

January 2018

Newcastle City Council ICT Strategic Plan



Acknowledgment

Newcastle City Council acknowledges the traditional country of the Awabakal and Worimi peoples. We recognise and respect their cultural heritage, beliefs and continuing relationship with the land, and that they are the proud survivors of more than two hundred years of dispossession. Council reiterates its commitment to addressing disadvantages and attaining justice for Aboriginal and Torres Strait Islander peoples of this community.

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Cover image: Aerial view of Newcastle Beach

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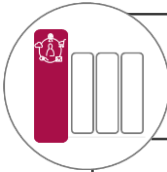
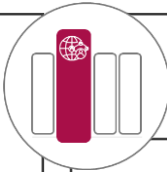
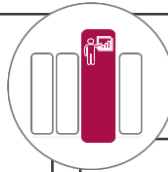

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Newcastle City Council's ICT Vision 2018 - 2020

A clear, strong ICT vision and set of strategic themes to guide the Newcastle City Council (NCC) over the next 3 years and enable Council to do business in better, smarter and more sustainable ways.

ICT VISION

"Transforming our business through innovative delivery of services."

	 CUSTOMER CENTRIC	 OPTIMISED OPERATIONS	 TRANSFORMATIVE ICT CAPABILITY	 FUTURE GOVERNMENT
description	<p>Focusing on delivering valuable services to the customer by driving seamless and effective customer engagement across multiple channels and changing into a regional information hub.</p>	<p>Establishing a sustainable, high performing organisation that leverages technology to enable a modern and agile workforce and translates data into actionable insights to optimise business operations.</p>	<p>Setting a strong foundation in ICT governance, weaving into all areas of the Council as a reliable business partner and facilitating new opportunities for technology transformation.</p>	<p>Proactively identifying and exceeding customer expectations of the future through driving agility and connectivity, and ultimately supporting the evolution of Newcastle into one of the leading local governments nationally.</p>
ICT initiatives identified	<ul style="list-style-type: none"> • Co-develop Digital Customer Engagement Strategy • Implement a Single Customer View 	<ul style="list-style-type: none"> • Next Generation ICT Operating Model • Governance for Information & Technology • Transition to Target Infrastructure • Digitise Paper-Based Operations • Introduce Employee Self-Service • Continue to be a GIS Leader 	<ul style="list-style-type: none"> • Rationalise Duplicate Capabilities • Transition to Modern Workforce • Data Ownership and Governance Model • Refresh Enterprise Reporting Capability • Review OneCouncil Implementation • Establish Integration Framework • Optimise Document and Records Management 	<ul style="list-style-type: none"> • Implement Smart City Technology Foundation • Formalise the Open Data Approach • Refresh Cyber Security Framework

Section 1: Executive Summary



Newcastle City Council (NCC) has taken an important step forward in developing an ICT Strategic Plan that is aligned to its ICT vision, in order to address the key ICT challenges faced. With an actionable and realistic ICT Strategic Plan, the Council can leverage technology to uplift its capabilities, optimise operations, improve its service delivery for customers, and lead innovation in the region.



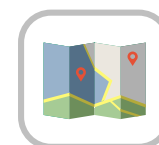
Current Situation

- Newcastle City Council (hereon referred to as “NCC” or “Council”) seeks to define an ICT Strategy in order to leverage technology to transform its service delivery and operations.
- In 2012, NCC made a strategic decision to shift from a ‘best-of-breed’ position to a consolidated Enterprise platform, entering into a 10-year agreement with TechnologyOne for the OneCouncil ERP solution.
- While the roll-out of the Enterprise ERP solution has uplifted some capabilities in the Council, business units across the Council experienced ‘regression’ in key system capabilities in supporting day-to-day operations.
- The Council has made a strategic investment in ESRI as the Council’s GIS platform. The ESRI solution has been advantageous to the Council and NCC has elevated itself as one of the leaders in the GIS 3D modelling space.
- NCC’s 2030 Vision in becoming a *smart, liveable, and sustainable city* has accentuated a need for NCC to absorb rapid technology evolutions into its operations and service delivery.



Key ICT Challenges

- An Enterprise solution that does not fully meet business needs has resulted in business units ‘going to market’ to procure IT solutions without considering ‘whole of Council’ requirements.
- The disparate formation of Council’s current ICT landscape has seen the development of pockets of ‘shadow IT’ across Council.
- The disparate growth of the Council’s ICT landscape coupled with rapid technological changes have left Council IT in a reactive mode, focusing on ‘keeping the lights on’.
- As a result, IT has not been able to focus on more strategic tasks, such as partnering with the business to future proof Council operations through technology enablement.
- The current ICT governance framework and processes have been and can be ‘worked around’ eroding the value of the organisation’s benefits vs impact analysis, creating the risk of investments in technology being wasted or lost.
- With pressing calls for innovation and accommodation changes looming, IT is faced with the challenges of managing the different speeds of delivery.

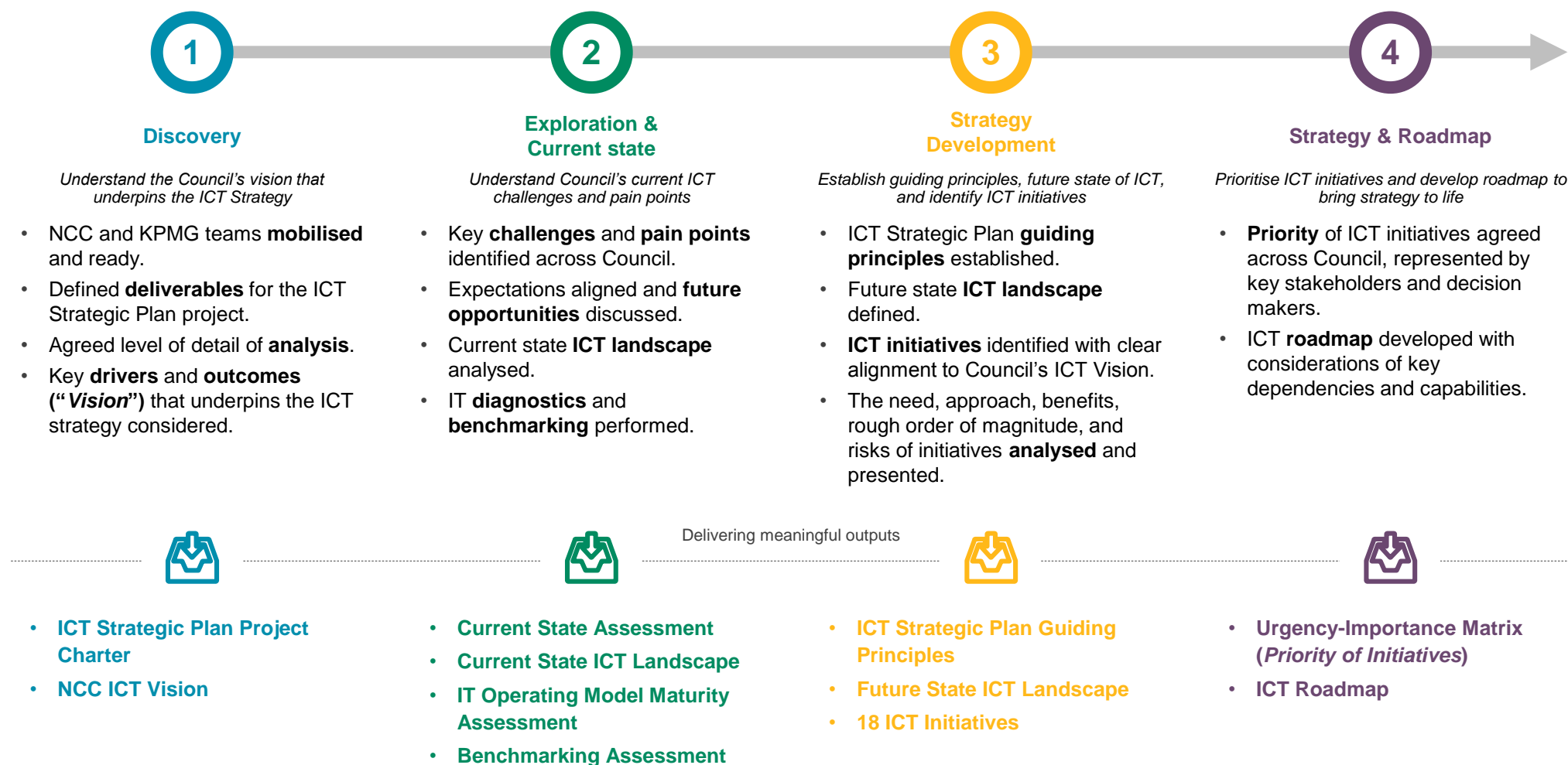


The Path Forward

- With alignment to the four pillars of the ICT strategic vision identified – Customer Centric, Transformative ICT Capability, Optimised Operations, and Future Government – NCC needs to take the opportunity to implement the ICT initiatives identified. 18 ICT Initiatives have been identified and sequenced into a 3+ year roadmap.
- First and foremost, NCC needs to refresh its ICT operating model in order for IT to be able to work more closely with Council’s business units. The governance framework needs to be strengthened to ensure Council-wide ICT requests are prioritised appropriately via the right governance processes and channels.
- Additionally, through the refreshed ICT operating model, the Council will be more prepared to support the different speeds of IT delivery – core and innovation.
- Through a strengthened IT operating and governance model, the Council can make better informed ICT decisions, deliver better services to its customers (internally and externally) as well as continue to innovate. Additionally, a higher rate of success of ICT initiatives implementation can be realised.

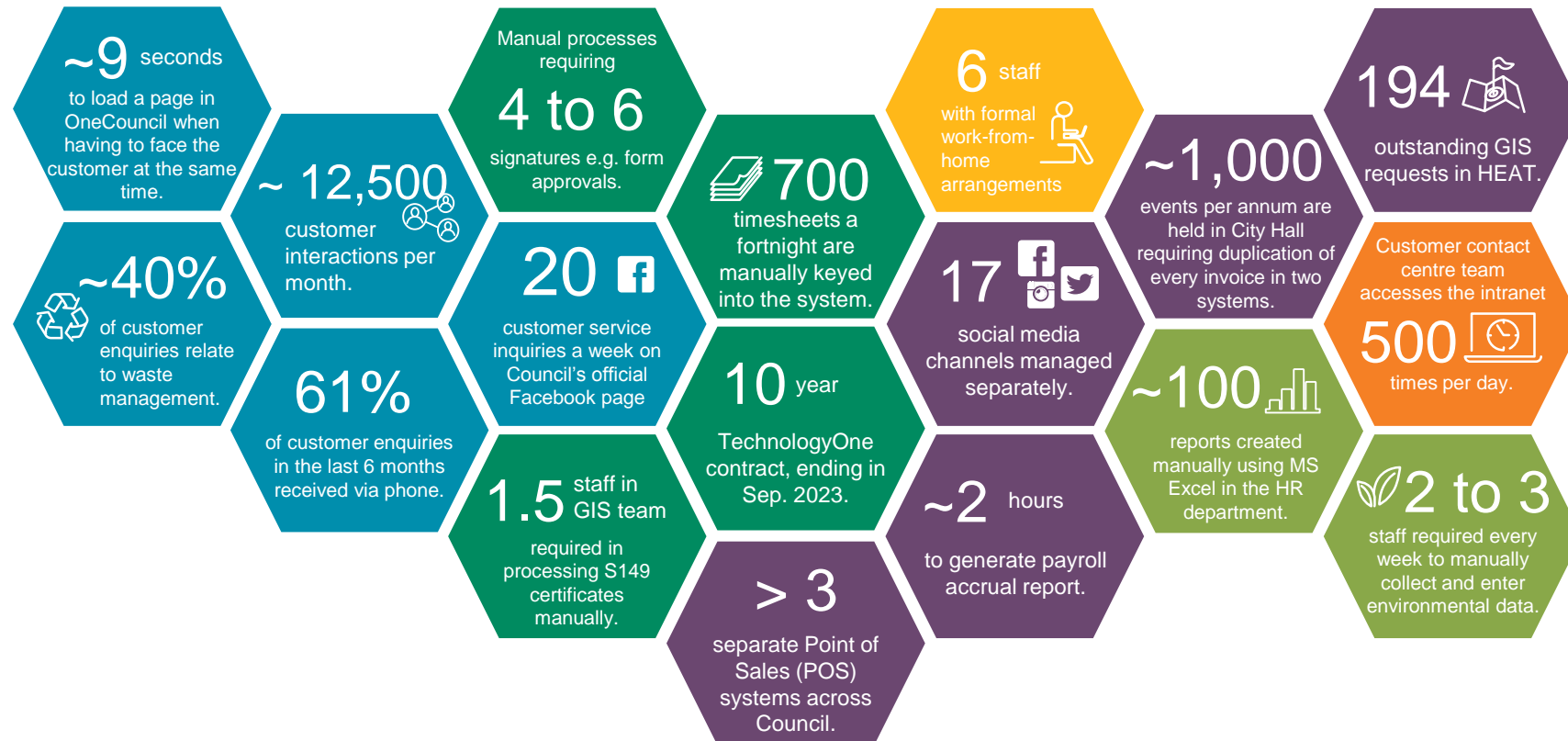
Approach in Developing NCC's ICT Strategic Plan

NCC's ICT Strategic Plan was developed through a structured and collaborative 4-step approach that frequently sought input from key representatives across the Council, business and IT alike. 49 Council representatives participated in over 13 workshops and meetings across a period of 11-weeks.



The Need for Change

Council's business units and IT team were given the opportunity to express the ICT pain points experienced in day to day operations. Some of the examples heard are specific and measureable and have been highlighted below; making a clear case for change in NCC's ICT landscape.



