to ensure that there is alignment between the tool categories and the areas in which training and support are likely to be planned.

Many of the objectives identified in the SYNTHESYS+ report are not relevant, since this Digital Maturity Tool is intended to focus largely on the DiSSCo operational, technological and data readiness dimensions with less focus on scientific readiness. It is clear that much existing training, for instance, focuses on the scientific and specimen-related area - this is not a focus for the current tool since, while DiSSCo members may have resource constraints, they are already mature in areas such as collections management and specimen-based research. However, other objectives such as those relating to organisational readiness are highly relevant, and in the table below we have mapped which training objectives we believe are related to which category of the proposed tool.

3.2 SYNTHESYS Collections Self-Assessment Tool (CSAT)

The SYNTHESYS+ Collections Self-Assessment Tool (CSAT)⁷ had been discussed in the Task 3.1 meetings but was not fully analysed in time for our previous reports. This self-assessment methodology is much more detailed and granular than what is envisaged for the current tool, with institutional sections to complete for buildings and management; as well as sections for each collections department e.g. zoology. The overall focus of this approach is collection preservation and management, looking at best practice, policies and compliance (legal and policy-related). Questions for departments cover five categories: "Collections Management", "Collections Care", "Collections Access", "Molecular Collections", and "Digital Collections". An audit step by a third party follows the initial self-assessment for CSAT, informing actions that the Institution will need to take.

The institutional management questions of CSAT are relevant to the scientific and organisational readiness dimensions of DiSSCo, touching on mission, resourcing and training as well as policies. As with aspects of the training objectives discussed above, however, these are less relevant to the

⁷ <https://www.synthesys.info/network-activities/synthesys3-na2/self-assessment.html#:~:text=To%20enable%20institutions%20to%20assess,management%20and%20in%20seeking%20funding.>

proposed Digital Maturity Tool which assumes an existing level of maturity around physical collections and focuses instead on aspects of change and digital transformation.

The CSAT's Collections Access questions focus primarily on physical access, spaces and handling, but do include the following statements for scoring:

- The data associated with the collections is stored and accessible;
- Information on the collections held are available on the internet (collections descriptions);
- Digitisation priorities for collections and associated information have been identified.

The section on Digital Collections then goes into more detail on these topics, including the use of standards such as Darwin Core; data formats and archiving; data quality assurance; and aggregation. These areas are relevant to the proposed Digital Maturity Tool, and we have made sure that these aspects are reflected in the suggested categories and subcategories in the table below, however the Digital Maturity Tool is intended to have a greater focus on skills and enablers rather than compliance. For example, while the CSAT statement about imaging infrastructure for digitisation (e.g. cameras and workstations) focuses on collections risks and health and safety aspects, the Digital Maturity Tool is intended to focus more on suitable technical support and skills to use this equipment.

Overall, we believe that there is relatively little overlap between the proposed Digital Maturity Tool and CSAT, such that if CSAT continues, institutions would not find it too repetitive to complete both assessments - perhaps with the Digital Maturity Tool as the simpler, primary step. However we understand that the intention may in any case be to replace CSAT with a range of other options including the Task 7.3 Policy Tool.

CSAT was completed first by the institution, but then involved an auditing step with a visit from another SYNTHESYS Project member. While no audit step is proposed for the Digital Maturity Tool, it is possible that a voluntary mentoring arrangement with an institution currently scoring highly in an area prioritised for improvement could be useful. This could be incorporated as part of the support offer for those completing the self-assessment.

3.3 Proposed tool categories and subcategories

In addition to examining the SYNTHESYS CSAT and training objectives work above, our Task 3.1 Deliverable report (to be published at the same time as this document) summarises key common aspects of the competency frameworks reviewed over the course of this Task. This thinking has also been used to refine the proposed categories for the Digital Maturity Tool.