Customer Focus

Governance & Processes

Systems & Applications

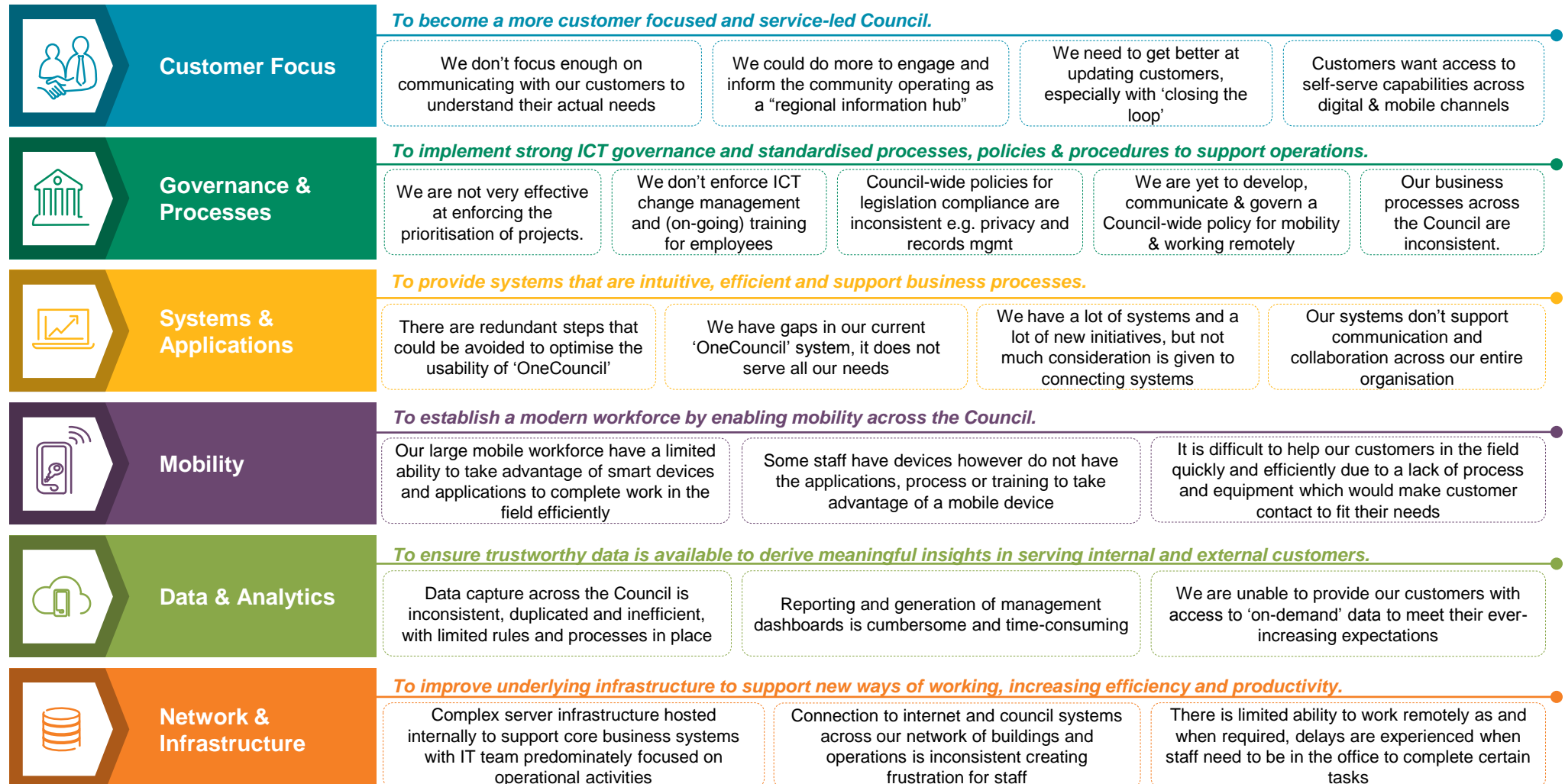
Mobility

Data & Analytics

Network & Infrastructure

Current State Assessment

The findings from current state across Council were synthesised and similarities were identified. Six major themes were created to group the current state findings: Customer Focus, Governance & Processes, Systems & Applications, Mobility, Data & Analytics, and Network & Infrastructure.

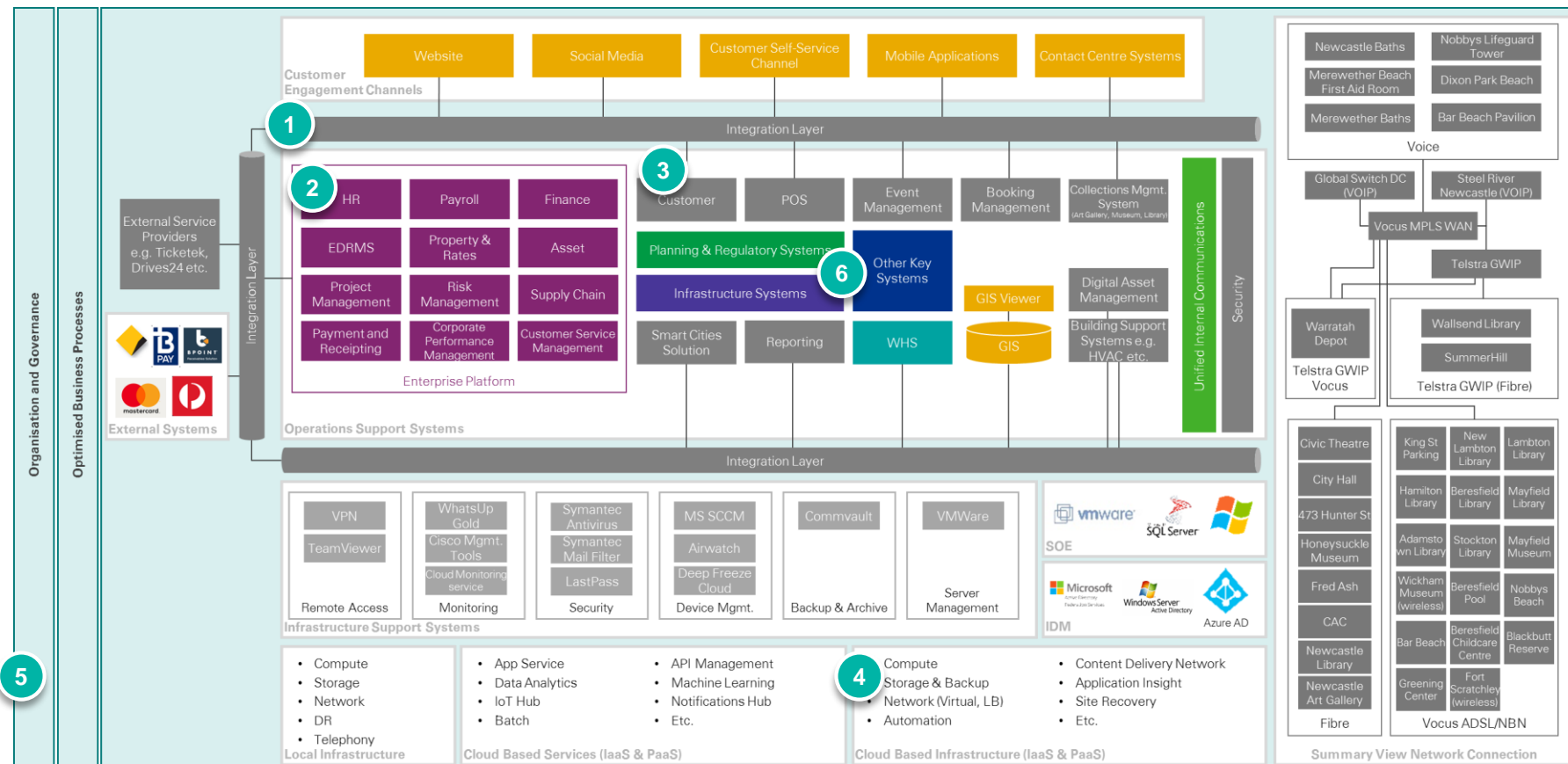


Future State ICT Landscape

Newcastle City Council's future ICT landscape has been developed to enable the Council to realise its ICT vision and to address some of the key pain points and inefficiencies that have been identified. The future state ICT landscape needs to be underpinned by an effective ICT governance, a refreshed IT operating model, and well-defined business processes.

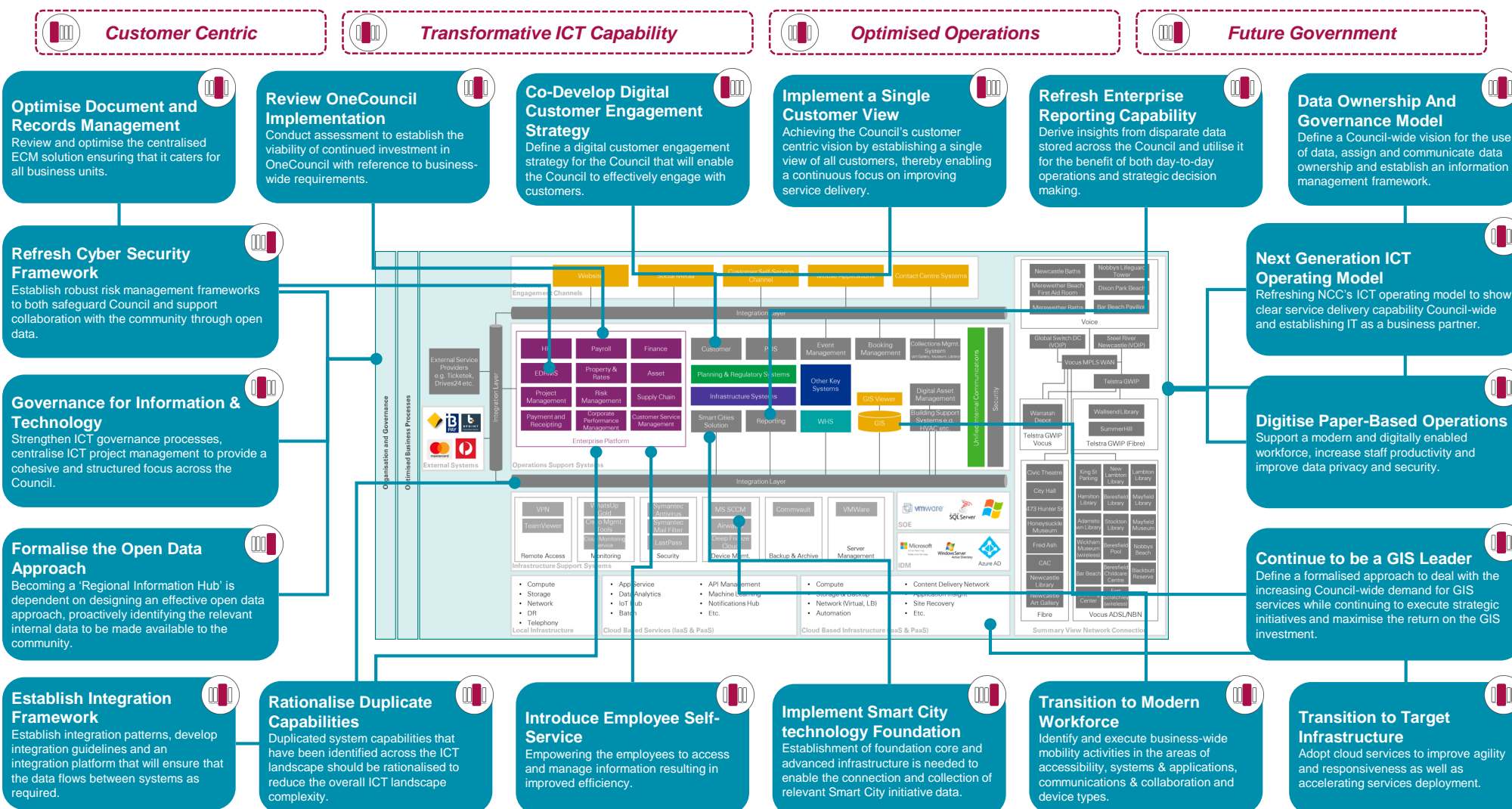
Key Highlights

- 1** An integration layer (consider iPaaS) that enables systems integration for increased operational efficiency.
- 2** Rationalisation of duplicate system capabilities to simplify ICT landscape for reduced ongoing operational costs.
- 3** Centralisation of customer information into a single repository / system to enable a single view of the customer.
- 4** Cloud based applications, services and infrastructure where possible to improve organisation agility.
- 5** Refreshed IT operating model, governance, and alignment to business processes as overarching elements that informs the future state ICT landscape.
- 6** Existing directorate-specific applications highlighted in the current state landscape to be reviewed and rationalised to eliminate duplicate capabilities.







ICT Initiatives

Through the development of the future state ICT landscape, 18 ICT initiatives that will enable NCC to achieve its strategic vision and address current challenges have been identified and validated.



Rough order of magnitudes (ROM) have been identified for each of the ICT initiatives to provide indicative investment values to support the prioritisation of the ICT initiatives and creation of a roadmap (including dependency requirements) that is realistic and actionable.

ICT INITIATIVES		ROM	
		\$	months
	1. Co-Develop Digital Customer Engagement Strategy: Define a digital customer engagement strategy for the Council that will enable the Council to effectively engage with customers.	medium	6-12
	2. Implement a Single Customer View: Achieving the Council's customer centric vision by establishing a single view of all customers, thereby enabling a continuous focus on improving service delivery.	high	6-12
	3. Next Generation ICT Operating Model: Refreshing NCC's ICT operating model to show clear service delivery capability Council-wide and establishing IT as a business partner.	low	1-2
	4. Governance for Information & Technology: Strengthen ICT governance processes, centralise ICT project management to provide a cohesive and structured focus across the Council.	low	3-6
	5. Transition to Target Infrastructure: Adopt cloud services to improve agility and responsiveness as well as accelerating services deployment.	high	12-18
	6. Digitise Paper-Based Operations: Support a modern and digitally enabled workforce, increase staff productivity and improve data privacy and security.	medium	6-12
	7. Introduce Employee Self-Service: Empowering the employees to access and manage information resulting in improved efficiency.	medium	3-6
	8. Continue to be a GIS Leader: Define a formalised approach to deal with the increasing Council-wide demand for GIS services while continuing to execute strategic initiatives and maximise the return on the GIS investment.	medium	6-12
	9. Rationalise Duplicate Capabilities: Duplicated system capabilities that have been identified across the ICT landscape should be rationalised to reduce the overall ICT landscape complexity.	medium	6-12
	10. Transition to Modern Workforce: Identify and execute business-wide mobility activities in the areas of accessibility, systems & applications, communications & collaboration and device types.	high	3-6
	11. Data Ownership and Governance Model: Define a Council-wide vision for the use of data, assign and communicate data ownership and establish an information management framework that aligns to the business objectives.	medium	3-6
	12. Refresh Enterprise Reporting Capability: Derive insights from disparate data stored across the Council and utilise it for the benefit of both day-to-day operations and strategic decision making.	medium	6-12
	13. Review OneCouncil Implementation: Conduct assessment to establish the viability of continued investment in OneCouncil with reference to business-wide requirements.	high	12-18
	14. Establish Integration Framework: Establish integration patterns, develop integration guidelines and an integration platform that will ensure that the data flows between systems as required.	medium	3-6
	15. Optimise Document and Records Management: Review and optimise the centralised ECM solution ensuring that it caters for all business units.	medium	3-6
	16. Implement Smart City technology Foundation: Establishment of foundation core and advanced infrastructure is needed to enable the connection and collection of relevant Smart City initiative data.	medium	3-6
	17. Formalise the Open Data Approach: Becoming a 'Regional Information Hub' is dependent on designing an effective open data approach, proactively identifying the relevant internal data to be made available to the community.	medium	3-6
	18. Refresh Cyber Security Framework: Establish robust risk management frameworks to both safeguard Council & support collaboration with the community through open data.	medium	3-6

Note: The estimates provided are 'rough order of magnitude' estimates, no detailed business case or cost analysis has been performed, these figures should not be used for budgeting purposes.

Business Initiatives beyond ICT Strategy

Several key business initiatives for NCC's consideration were also identified through the course of developing the ICT Strategic Plan. Whilst these initiatives are beyond the scope of the ICT Strategic Plan, they are important in enabling the Council to realise its ICT vision and ensure the success of ICT initiatives implementation.

Strategic Business Health Check



Perform a strategic business health check that assesses the following areas: strategic alignment, customers, data & reporting, business applications, capabilities & resources, governance structure, back-office processes, core processes, risk & control, and performance measures. Transformation is occurring council wide, not just in IT, all transformation should be overseen centrally, ensuring all activities work together and not in differing directions.