The proposed categorisation and sub-categorisation for the Tool is as follows - it would be helpful to test this with potential users early in the next stages of tool development:

Table 1: Digital Maturity Tool content categories and subcategories

Primary category (forms a distinct section of the self-assessment tool)	Subcategory (form questions/statements to be scored within a section)
1. Leadership and management	A. <i>DiSSCo leadership</i> : to what extent there is clear ownership of key activities relating to DiSSCo (this could reference the need for

<p>(people, resources & change)</p> <p>Related Implementation Readiness Levels training objectives: #O-24 Governance #O-25 Management #O-26 Communication</p>	<p>named Institutional Moderators and Enablement Team Leads per current work with nodes, however these terms may not last for the lifetime of the tool); to what extent there is organisational awareness and ‘buy-in’ to DiSSCo at senior levels; to what extent leaders share a convincing DiSSCo vision and link this to organisational strategy.</p> <p>B. <i>People leadership and management</i>: to what extent managers have, and measure, the necessary competencies for managing and developing people; and to what extent leaders communicate effectively and work collaboratively to achieve strategic goals. To what extent leaders are approachable, and both provide and ask for timely feedback.</p> <p>C. <i>Resource management and decision making</i>: to what extent decision making and resource allocation is aligned with strategy/ institutional priorities and takes account of relevant evidence/data.</p> <p>D. <i>Change leadership</i>: to what extent leadership have, and measure, the necessary competencies to lead and support change and innovation.</p> <p>E. <i>Programme & project management</i>: to what extent programmes and projects are led by those trained and/or qualified in the relevant management techniques including Waterfall and Agile.</p>
<p>2. Strategy and Policy</p> <p>Related Implementation Readiness Levels training objectives: #O-23 Policy #O-25 Management</p>	<p>A. <i>Strategy</i>: To what extent there is a clear and documented organisational strategy with measurable outputs and outcomes, line of sight to planning and to team and individual objectives; to what extent this is aligned with DiSSCo, and recognises and prioritises the value of digital collections and collections data.</p> <p>B. <i>Organisational values and culture</i>: to what extent does the organisation have documented values, and to what extent do these promote inclusion, resilience, flexibility and innovation.</p> <p>C. <i>Policy</i>: This subcategory will need to reference the DiSSCo Policy Self-Assessment Tool (Task 7.3 tool). Ideally, with an integrated architecture e.g. shared registration for DiSSCo tools and services in future it may be possible to identify automatically whether the institution has completed the policy tool and either prompt them to complete it or provide a summary of current compliance. Alternatively this tool could ask directly whether the institution has completed the DiSSCo Policy Self-Assessment tool; or could pose a more general statement e.g. ‘We are compliant with DiSSCo policies’ for scoring, pointing to the tool as a source of support for those who have not yet used it.</p>
<p>3. Communication and engagement</p> <p>Related Implementation Readiness Level training objective: #O-26. Communication</p>	<p>A. <i>Internal communication and digital maturity</i>: to what extent are communications relevant to DiSSCo and to digital activity and change in the organisation delivered clearly, at the right time and to all levels? To what extent are communications two-way and do colleagues at all levels feel able to contribute and make suggestions?</p> <p>B. <i>External communication and digital maturity</i>: to what extent do external communications take account of different audiences (e.g.</p>