Service Strategy and Framework



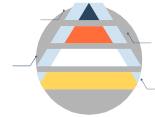
Designate a Council-wide framework for defining internal and external services, key relationships and interactions to produce outcomes, as well as key metrics to assess performance. This will enable the Council to transition to an integrated service view and help inform service planning, reviews, and ultimate decisions around the method of service delivery and investments in innovation.

Business Process Review



Perform business process review across Council's 17 business units. Reference and leverage industry and leading global practices where possible. Where similar business processes exist across the business units, explore options to make business processes consistent across Council. Whole of organisation decisions on processes have to be provided to the IT team so they can execute a cohesive outcome.

Overall Organisational Strategy and Framework



Establish overall Council strategy that is cascaded onto the individual directorate and business units plans. Define processes that will enforce cascading of strategy and enable business units to shift their operational focus as required. Strengthen IT's position in the organisation and 'give IT a voice' in executive decision making. Establish enterprise-wide performance reporting that measures business performance across business units.

Business Realisation Framework



Develop processes and identify key persons that will enable continuous tracking and measurement of benefit realisation throughout an initiative's lifecycle. The tracking and measurement of benefit realisation should be aligned to key performance indicators and other business performance factors (e.g. CSS) and communicated Council-wide to enable business improvements.

Council-wide Change Management

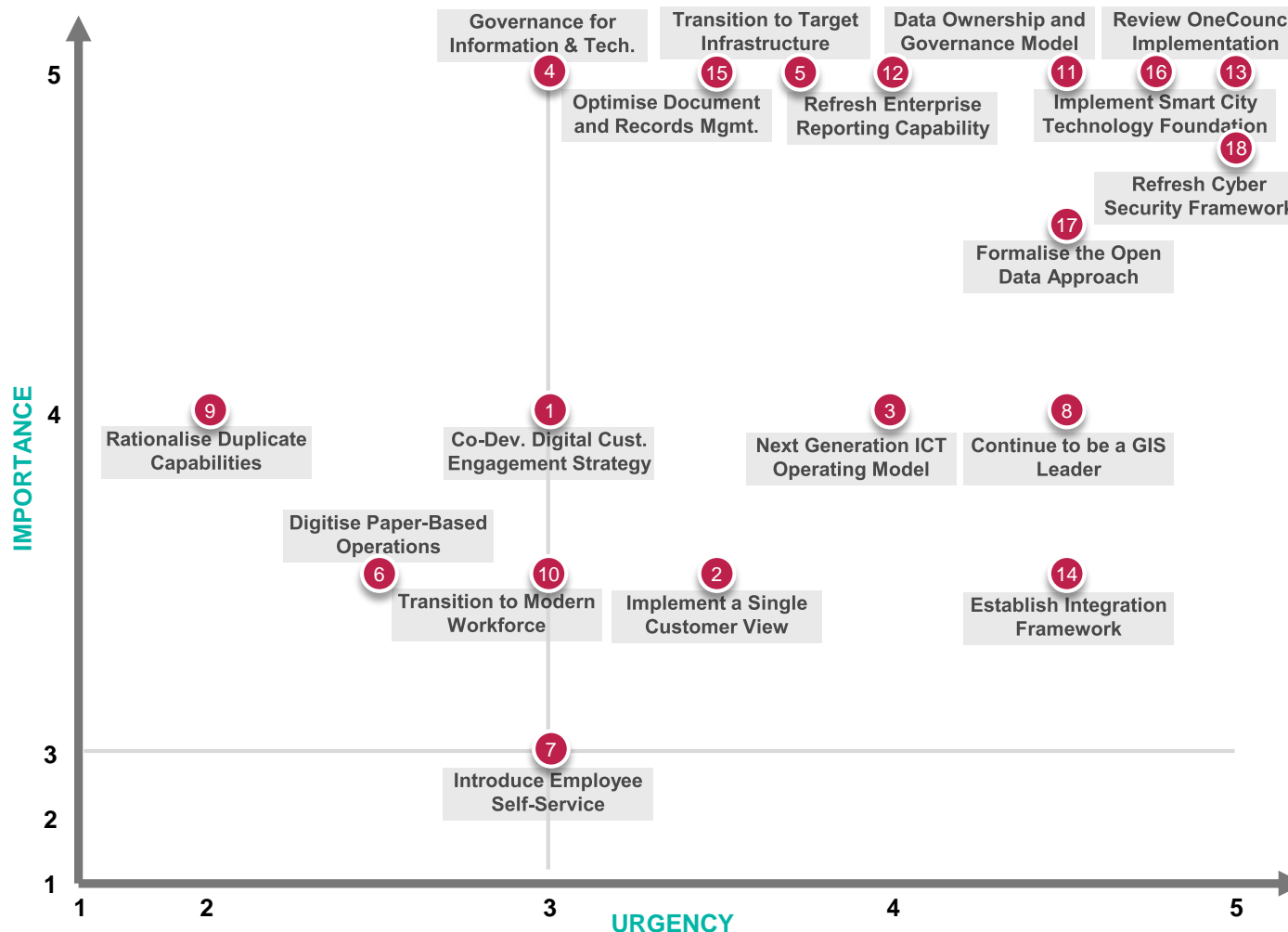


Enable Council-wide change management by appointing change agents and managers across the business units. Ensure that the change agents / managers are informed of the planned change in the Council's business, processes or IT capabilities. Change agents / managers would be responsible to deliver training and empower staff within their business units.

Urgency and Importance Defined

Key representatives across the Council's directorates and business units (including IT) have assessed each of 18 ICT initiatives and mapped them on an Urgency-Importance matrix.

16 out of 18 of the initiatives have been mapped on and above the (3,3) axis in the 'Urgent and Important' quadrant.

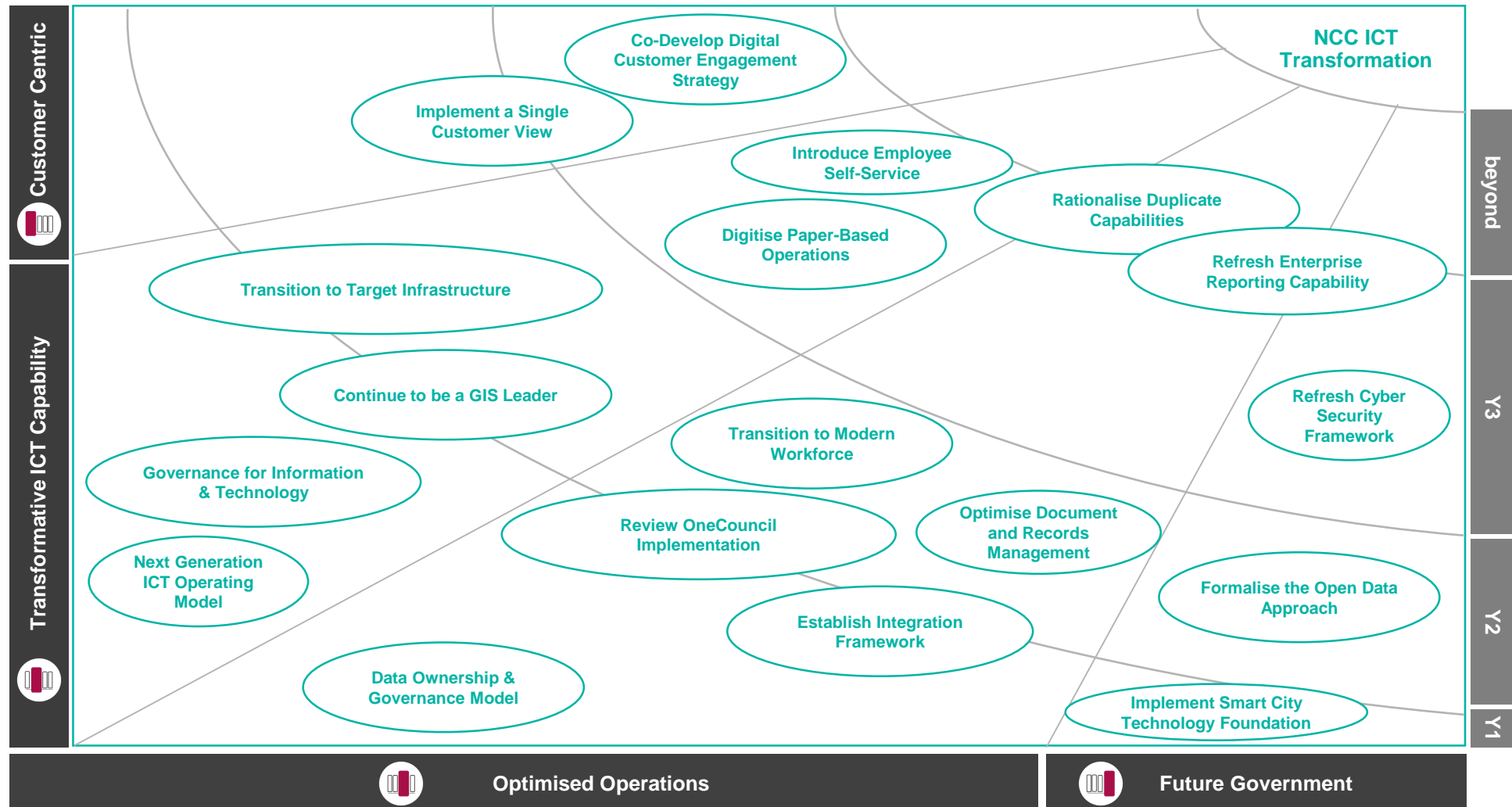


ICT INITIATIVES		PRIORITY	
		U	I
	1. Co-Develop Digital Customer Engagement Strategy	3.00	4.00
	2. Implement a Single Customer View	3.50	3.50
	3. Next Generation ICT Operating Model	4.00	4.00
	4. Governance for Information & Technology	3.00	5.00
	5. Transition to Target Infrastructure	3.75	5.00
	6. Digitise Paper-Based Operations	2.50	3.50
	7. Introduce Employee Self-Service	3.00	3.00
	8. Continue to be a GIS Leader	4.50	4.00
	9. Rationalise Duplicate Capabilities	2.00	4.00
	10. Transition to Modern Workforce	3.00	3.50
	11. Data Ownership and Governance Model	4.50	5.00
	12. Refresh Enterprise Reporting Capability	4.00	5.00
	13. Review OneCouncil Implementation	5.00	5.00
	14. Establish Integration Framework	4.50	3.50
	15. Optimise Document and Records Management	3.50	5.00
	16. Implement Smart City technology Foundation	4.75	5.00
	17. Formalise the Open Data Approach	4.50	4.50
	18. Refresh Cyber Security Framework	5.00	4.75

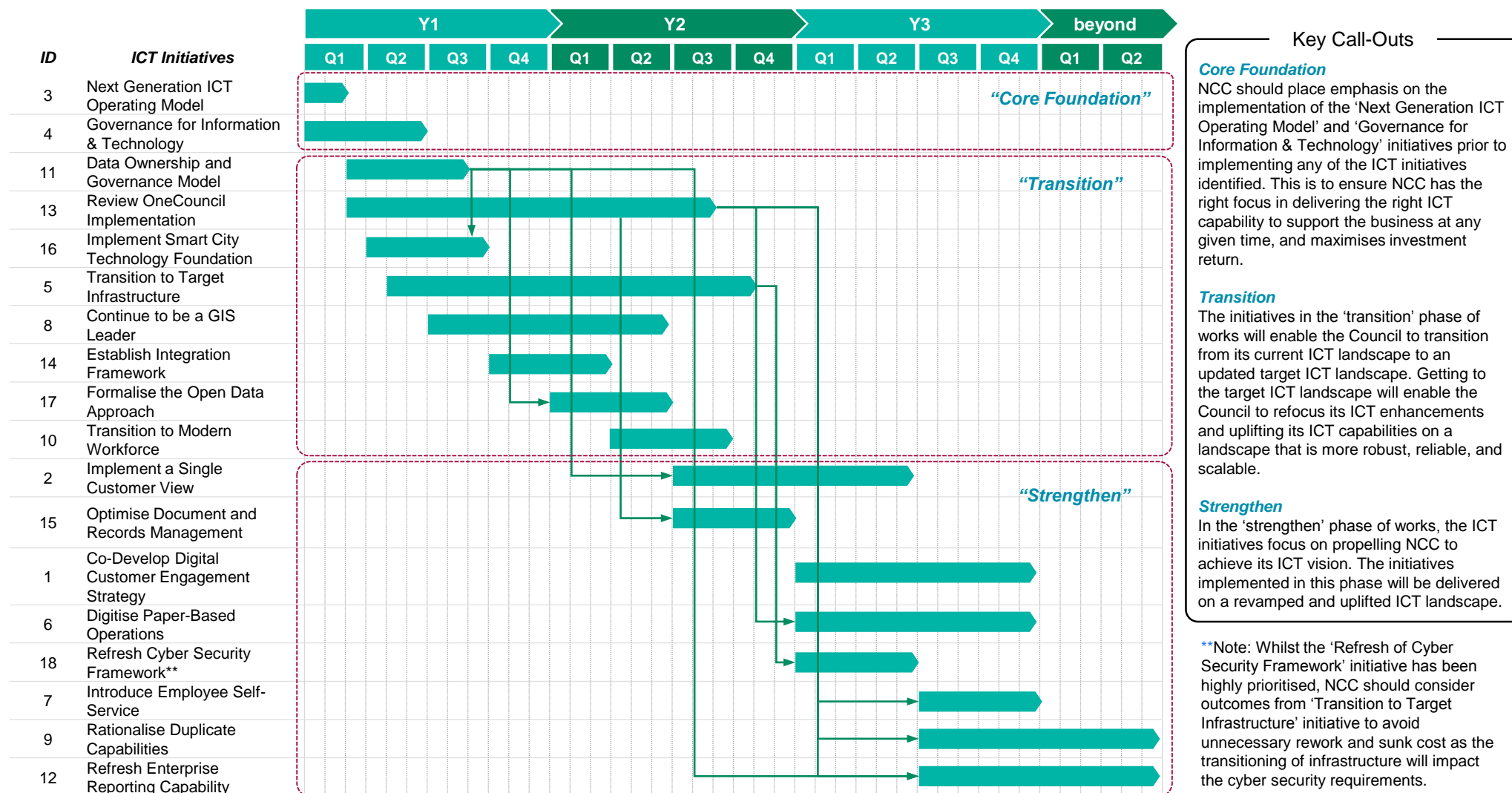
Note: The definition of the axes and the considerations are described on the "Urgency-Importance Matrix" page in the Appendix.

An Overview of the ICT Roadmap

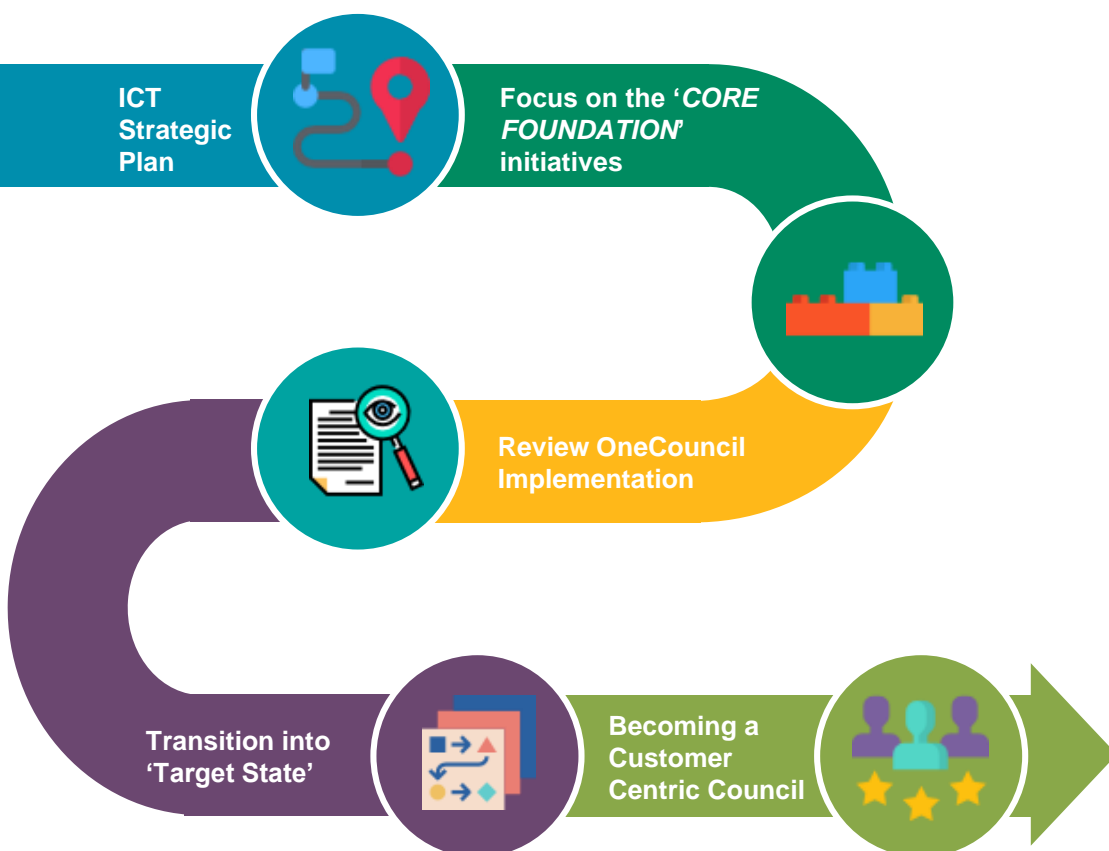
The 18 ICT initiatives were mapped on a roadmap toward achieving NCC's transformative ICT ambition where key dependencies and capabilities had been accounted for. Achieving such a large transformation goal is predicted to take slightly more than three years.



The NCC ICT Strategic Plan is a 3+ year plan that encapsulates the 18 ICT initiatives that will address key ICT challenges and help NCC achieve its ICT vision.



With the completion of the ICT Strategic Plan, NCC now needs to structure an ongoing program to ensure it is well positioned in order to see through its execution and realise the opportunities presented.



ICT Strategic Plan

NCC has successfully completed its ICT strategy, with 18 ICT initiatives identified, planned over a 3+ year roadmap. The ICT Strategic Plan informs NCC's ICT strategic direction and aligns to the Council's ICT vision.



Focus on the **CORE FOUNDATION** initiatives

The Council has agreed on the prioritisation of ICT initiatives across business and IT units. However, successful execution of many of the ICT initiatives identified are **dependent on** the implementation of the 'Next Generation ICT Operating Model' and 'Governance for Information & Technology' initiatives. These initiatives will form the 'core foundation' of a successful ICT transformation.



Review OneCouncil Implementation

One of the ICT topics that NCC largely focuses on is the 'OneCouncil' deployment. NCC has to strongly consider freezing all current / in-flight 'OneCouncil' projects to avoid the risks of lost investment and rework.



Transition into 'Target State'

NCC needs to look at transitioning its current ICT landscape into the target state landscape considering the accommodation changes that are looming (mid 2019). In addition to that, NCC needs to explore an integration solution that enables the target landscape which supports end-to-end business functions. Business cases should be developed for relevant initiatives to justify the investment and to support the selection of a preferred technological solution.



Becoming a Customer Centric Council

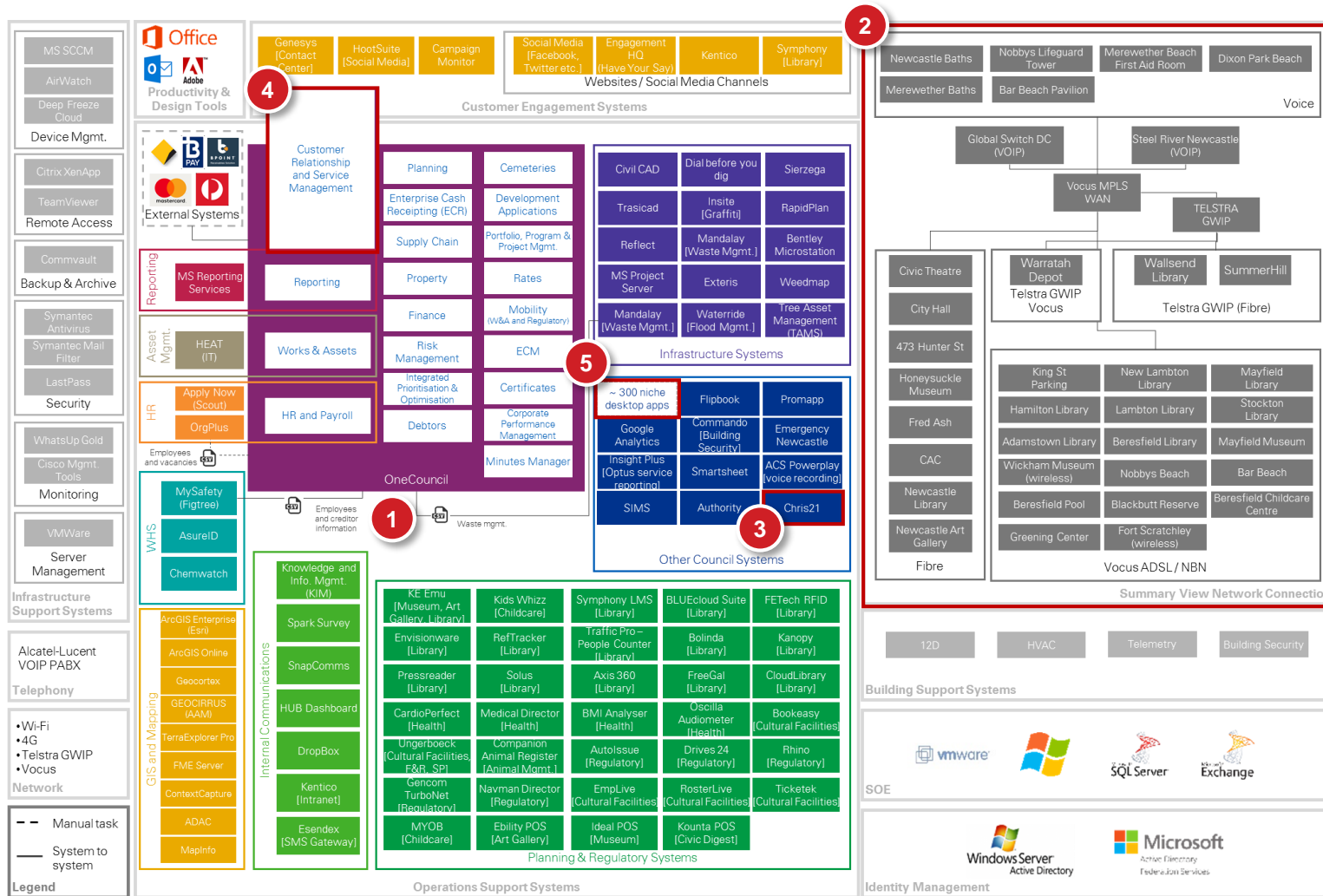
Leveraging the ICT 'target state', NCC needs to look at aligning to its ICT vision; becoming a customer centric council. NCC needs to be able to leverage the data to provide meaningful information to its staff and members of the public, and toward becoming a regional information hub.



Section 2: Current State Assessment

Current State ICT Systems & Network Landscape

The diagram below illustrates Newcastle City Council's current ICT systems and network landscape based on input from the various workshops and documentation provided by NCC staff.

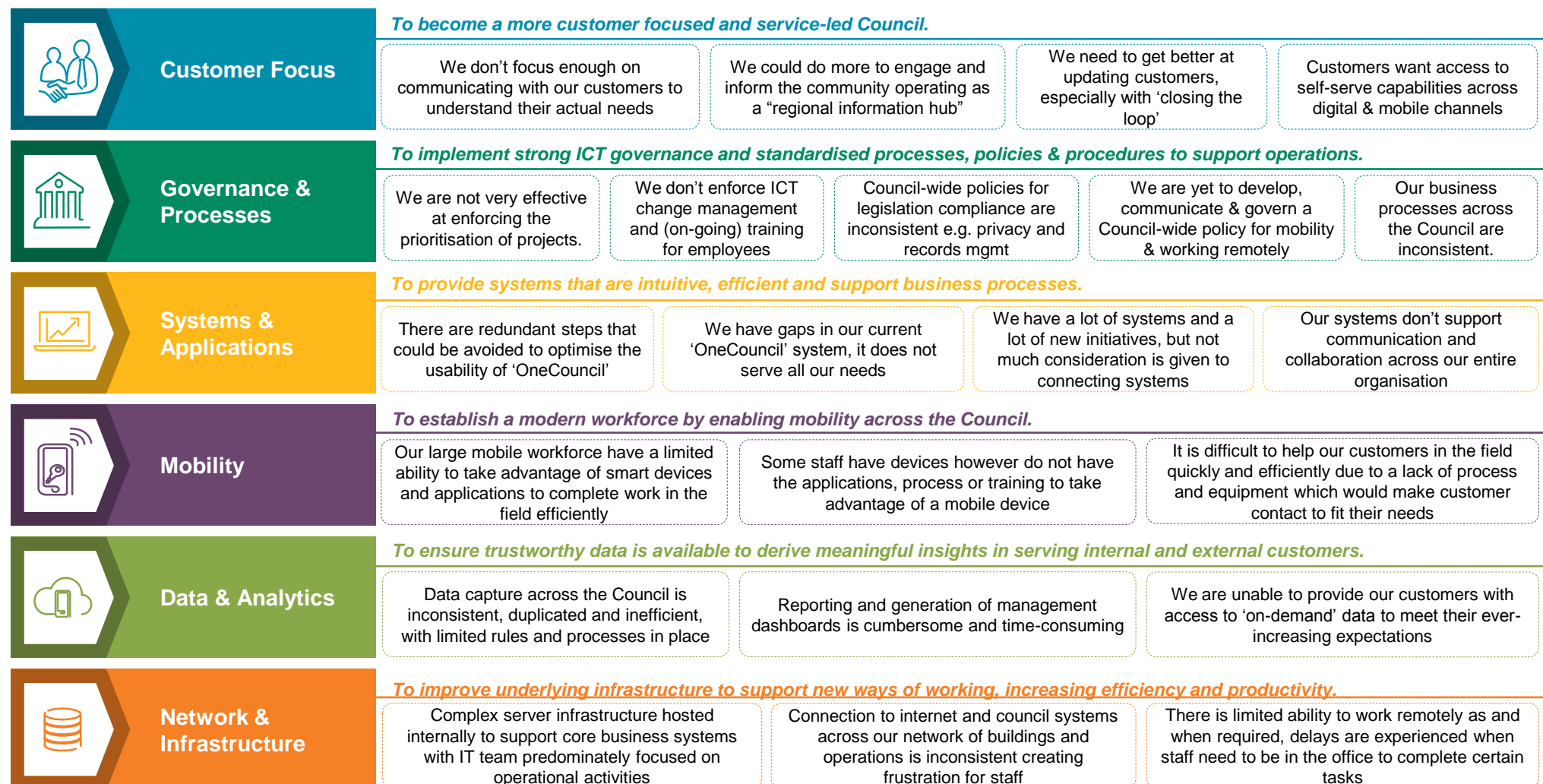


Key Observations

- 1 Limited integration between business applications and core platform i.e. OneCouncil leading to manual handling and duplication of data.
- 2 Network connectivity and bandwidth issues identified across various Council sites impacting service delivery e.g. Waratah Depot.
- 3 Systems with duplicate functionalities exist across the current ICT landscape e.g. Chris21 and OneCouncil Payroll.
- 4 Multiple sources of customer information maintained across the ICT landscape resulting in Council not having a holistic view of its customers.
- 5 Ownership of applications e.g. 300 niche applications in the Council, is not clearly defined and established across the current state ICT landscape.

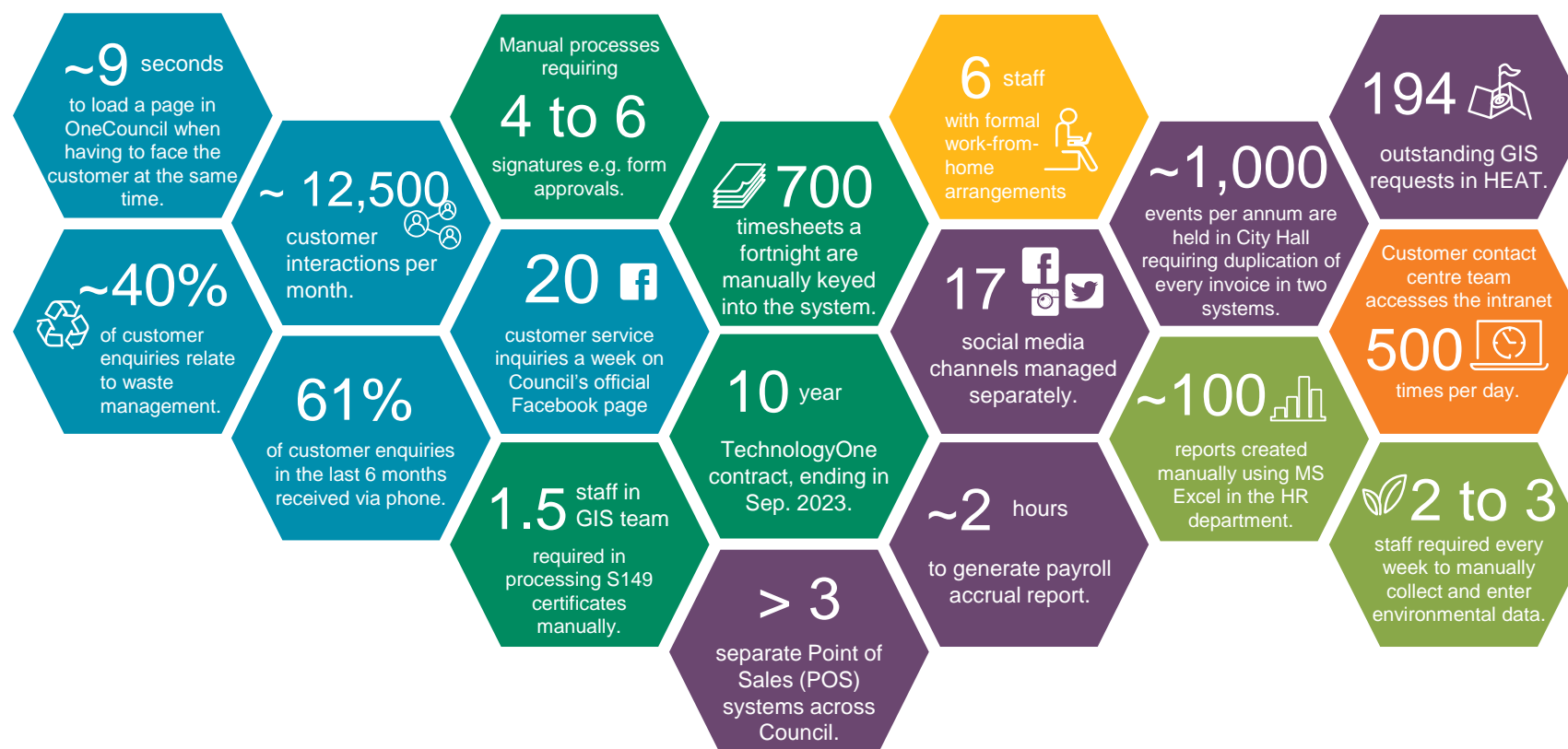
The Need for Change

In order for NCC to realise its ICT vision, significant change is required across the across ICT-related business operations. This reasons for the change were voiced by NCC staff in current state workshops, as follows:



The Need for Change

Data collected and analysed to date amplifies the need for change. Examples of key findings that were identified across ICT-related business operations include:



Customer Focus

Governance & Processes

Systems & Applications

Mobility

Data & Analytics

Network & Infrastructure

Current State Findings: Customer Focus



Customer Focus

Become a more customer focused and service-led Council.