<p>#S-11 Citizens science - training the trainers #S-12. Citizens science - training citizens</p>	<p>service users, funders etc) and use a variety of appropriate channels (e.g. social media, presentations etc)?</p> <p>C. <i>Negotiation and partnering</i>: Where the organisation or team needs to work with others internally or externally to achieve strategic aims, to what extent are these cooperations and negotiations constructive and successful?</p> <p>D. <i>Volunteering, citizen science and crowdsourcing</i>: If the organisation involves volunteers or citizen scientists in digital activities e.g. digitisation or label transcription, to what extent this is managed within a clear framework (e.g. it is understood what work is suitable for volunteers and what for employees); and to what extent are two-way communications and engagement in place between volunteers/citizen scientists and the organisation e.g. feedback about the value of their contribution and mechanisms for them to ask questions?</p>
<p>4. Recruitment and development of competencies</p> <p>Related Implementation Readiness Levels training objective: #O-25 Management</p>	<p>A. <i>Competency framework</i>: to what extent the institution uses any competency framework(s), and to what extent these are embedded and integrated in processes for recruitment, appraisal, progression or personal development.</p> <p>B. <i>Recruitment for digital transformation</i>: to what extent the organisation is able to recruit (or contract/outsourced) and retain people with the competencies and skills needed to support the DiSSCo transformation - e.g. are digital skills present in job descriptions; are salaries sufficient to attract suitable candidates; are there career paths and opportunities that keep those individuals in the organisation over the medium to long term.</p> <p>C. <i>Training and developing competencies</i>: To what extent individuals, teams or the wider organisation are encouraged to identify gaps in competencies and skills, and whether support is available to fill these (e.g. formal and informal training/learning; mentoring; shadowing; staff talks etc)</p> <p>D. <i>Competency planning</i>: To what extent plans are in place to manage risk where key competencies (such as programme management or data and digital skills) are concentrated in one or few individuals - e.g. are succession plans in place, are these individuals encouraged to train others and to share their skills and knowledge? Where external resources are used, to what extent are measures in place to benchmark and quality assure delivery, and is there any exchange of skills and knowledge?</p>
<p>5. Operational and service delivery</p> <p>Related Implementation Readiness Level training objectives: #O-25 Management</p>	<p>A. <i>Organisational structure</i>: to what extent does the organisation have dedicated teams or individuals in place (including outsourced where relevant) to deliver digitisation, data mobilisation and other aspects of the DiSSCo digital transformation?</p> <p>B. <i>Resourcing</i>: To what extent the human and other resources available for digitisation and digital transformation are sufficient to deliver the institution's strategic aims/ plans and targets in relation to DiSSCo (this can include outsourced/ contracted resources).</p>

<p>#D-13 Pre-digitisation curation #D-16 Digitisation #T-19. Operating: Running scientific equipment #T-22. e-Monitoring: Digital management services (e.g., E-service, helpdesk)</p>	<p>C. <i>Infrastructure, tools and support</i>: To what extent infrastructure and tools (including both general enablers such as Wi-Fi & data storage, and specific scientific equipment such as scanners) are available to support DiSSCo-related delivery; and to what extent their use is appropriately supported e.g. by an internal or external helpdesk, technology and/or laboratory teams.</p> <p>D. <i>Digitisation</i>: To what extent collections have been or are being digitised at large scale; to what extent digitisation workflows are understood for all relevant collections in the institution.</p> <p>E. <i>Digital by default</i>: to what extent digital services are available to support key collections management processes such as acquisitions and loans; and to what extent collections processes and access are 'digital first' or digital by default (this will require a clear definition)</p> <p>F. <i>Digitisation 'on demand'/ as a service</i>: to what extent digitisation (data capture and 2D imaging) is available as a service/ on demand with defined service levels, and to what extent enhanced digitisation (e.g. 3D imaging, chemical or molecular analyses) are available on demand with defined service levels; with well-understood costs and (where relevant) cost recovery or charging models.</p>
<p>6. Data, digital & technology</p> <p>Related Implementation Readiness Level training objectives: #O-25 Management #D-14. Standardisation / data interoperability #D-15. Data curation #D-17. Databasing #D-18. Data sharing #T-20. Development: #T-21. IT data management #S-9. Data analysis</p>	<p>A. <i>Data management / curation</i>: to what extent the institution manages data as an asset e.g. having clear data owners and processes in place to assure data quality, and well used system(s) of record for key data types.</p> <p>B. <i>Standards including accessibility</i>: to what extent the organisation has a CMS that is able to support data that is compliant with Darwin Core and/or Minimum Information about a Digital Specimen (MIDS); and to meet other key standards including e.g. accessibility standards, International Image Interoperability Framework (IIIF)?</p> <p>C. <i>Data mobilisation</i>: to what extent the organisation is able to enable FAIR data access (explain in tool text - or offer link), via their own platform and/or national or international aggregators.</p> <p>D. <i>Data preservation</i>: to what extent the institution has an approach and infrastructure to implement digital preservation.</p> <p>E. <i>Software development and data architecture</i>: To what extent the organisation are involved in the design and implementation of software, or in data architecture, for DiSSCo or their wider digital transformation; if so, to what extent if so they have access to the skills and resources they need for that, or if not to what extent they have access to these skills to the extent that they need.</p>
<p>7. Finances and Reporting</p> <p>Related Implementation Readiness Level training objectives:</p>	<p>A. <i>Financial management</i>: to what extent the organisation has access (including outsourced/contracted access) to specialist financial skills and management including financial planning and monitoring; accounting and tax functions.</p> <p>B. <i>Measurement and reporting</i>: to what extent tools and resources are in place for data collection, analysis and reporting (including measures of the use of collections data e.g citation and of</p>