In the 'age of the customer', it is imperative that the Council focuses on customer centricity in order to deliver and improve the customer experience.

Observations

- No single view of the customer (one screen with all customer interactions across the Council).
e.g. repeat callers cannot be identified nor information about the interaction quickly retrieved with current technology
- Lack of system capability to support relationship management as Council Customer Relationship Management (CRM) only supports request management.
- In many instances, Council service and community information is unable to be provided to its customers.
e.g. Council unable to provide timely information, such as sports ground closures due to flooding, real-time visibility of garbage truck collection
- Customer queries and complaints are not closed off effectively.
e.g. when a defect on Council property is fixed, the customer who has raised the issue is not advised of the repair
- Self-serve channels where customers are enabled to engage with the Council and retrieve relevant information online are limited to one-way forms on the website. Many processes are paper-based or manual.
e.g. customers are currently not able to submit a Development Application (DA) online

Business Implication

- Increased customer call-backs where issues have not been resolved on the first call resulting in Council staff having to route or re-route issues around the business units.
- Lack of customer engagement channels will drive customers to reach out to Council via 'traditional' channels e.g. over the counter, email, phone calls, requiring effort from staff to coordinate or action on these issues manually.
- Poor Council impression and reputation in the community.
- Unnecessary time and effort spent on correcting duplicated data across multiple systems.
- Customers will look for other alternatives for reliable information.
- Limitations for the Council to effectively engage with customers and provide valuable services.
- Customers will have limited awareness of the wide range of services that the Council provides.
- Limited customer trust in the information provided by the Council.
- Increased load on customer service contact centre.
- Increased customer call-backs, creating additional work.
- Customer expectations not met.
- Decreased customer engagement for future queries.
- Increased resources required to manage customer interactions 'manually' (in person, over the phone).
- Manual handling (paper forms, printable forms) is required, reducing operational efficiency.
- Perception of poor customer service becomes reality over time.

Current State Findings: Governance & Processes



Governance & Processes

Implement strong ICT governance and standardised processes, policies & procedures to support operations.

To support successful execution of an ICT strategy, the ICT foundations have to be strengthened with an effective ICT governance, and consistent Council-wide policies and procedures.

Observations

- Council ICT governance and Project Management Office (PMO) framework does exist however it is not effective; roles and responsibilities across all processes, activities and levels of governance are not understood.
e.g. ICT Steering Committee met only once in the past year to shape key ICT decisions
- This ICT governance has not been communicated and enforced organisation-wide.
e.g. 'Queue-jumping' occurs although there is a methodology in place to prioritise ICT projects
- Ineffective ICT governance leading to solution implementation that does not account for Council-wide needs.
e.g. duplication in events invoice processing events across Ungerboeck and OneCouncil
- No Council-wide ICT change management policies, approach and methodology and lack of on-going technology and process training support.
- There is no dedicated resource or process to train new and existing users on technology use, and related procedures within BUs and across the organisation, resulting in disparate knowledge and skill levels.
- Council-wide policies in relation to legislation compliance and IT risk and security are currently not well established and communicated throughout the organisation.
e.g. Privacy and records management policies are not communicated and established consistently across the organisation
- Lack of an organisation-wide policy for mobility and working remotely.
- Organisation-wide business processes/procedures and policies not established and consistent in all BUs.
e.g. employee on-boarding, timesheets, technology procurement are some of the processes that are inconsistent across the Council, IT-support unavailable to support events outside of standard working hours

Business Implication

- Council IT does not have a 'fixed' priority schedule to work on. The IT department functions in a reactive manner supporting 'ad-hoc' requests from the various business units (BUs), contributing to duplication of some projects and technology.
- BUs expectations of IT are not managed resulting in alternative IT solutions in pockets of 'shadow IT' across the Council.
- BUs will leverage individual relationships with IT to progress their technology agendas, limiting an organisation-wide approach and outcome.
- Council-wide ICT vision is not realised, and resources are not optimised.
- Level of technology capability and process or procedure knowledge is not consistent for staff within BUs and across the entire organisation.
- Different ways of utilising the systems to perform a specific set of tasks, and capture data (incl. customer data), resulting in inefficient processes and duplicate data entry.
- Information cannot be trusted when making key business decisions, reporting to managers, or used in customer communications.
- Different process and procedures continue to be applied within the different BUs and across the organisation, resulting in inconsistencies with the way council and customer information is collected and stored. This creates a risk of breaches and results in omission and duplication of records.
- Inefficient working arrangements result in low staff productivity.
- Inability to fully leverage the use of mobile devices such as tablets, smartphones, hybrids and laptops.
- Inability to implement flexible working arrangements.
- Confusion and lack of reference material for staff when performing system related tasks or when trying to understand the impact one task may have on a subsequent task or related process.

Current State Findings: Systems & Applications



Systems & Applications

Provide systems that are intuitive, efficient and support business processes.

Systems and applications are technology to support people and processes within the Council. Technology deployed needs to uplift operational efficiency and support Council-wide business processes.

Observations

- Staff experience regular frustration in using OneCouncil to complete daily activities.
e.g. many redundant steps in capturing a customer inquiry, a regression for the Council as a 2 min task now takes 10 mins
- OneCouncil functionality does not adequately support certain functions across the Council.
e.g. Enterprise Content Management (ECM) solution is ineffective for searching and retrieving data; asset management functionality not fully rolled out; manual handling is required to drag a document from email to ECM via the desktop
- Heavy reliance on paper-based processes, in the absence of relevant tools.
e.g. ~700 timesheets a fortnight are manually keyed in to the system
- Limited systems integration exists to support business processes.
e.g. poor Property & Rating (P&R) module and ECM integration, multiple debtor ledgers that complicates systems integration
- Incomplete understanding of current system functionality across the Council.
- Inconsistent user management across systems and application of user roles and security privileges.
- Duplication of systems across BUs.
e.g. events bookings systems, Point of Sale
- Limited systems to support communication and collaboration across the Council.
e.g. size of the current Outlook Exchange is limited, absence of Council-wide digital communications tool such as Skype for Business
- Cumbersome to search for information in Corporate Knowledge database.

Business Implication

- The user experience (UX), or usability, of core business applications is poor, leading to staff frustration.
- Redundant system steps leading to decreased operational efficiency; where more time is spent on using the system rather than focusing on higher value tasks and servicing the customers.
- Staff reverting to workarounds such as operating outside of the system.
- Effective data management is not enabled by technology, resulting in siloed data, inability to derive insights from organisation-wide information and ultimately exposing the Council to knowledge loss.
- Communication and collaboration across functional and geographical areas is limited by the current tools.
- There is continued existence of 'shadow IT' functions in pockets of the business, operating and making investment decisions independently of the central IT team.
- Return on investment is not being realised across the Council as systems are not broadly understood and accordingly utilised to support business functions.
- Manual workarounds are negatively impacting process efficiency, and staff revert to operating outside of the systems, in spreadsheets.
- Limited systems integration poses challenges for delivery and enhancement of ICT capabilities, such as eServices.
- Data integrity is compromised as a result of double-handling (paper to system) and in some cases entry into a third system. Manual data entry is error-prone and additional effort is subsequently required to reconcile and 'prove' the input.
- User management results in terminated staff having access to Council systems and applications; security privileges are not managed effectively for new starters.
- Reduced collaboration and effective communication across Council.
- Council staff are required to handle multiple devices in order to support Council communication and day-to-day work resulting in office space challenges in the long-run.
- Staff resort to relying on knowledge passed-on by team members resulting in inconsistent business processes across Council.



Mobility

Establish a modern workforce by enabling mobility across the Council.

The ability to work 'anytime, anywhere' is critical to ensure staff, contractors and volunteers are equipped to deliver valuable and timely services to the customer.

Observations

- Lack of a consistent, role-based approach to the assignment of user-profiles.
e.g. Workplace Health & Safety (WHS) system access is only available to ~50% of staff with assigned user-profiles
- IT infrastructure does not support mobile access.
e.g. not all available apps are mobile-compatible (including modules like timesheets, asset inspection, and asset registry)
- Communication with field-workers is suboptimal with heavy reliance on print format.
e.g. reliance on Coordinators with email access to print announcements and display them centrally for the field team
- Limited access to 'fit-for-purpose' devices that enable staff to be effective and get work done with maximum flexibility.
e.g. the ability to work in the office, at a remote location, or in the field
- Staff mobility is not supported by user-friendly, seamless applications on mobile devices.
e.g. some teams capture data, such as construction and asset pictures, on tablets then email it back to a central server repository
- No ability for staff to use their own devices to access Council information and applications.

Business Implication

- The inconsistent approach to provisioning of user profiles unnecessarily segregates the workforce results in certain teams feeling 'left out'.
- Significant productivity loss is experienced with the administrative staff performing manual data entry, instead of focusing on more 'valued-add' tasks.
- Connectivity and speed issues are experienced on mobile devices, negatively impacting field workers' productivity.
- Lack of intuitive apps and cumbersome Citrix connectivity results in staff frustration and operational inefficiencies.
- Speed to service is constrained through suboptimal communication with a large field workforce.
- Staff who do not have 'fit-for-purpose' devices resort to utilising their own devices and potentially exposing the Council to risk, given this area is not governed.
- Restrictive work practices can negatively impact the Council's ability to attract and retain talent into the future.
- A workforce which is not mobile-enabled presents accommodation challenges and negative financial implications in the long run.
- Service delivery is negatively impacted by the lack of 'real-time' data, as staff need to physically return to the office or the depot to perform data synchronisation.
- Customer satisfaction deteriorates as a result of not having the right mobility tools to respond to their needs and requests in the field.
- No flexibility for employees to work remotely in an effective manner.

Current State Findings: Data & Analytics



Data & Analytics

Ensure trustworthy data is available to derive meaningful insights in serving internal and external customers.

Accurate, meaningful and readily-available data is key in enabling effective decision-making and improving service delivery.

Observations

- Multiple sources of truth exist for certain data assets, and data is duplicated across different systems and formats.
e.g. Name and Address Registry (NAR) has many duplicate records
- Data is managed independently, at a business-unit level, is stored across multiple locations including local hard-drives and using varying naming conventions and reporting formats.
e.g. a significant portion of Civil Works data is stored on local hard-drives, in the absence of an effective system solution
- There are no clear documentations describing data ownership and mastership across the ICT system landscape.
- Limited reporting capabilities exist, with no business intelligence tools to enable effective analysis and oversight.
e.g. no 'at a glance' dashboard view is available to managers to assess how their business unit is performing
- Unable to meet customers' expectations of getting access to 'on-demand' information.
e.g. Sports Grounds app, sharing Waste truck location with customers
- Limited use of GIS spatial data to support service delivery to customers.
- No well-defined and agreed approach on storing and utilising data gathered from Smart Cities initiatives.

Business Implication

- Inconsistent ways of capturing data lead to confusion across the Council and result in data duplication. Data cleansing requires significant effort.
- Customer experience is negatively affected as staff may not be able to locate the right records in responding to customer requests.
- Council is unable to utilise and maximise the value of data to derive insights due to there being no single source of truth.
- Audit trail functionality is sporadically available (as it negatively impacts system speed). Traceability of transactions and records management carries a risk factor, in particular as it relates to regulatory requirements such as those imposed by the NSW Environmental Protection Authority.
- Without clearly defined data owners, data rules are seldom reinforced and improvement of data practices cannot be undertaken.
- High effort is required to collect the relevant data manually and prepare reports for both internal and external Council stakeholders.
- Cumbersome and time consuming ways of retrieving data from multiple sources to generate reporting are duplicated across multiple business units.
- Inability to generate dynamic reporting based on 'real-time' data results in lowered customer experience, both internally and externally.
- There is limited trust of the reported information and the ability to manage security effectively to make it available to the customers.
- Operational inefficiencies are experienced with customers reaching out to the customer service centre to resolve queries, in the absence of online access to data.
- Missed opportunities in identifying insights utilising information from Smart Cities initiatives and combining it with information that currently exists within the Council.

Current State Findings: Network & Infrastructure



Network & Infrastructure

Improve underlying infrastructure to support new ways of working, increasing efficiency and productivity.

To enable effective usage of technology and improved service delivery across Council, the underlying network and infrastructure needs to be reliable and accessible.

Observations

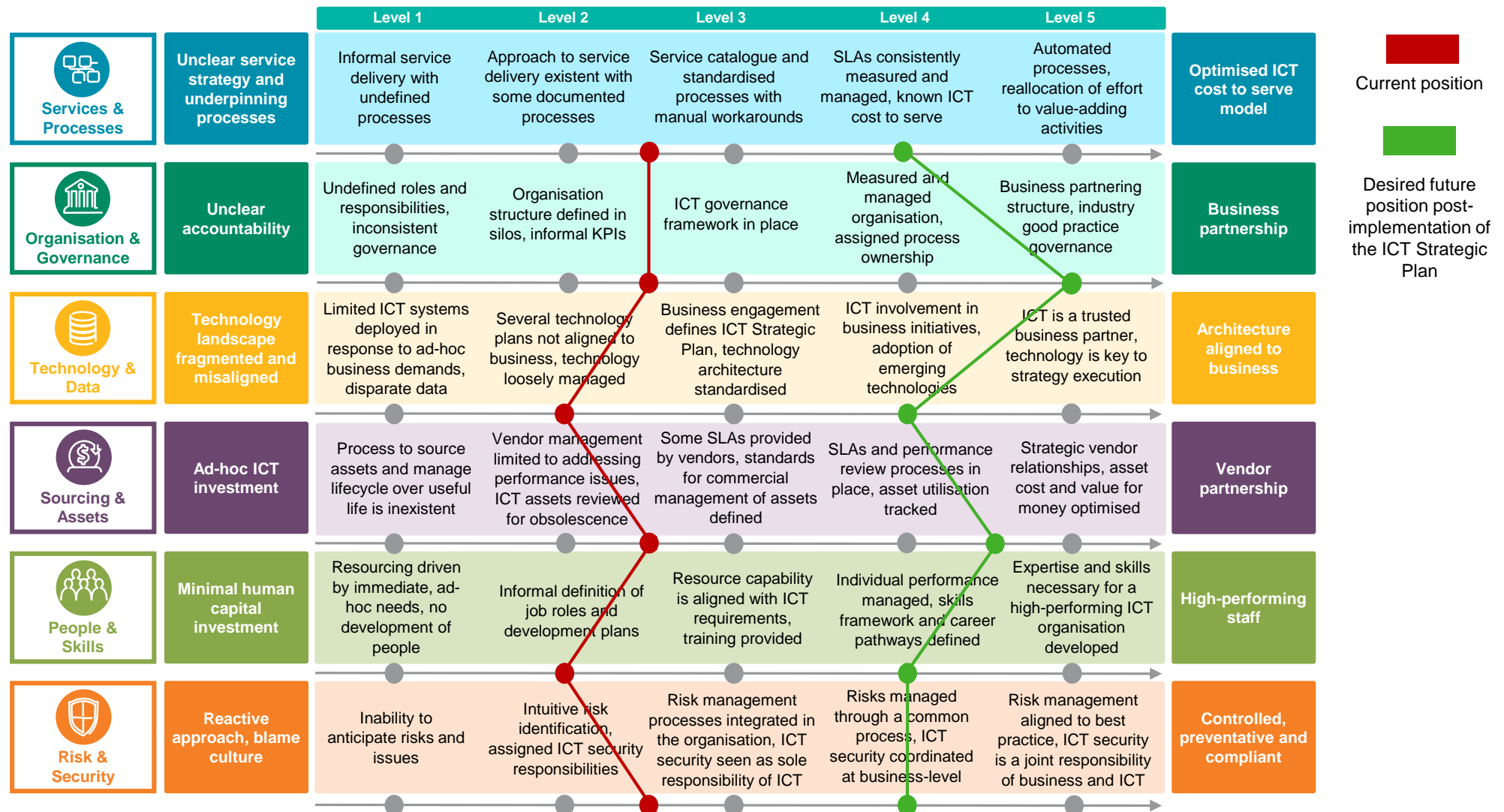
- Most of the Council's core business systems are managed internally with the IT team responsible for ensuring system availability, scalability and reliability.
e.g. Council staff have highlighted that the system performance can be quite slow
- Complexity of the infrastructure impacting Council's ability to support Smart Cities initiatives.
- Limited Wi-Fi connectivity across Council locations and inconsistent Wi-Fi connectivity within a Council location.
e.g. intermittent Wi-Fi availability in CAC
- Access to Council's network from anywhere is limited and only available through Citrix.
e.g. the infrastructure supports limited capability for remote working and providing access to required information from anywhere anytime

Business Implication

- IT staff spend majority of their time in managing operational issues ("keeping the lights on") thus unable to support business with prioritisation and implementation of future initiatives that will support the growth of the organisation.
- Increased investment required to ensure that the infrastructure is highly available and scalable to meet changing business needs.
- Reduced agility to support initiatives such as Smart Cities initiatives that might require integration with Council's IT infrastructure.
- Productivity loss resulting in staff frustration.
- Increased staff frustration and reduced productivity resulting from intermittent connectivity within a council location or across Council locations.
- Raised security concerns where staff resort to using unsecure public connections or perform workarounds such as storing information/data on local devices or using non-secure information sharing platforms such as DropBox.
- Lack of Wi-Fi at Council locations to support public events/business roadshows negatively impacts Council's brand as organisers.
- Not all Council applications are available through Citrix resulting in productivity loss.
- Limited staff have access to Citrix, which is not scalable to support workforce mobility.
- High IT effort is required to support as well as expose more applications through the Citrix solution.

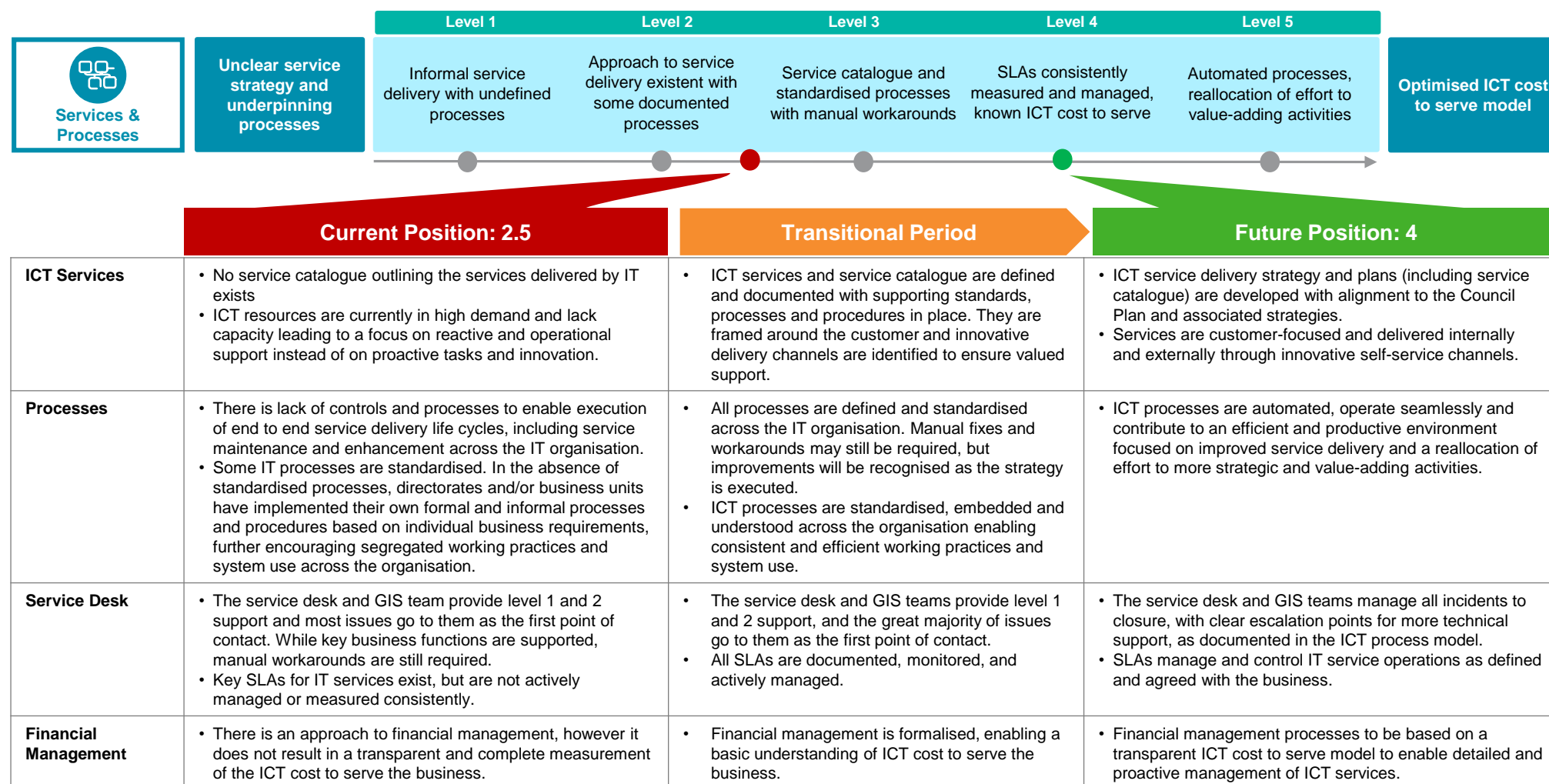
IT Operating Model Diagnostic Overview

A maturity assessment of NCC's IT Operating Model was conducted, with the key IT stakeholders agreeing that the maturity of the current model is relatively low and sharing a desire to drive this maturity higher over the next three years.



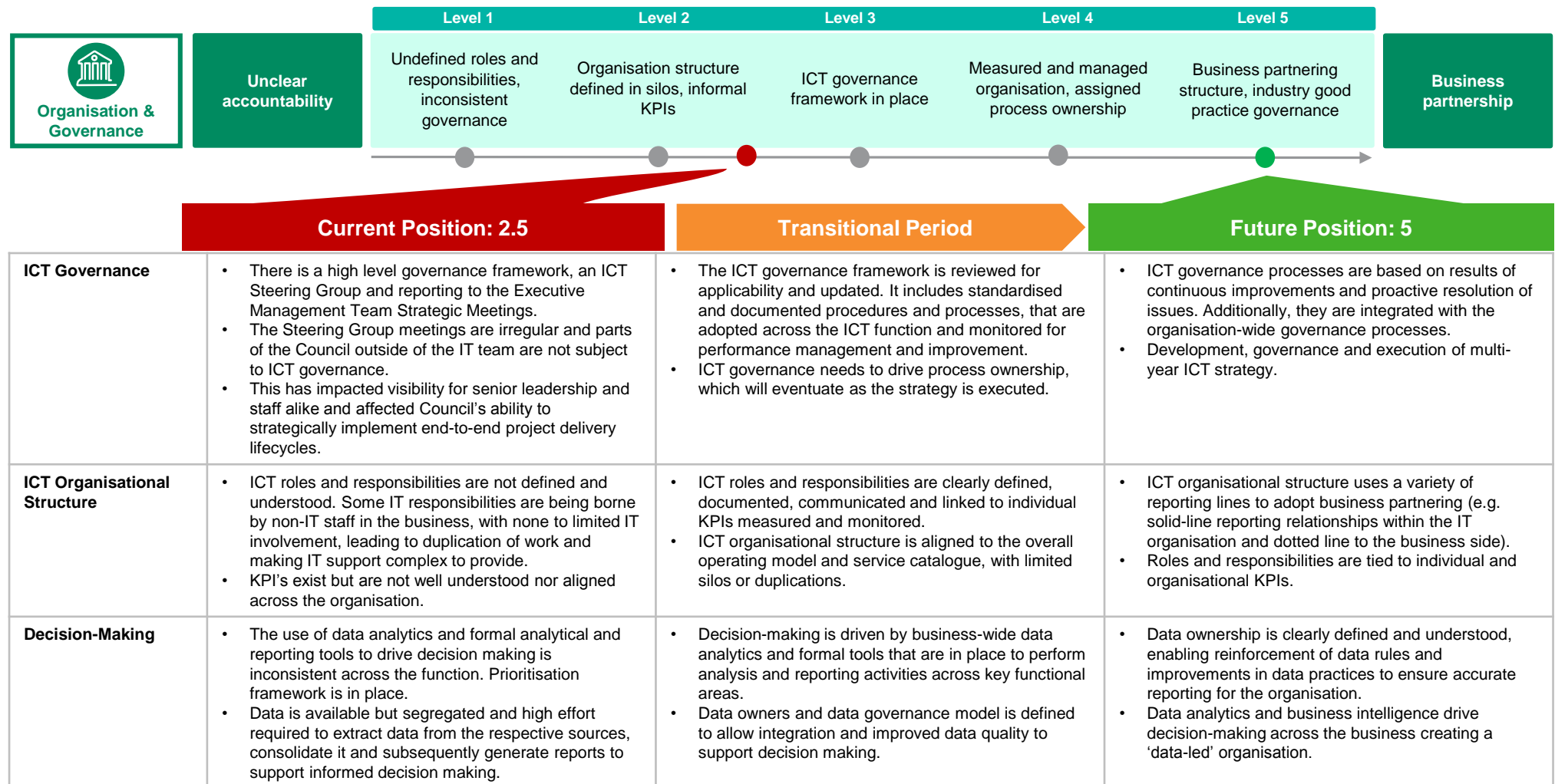
NOTE: Based on consultation with IT team, with results collated and averaged to calculate IT operating model maturity ratings.

ICT services and process management needs to be clearly defined, controlled and aligned with business strategies in order to successfully meet business demand.