<p>#F-27 Management (financial and budgetary) #F-28 Financial awareness #S-10 Publication and outputs</p>	<p>user needs/views); and to what extent this enables decision making and prioritisation.</p> <p>C. <i>Fundraising and development</i>: to what extent the organisation feels able to make the case for digitisation to governments or to private/corporate donors, and to what extent this is a priority for fundraising (if further resources are needed).</p> <p>D. <i>Understanding and recovering costs</i>: To what extent the end-to-end costs of digitisation workflows and services are understood, and where appropriate whether mechanisms are in place for cost recovery e.g. charging for services on an at-cost basis.</p>
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04 Examples of draft category content

Below we suggest the draft Tool content for the statements to be scored in the category **Leadership and management** and **Operational and service delivery**. Blue text is used to indicate suggested content for the Tool, rather than commentary etc.

As set out in Chapter 2 above, each statement is to be scored as:

0 - Disagree

1 - Partly agree, or agree only for particular individuals or teams

2 - Mostly agree, or agree for most teams

3 - Completely agree

First currently, and then as the desired position in 12 months time

Throughout, it may be necessary via user testing to clarify terminology around organisation, institution, team, unit etc. While users should be able to self-assess for a team, institution or even national node level, it would be helpful if the statements could use a single term as suggested below - however the interaction between that and the scoring levels above may cause some confusion.

1 - Leadership and management

1a DiSSCo Leadership

In my organisation, people understand what DiSSCo is and why it's important to us [SCORE]

In my organisation, people know who leads and owns our participation and delivery for key DiSSCo activities [SCORE]

1b Leading and managing people

In my organisation, all line managers are trained in the processes and practices of managing people [SCORE]

In my organisation, part of performance management or appraisal for line managers is to assess how well they are managing people. [SCORE]

In my organisation, leaders and managers communicate effectively with one another and work together to achieve strategic goals [SCORE]

In my organisation, leaders and managers communicate effectively with their teams so that we understand strategic priorities and our part in delivering them [SCORE]

1c Resource management & decision making

In my organisation, resource allocation and decision making are driven by relevant data e.g. about the costs, benefits and outcomes of what we have done before [SCORE]

In my organisation, resources are allocated to the priorities in our strategy, and this allocation is changed if those priorities change [SCORE]

1d Change leadership

In my organisation, part of performance management and appraisal for leaders and managers is to assess how well they are managing change [SCORE]

In my organisation, leaders and manager are open to ideas from anyone and encourage testing and piloting of new approaches [SCORE]

1e Programme & Project management

In my organisation, programmes and projects are led by people trained and/or qualified in the relevant tools and techniques e.g. waterfall and agile project management

5 - Organisational structure and service delivery

5a Organisational structure

In my organisation, it is clear which teams and/or individuals are responsible for delivering digitisation, data mobilisation or other aspects of the DiSSCo digital transformation [SCORE]

5b Resourcing

In my organisation, we have sufficient human and other resources available (including outsourced / contracted resources) to deliver our strategic aims for digitisation and digital transformation [SCORE]

5c Infrastructure, tools and support

In my organisation, we have the right general technological infrastructure and tools available to do our work (e.g. Wi-Fi, data storage, remote working tools) [SCORE]

In my organisation, we have the right specialist technological infrastructure and tools available to do our work (e.g. imaging and laboratory equipment, collections management system) [SCORE]

In my organisation, our use of general and specialist technological infrastructure and tools is appropriately supported (e.g. by an internal or external helpdesk, technology team and/or lab management team) [SCORE]

5d Digitisation

In my organisation, we understand the digitisation workflows required to digitise the objects in our collections [SCORE]

In my organisation, our collections have been or are being digitised at a large scale (even if we have a long way still to go) [SCORE]

5e Digital by default

In my organisation, key collections management processes such as acquisitions and loans are supported by digital services (e.g. a centralised process and/or team for imaging acquisitions) [SCORE]