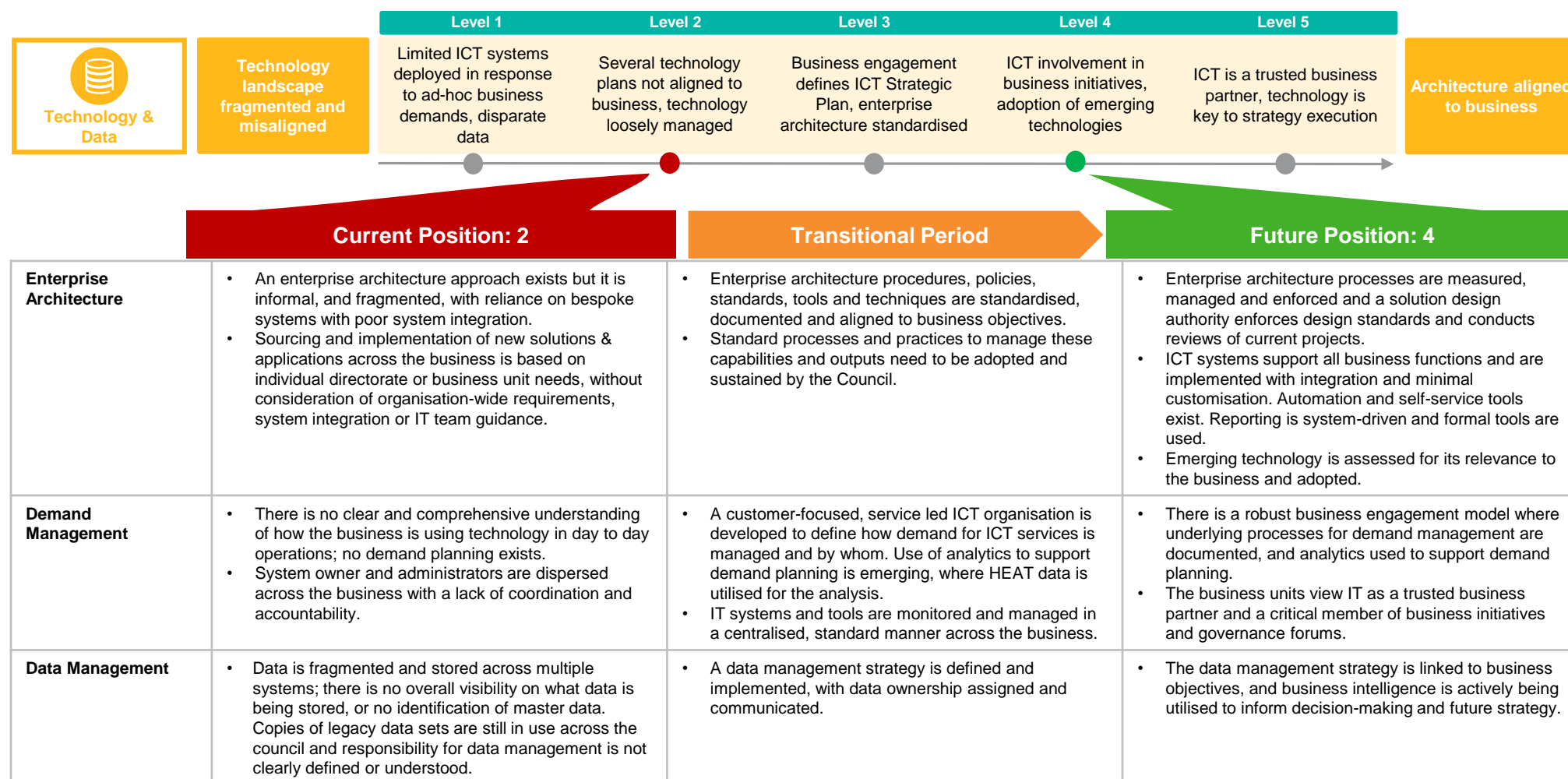


Organisation & Governance

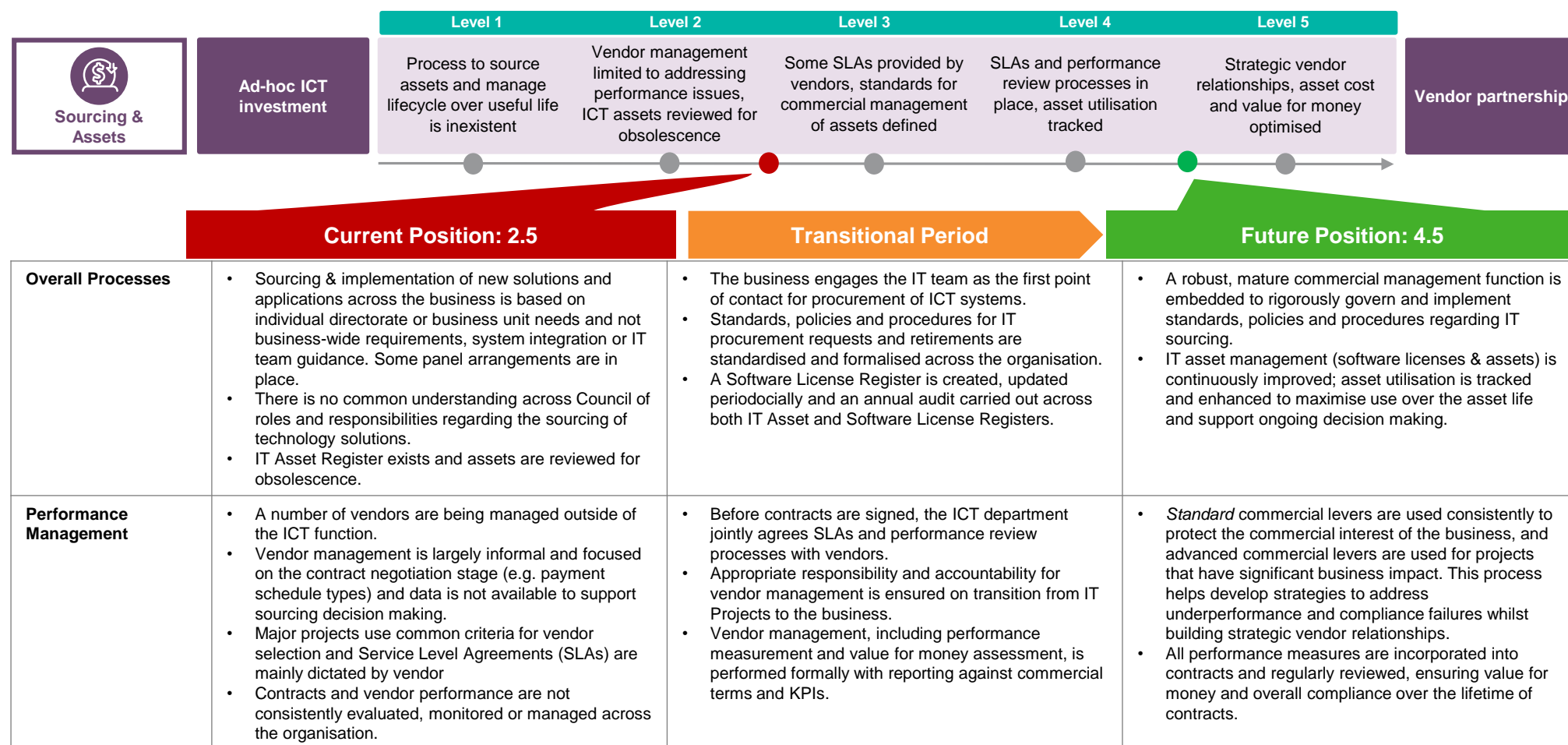
ICT organisational structure requires a strong governance and decision making framework to support visibility of ICT projects across NCC and strategic partnership with the business.



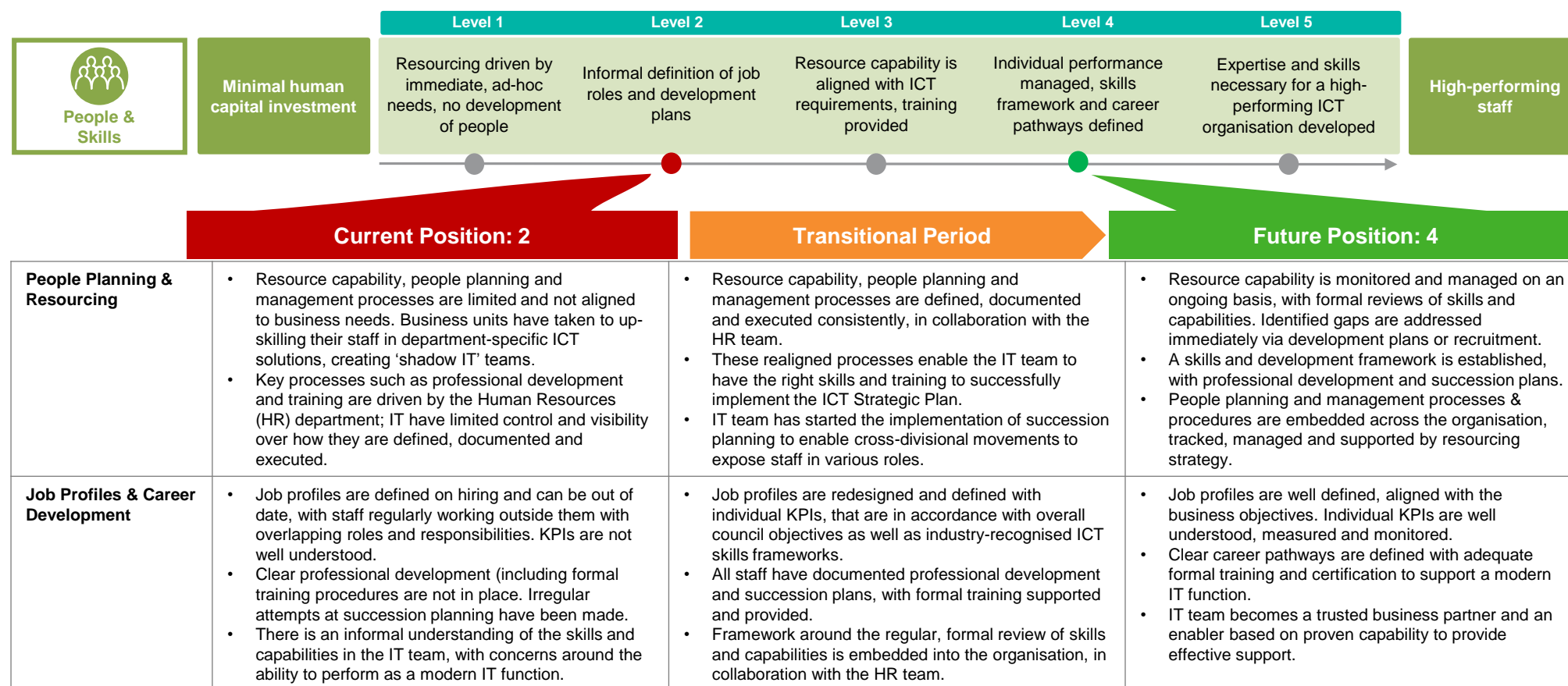
Technology planning and architecting need to be comprehensive and ICT system functionality must align to business requirements. This will enable the ICT function's positioning as a trusted business partner for the rest of the business.



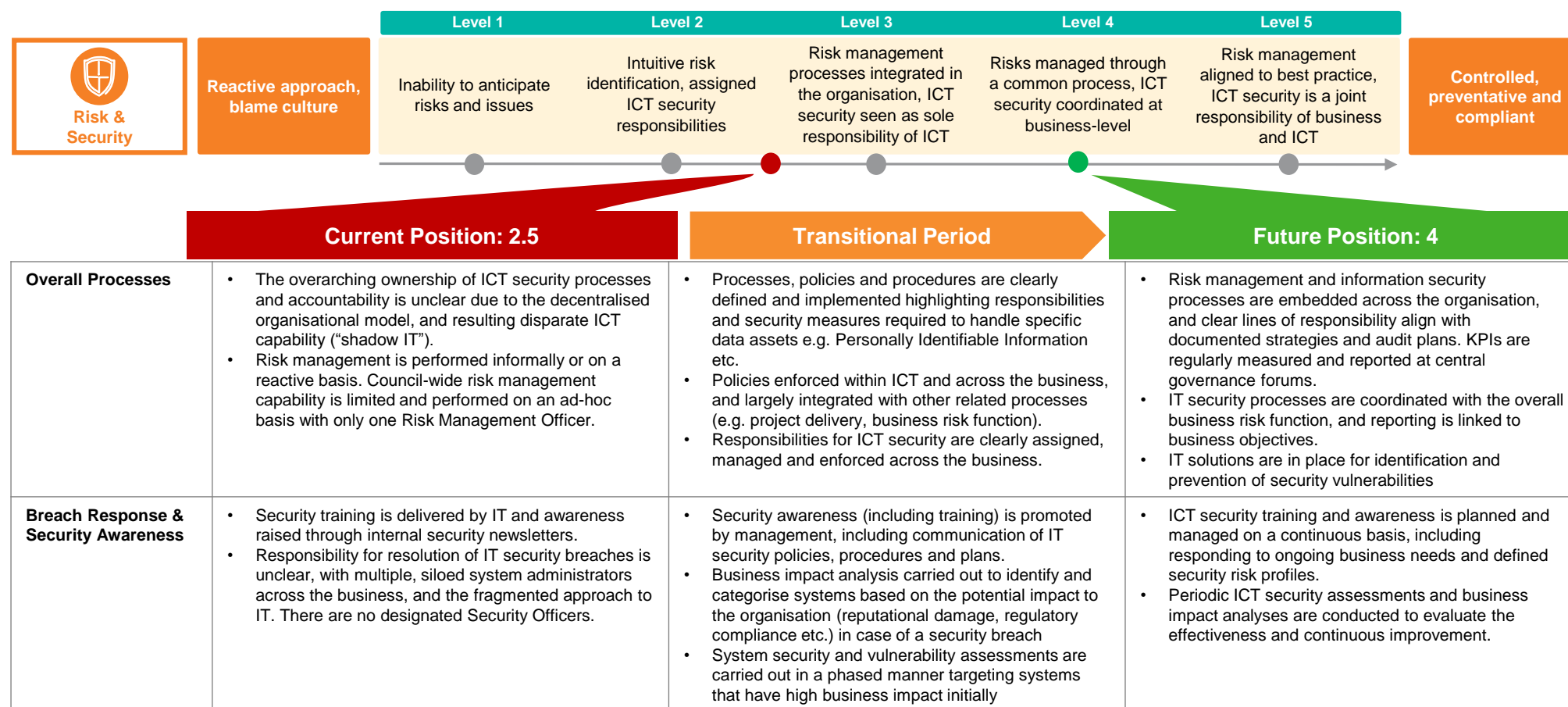
A consistent, standardised approach to sourcing is required to ensure that NCC has commercially robust contracts with suppliers, and can appropriately manage those suppliers to deliver commercial obligations.



In order for NCC to best utilise the ICT solutions, the IT function must be enabled for success through appropriate talent management and resourcing activities.

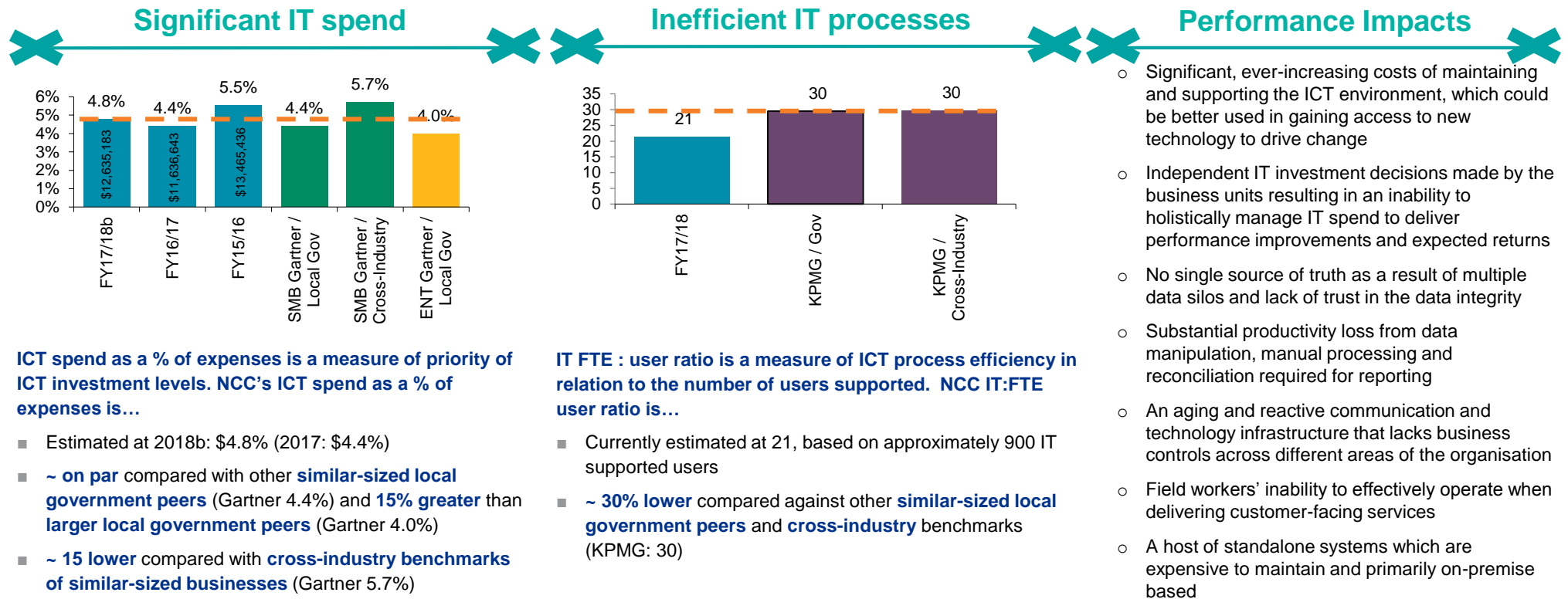


As the adoption of Smart City technology increases, a strong emphasis on risk management and ICT security is required to enable a safe transformation into a regional information hub and a digitally-enabled business.