In my organisation, collections processes and access are 'digital first' or digital by default i.e. people discover our collections online, and can request additional digital services such as imaging and analyses if they prefer this to accessing the physical collections [test this definition with users to check understanding] [SCORE]

5f Digitisation 'on demand'/as a service:

My organisation offers digitisation (data capture of key fields and 2D imaging of key angles) as a service/ on demand with defined service levels (e.g. defined timeframe for a response, defined cost or charging framework if relevant) [SCORE]

My organisation offers enhanced digitisation (e.g. additional 2D images, 3D imaging, chemical or molecular analyses) as a service / on demand with defined service levels (e.g. defined timeframe for response, defined cost or charging framework if relevant) [SCORE]

05 Getting started and reporting

This section suggests draft content and what users will see and do when accessing the Tool for the first time or subsequently, as well as first thoughts about reporting.

5.1 Introduction and getting started

A first draft for introductory text on the tool landing page is as follows:

Welcome to the DiSSCo digital maturity self-assessment. This tool is intended for current or prospective DiSSCo partners, and can be used to self-assess and to set your own areas for improvement whether you represent a team, organisation or national DiSSCo node.

To be successful, the digital transformation envisaged by DiSSCo needs partners to contribute content, infrastructure, expertise and leadership. DiSSCo Prepare covers five key dimensions of readiness: scientific; technical; data; financial and organisational. Digital maturity is therefore a broad concept, and this tool covers a wide variety of areas that contribute to an organisation's flexibility and responsiveness to change, as well as the specific resources and skills you may need for digitisation, infrastructure and data mobilisation.

DiSSCo includes a wide range of different types and sizes of organisations, with different needs and approaches - for example in some areas particular skills may be outsourced or contracted, or may not be needed at all e.g. if they can be sourced elsewhere in the DiSSCo consortium. So this tool allows you to specify which areas or questions are and aren't relevant to your assessment, and to set your own priorities by choosing which areas to target for improvement.

Once you have registered, you will be able to revisit, update and download your assessment at any time. Over time, links to further training and support will be added and updated.

5.2 Login / registration

There will be a clear landing page element offering login or registration/ 'get started', likely alongside the text above to allow existing users to reach login quickly.

The nature of this functionality will depend on how this Tool interfaces with wider DiSSCo infrastructure e.g. whether there is a unified registration service for DiSSCo services - as a minimum this tool should follow consistent registration and log in style and functionality.

Users who click register will need to enter (or import depending on platform and APIs etc):

- Full Name
- Email address
- Password (self-chosen)
- Institution (show drop down list of DiSSCo partner institutions, associated with consistent organisational identifiers - NB we are assuming that further details about institutions do not need to be collected via this tool but will be present elsewhere e.g. on ELVIS if relevant.)

Depending on the wider DiSSCo approach to registration and verification, a confirmation email and link may be sent before first login is possible.

5.3 Data processing consent

On registration or first log in for this tool all users will need to be asked to provide opt-in consent to relevant Terms & Conditions/ data policy, including consent that their contact details be shared with anyone else completing a self-assessment associated with the same institution.

5.4 Accessing or starting a self-assessment

When logged in, users will see:

- A way to access any existing self-assessments associated with their registration
- A way to create a new self-assessment

If creating a new self-assessment, users should be asked to select one only of the following:

Are you completing this assessment primarily on behalf of (please select):

- A team or organisational unit within your organisation
- Your whole organisation
- A DiSSCo national node of one or more organisations

If they specify 'team', users should be invited to enter the team name.

Users could be invited to create a title for their self-assessment, or this could be automatic / standardised e.g. 'DiSSCo Digital Maturity Self-assessment for team name AND/OR institution OR node name/country'

Users can then start, view or continue a self-assessment - they can select categories to complete in any order.

5.5 Reporting and resources for users

Reporting needs for the Digital Maturity Tool are not yet understood in detail as they will depend on the further development of the tool and testing with users. It is likely that self-assessment user needs for reporting will be relatively simple, similar to those available through Google Forms or the Digital Culture Compass Tracker - for example, users are likely to need access to the Digital Maturity Tool questions and their scores in a downloadable summary, and perhaps some visualisations e.g. layering the current and target scores against the sections in a radar plot.

Reporting needs for the DiSSCo Coordination and Support Office are expected to be at the aggregate level and are likely to include information about :

- Numbers of self-assessments completed and whether these are on behalf of institutions, teams or nodes;
- Overviews of scoring suitable to identify areas of key strengths or weaknesses in aggregate, so that training and support can be targeted to address areas for improvement.


Visualisation in the tool and reports should bear in mind all aspects of accessibility, including visual accessibility (e.g. using colour spectrums that maximise clarity for all users).

The aspiration for this Tool is that it will link to or otherwise enable access to content and training to help users progress in the areas they have selected as priorities for improvement. These links to training and support are therefore likely to be at section level within the Tool, in order to be relevant but without the need to support additional detail at each sub-section. How this can be achieved depends on the work of DiSSCo Prepare Work Package 2 and beyond in relation to training strategy. As discussed in section 3 above, while no audit stage is anticipated for the Digital Maturity Tool, it would be desirable to offer a function to 'buddy' with an institution more experienced or advanced in

the relevant area. This would require capturing consent to be available as a 'buddy', including a sense of the likely resource commitment (which could be as little as e.g. a one-hour meeting to discuss possible approaches). This area will require further review beyond the current planned development phase for this Tool.

06 ANNEX A : screenshots of Tool mockup

We have mocked up a tool welcome page and example questions in Google Forms here <https://forms.gle/iq6cveCL4XQgSG1z5> - Screenshots of this are shown here for reference.



Digital Maturity Assessment Tool (EXAMPLE)

Welcome to the DiSSCo digital maturity self-assessment. This tool is intended for current or prospective DiSSCo partners, and can be used to self-assess and to set your own areas for improvement whether you represent a team, organisation or national DiSSCo node.

To be successful, the digital transformation envisaged by DiSSCo needs partners to contribute content, infrastructure, expertise and leadership. DiSSCo Prepare covers five key dimensions of readiness: scientific; technical; data; financial and organisational. Digital maturity is therefore a broad concept, and this tool covers a wide variety of areas that contribute to an organisation's flexibility and responsiveness to change, as well as the specific resources and skills you may need for digitisation, infrastructure and data mobilisation.

DiSSCo includes a wide range of different types and sizes of organisations, with different needs and approaches - for example in some areas particular skills may be outsourced or contracted, or may not be needed at all e.g. if they can be sourced elsewhere in the DiSSCo consortium. So this tool allows you to specify which areas or questions are and aren't relevant to your assessment, and to set your own priorities by choosing which areas to target for improvement.

Once you have registered, you will be able to revisit, update and download your assessment at any time. Over time, links to further training and support will be added and updated.

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Leadership and management

DiSSCo Leadership

In my organisation, people understand what DiSSCo is and why it's important to us. *

	Disagree	Partly agree / true for particular individuals or teams	Mostly Agree / true for most teams	Completely agree
Current state	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aim in 12 months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In my organisation, people know who leads and owns our participation and delivery for key DiSSCo activities. *

	Disagree	Partly agree / true for particular individuals or teams	Mostly Agree / true for most teams	Completely agree
Current state	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aim in 12 months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Notes: Please include any brief notes for your reference about the reasons for your scores in this section

Your answer

Leading and managing people

In my organisation, all line managers are trained in the processes and practices of managing people

	Disagree	Partly agree	Mostly agree	Completely agree
Current state	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aim in 12 months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In my organisation, part of performance management or appraisal for line managers is to assess how well they are managing people. *

	Disagree	Partly agree	Mostly agree	Completely agree
Current state	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aim in 12 months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In my organisation, leaders and managers communicate effectively with one another and work together to achieve strategic goals. *

	Disagree	Partly agree	Mostly agree	Completely agree
Current state	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aim in 12 months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In my organisation, leaders and managers communicate effectively with their teams so that we understand strategic priorities and our part in delivering them. *

	Disagree	Partly agree	Mostly agree	Completely agree
Current state	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aim in 12 months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Notes: Please include any brief notes for your reference about the reasons for your scores in this section

Your answer

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Submit

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