ICT Performance Benchmarking

Despite IT investment levels that are on par with industry standards, the investment decisions have not delivered the expected performance improvements.



ICT spend as a % of expenses is a measure of priority of ICT investment levels. NCC's ICT spend as a % of expenses is...

- Estimated at 2018b: \$4.8% (2017: \$4.4%)
- ~ **on par** compared with other **similar-sized local government peers** (Gartner 4.4%) and **15% greater** than **larger local government peers** (Gartner 4.0%)
- ~ **15 lower** compared with **cross-industry benchmarks of similar-sized businesses** (Gartner 5.7%)

IT FTE : user ratio is a measure of ICT process efficiency in relation to the number of users supported. NCC IT:FTE user ratio is...

- Currently estimated at 21, based on approximately 900 IT supported users
- ~ **30% lower** compared against other **similar-sized local government peers** and **cross-industry** benchmarks (KPMG: 30)

— Average Across Benchmarked Data Set

Source: Gartner Key IT Metrics Data 2017 - Midsize Enterprise; Enterprise reports; KPMG Source Benchmarking Tool

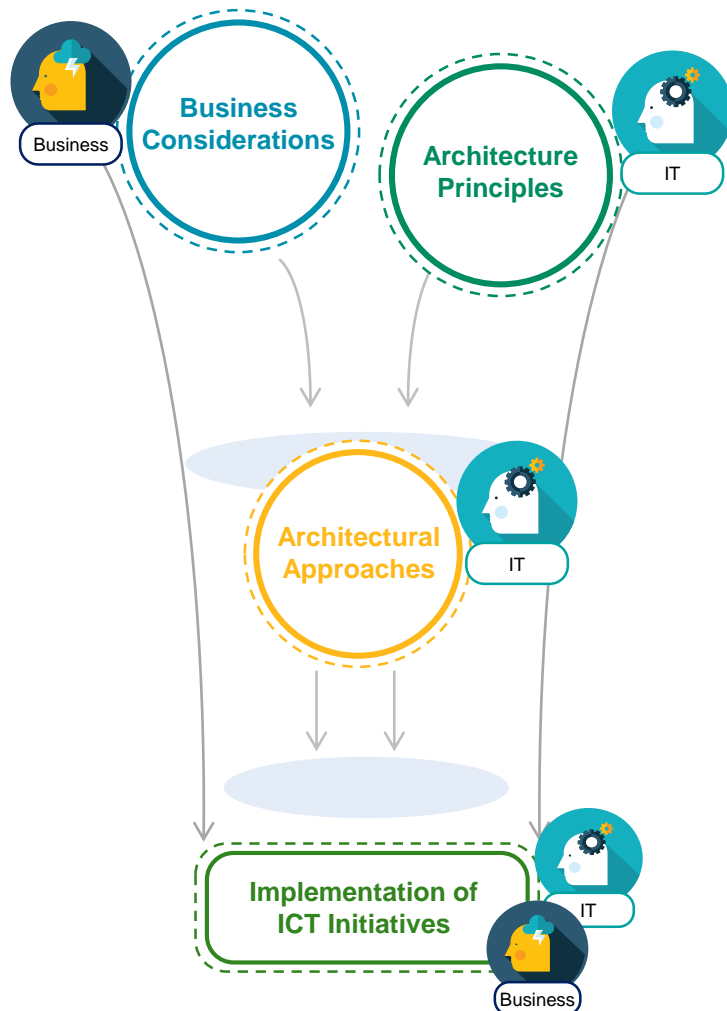
Notes: 1. FY17/18 budgeted data does not include the time spent by non-IT staff on IT-related work. In FY16/17 the percentage of IT spend outside of the IT cost centre was in excess of 14%. 2. IT user number covers internal users and not the community utilising Library public access equipment and the Museum public Wi-Fi. 3. Gartner definitions and related commentary: IT spend is the best estimate of total spending (capex and opex) at the end of the 12-month period for IT to support the enterprise, and can come from anywhere in the enterprise that incurs IT costs; IT FTE includes all staffing levels which support functions, insourced and contracted. ENT data is for enterprises with more than 1bn in revenue, SMB data is for midsize enterprise with less than \$1bn in revenue. We have selected the \$250 million to \$500 million segment within the Gartner report. 3. The KPMG data is sourced from samples of organisations between \$100 million to \$500 million of annual revenue.

Section 3: Future State



Developing the NCC ICT Guiding Principles

In order to foster tighter collaboration between the various business units and IT, business considerations coupled with IT architecture principles will form the architectural approaches. These three components will act as guiding principles for the implementation of ICT initiatives.



Business Considerations

- Formulated from high-level business requirements that inform the need of ICT to improve operational efficiency and service delivery to Council's customers.
- Align to the strategic ICT vision.



Architecture Principles

- Formulated from IT's design principles that governs and defines the ICT landscape of the Council.
- Guide technical decision making for technology that needs to be deployed in the Council ICT landscape.



Architectural Approaches

- Defined by business considerations and architecture principles.
- Act as the guiding principles for the implementation of every ICT initiative.
- Apply across the Infrastructure, Data, Systems & Applications layers.

Summary of Business Considerations

The following business considerations have been identified and will need to be accounted for in NCC's ICT future state landscape.



Customer Engagement

- Streamline and digitise customer engagement processes.
- Eliminate duplication of work and improve efficiency through simplification of business processes.
- Enhance data quality with direct interaction with customer.



Mobility

- Equip staff with 'fit-for-purpose' devices.
- Support a modern and agile workforce where staff can practice flexible work patterns.
- Enable seamless experience where staff are able to perform work across various Council endorsed devices.



Automation

- Optimise use of systems to minimise manual processes and tasks.
- Automate business processes and controls to increase efficiency and productivity.
- Minimise manual data entry.



Business Partnership and Centralisation

- Foster IT partnership with all business units across Council.
- Define future roles & responsibilities of IT and business units within a centralised Council wide governance framework.
- Standardised work processes and escalation paths in a clearly defined governance structure.



Standardisation

- Standardise Council-wide business processes and procedures where possible to improve efficiency and increase productivity.
- Standardise systems and infrastructure to align with modern IT and business best practices to enable more efficient operations.
- Deliver consistent and standardised systems training and knowledge sharing across Council.



Capability Uplift

- Ensure ICT workforce has the right focus, skills, and capabilities – 'right person for the job'.
- Enable a high-performing ICT function that is partnering with the business.
- Introduce technologies that are fit-for-purpose based on robust business case factoring in users needs, functionality and not just cost.



Project Delivery Model

- Manage bi-modal IT delivery model where one focuses on stability, and the other on agility.
- A well defined framework (including governance) in supporting the Council to get the best out of the bi-modal IT delivery approaches.
- Establish the capability to execute bi-modal IT delivery model



Continuous Improvement

- Establish key metrics to measure, monitor and manage the performance of key services and functions.
- Ensure IT readiness for future government trends and development.
- Become an early adopter continually improving interaction with the community; a Council that embraces change rather than being change averse.






Summary of Architecture Principles

The below architecture principles were drafted, based upon insights from the current state assessment, to inform the foundation of the future state ICT systems and applications landscape.

Category	Principles	Description
Customer Focused	✓ <i>Customer Centric Design</i>	Focus on capturing, securely storing and making customer information available to enable a seamless experience across channels to customers.
	✓ <i>Ease of Use</i>	Applications are intuitive and provide positive user experience across the customer facing services.
	✓ <i>Single Customer View</i>	A consistent and integrated view of the customer portfolio, and the ability to cross reference information across the different divisions and departments of NCC.
	✓ <i>Multi-channel Self-Services</i>	Enable the user to access information seamlessly via their preferred channel.
Information	✓ <i>Information is an Asset</i>	Information is an asset for Council, which has business value and must be managed accordingly.
	✓ <i>Information Integrity</i>	Each data set should only have one source of truth that is reliable and recent.
	✓ <i>Business Authority</i>	Ensure designated business owner(s) exist for data.
	✓ <i>Actionable Business Insight</i>	Information that supports generating actionable insights.
	✓ <i>Open Data</i>	Access to integrated information to support business process improvements.
	✓ <i>Privacy by Design</i>	Ensure data privacy and security is a critical consideration for NCC.
System Design	✓ <i>Reuse before Buy before Build</i>	Ensure that Council maximises return on investment.
	✓ <i>Scalable Interoperability</i>	The platform should have the flexibility to support future integrations.
	✓ <i>Integrated by Design</i>	Ensure integration is built into the solution design and not left to a later time.
	✓ <i>Leverage COTS Best Practice</i>	NCC should leverage Commercial-off-the-Shelf (COTS) solutions, drawing on best practice, before configuration and customisation.
	✓ <i>Compliance Ready</i>	IT systems must empower Council to fulfil its legal obligations in complying with ever-changing regulatory requirements and policies.
Service Management	✓ <i>Process Automation</i>	Maximise the number of automated processes across the system(s).
	✓ <i>Centralised operations</i>	Centralised management of business processes for performance issues, exceptions and security alerts.
	✓ <i>Service Level Management</i>	An agreed and standard approach to managing service level agreements.
Business Continuity	✓ <i>Elastic Scalability</i>	Systems remain functional and responsive when the number of concurrent users increases.
	✓ <i>Cloud First Thinking</i>	Where possible, consider cloud based platforms to reduce operational complexities and shortened time-to-market. Depending upon the need, consider all three modes of cloud delivery – IaaS, PaaS, and SaaS.
	✓ <i>Network Redundancy</i>	Where possible incorporate redundancy in data and voice communication channels.
Security	✓ <i>Least Privilege</i>	Users and system processes must be assigned the least set of privileges/permissions necessary.
	✓ <i>Security as a Service</i>	The security solution must be designed as a standard service for the enterprise.

Summary of Architectural Approaches

The architectural approaches outlined below intends to inform how the future ICT landscape will be delivered.

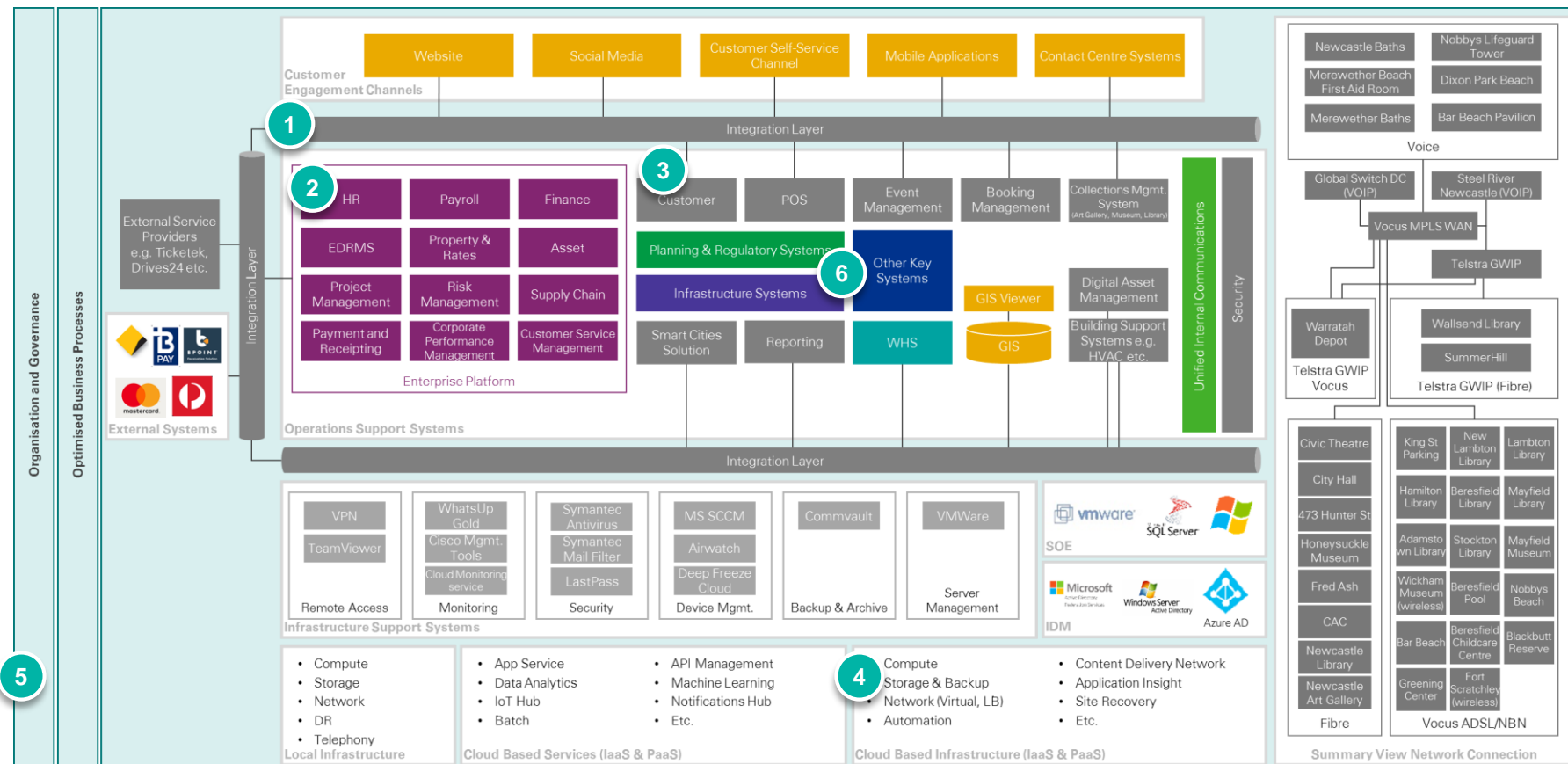
Approach	Description
 Enterprise Capability	<ul style="list-style-type: none"> • Integrated and consistent end to end business processes aligned to modern best practice. • No duplication of capabilities across systems within the Council ICT landscape. • A modern and consistent user interface / presentation layer across the enterprise. • Open systems that allow for standardised integrations, enabling easier data exchange and eliminating double entry of data.
 Cloud First	<ul style="list-style-type: none"> • Flexibility to scale up and down the demand for services based on business need. • Can be deployed over a shorter timescale than on-premise solutions, with a smaller delivery team, therefore creating significantly less business disruption and increasing return on investment. • Standardised and regular upgrades in a single roll-out per product to all users simultaneously. • Reduced maintenance costs that require less specialised staff due to platform/application maintenance being provided by the cloud provider. • Availability of the system from anywhere to support mobility with minimal effort.
 Analytics Capability	<ul style="list-style-type: none"> • Ability to gather data from NCC's key data sources, consolidate the desired information, and generate reports and dashboards. • Generation of meaningful and customised reports and dashboards with accurate and actionable business insights. • Empower management to manage the organisation with data led decision making.
 'Loosely Coupled' Design	<ul style="list-style-type: none"> • Limit the tight interconnection of systems, so as to reduce the technical dependency, through standardised interface/integrations contracts. • Supports the isolation of potential system incidents, ensuring that changes in the ICT environment do not cause unintentional changes to other systems or components.
 'Pace-Layered' Design	<ul style="list-style-type: none"> • Grouping of enterprise capabilities that provides agility to Council to execute and manage change with relative independence. • The approach is grouping of applications based on the pace of change required e.g. core applications "systems of records" change introduced is not regular and any change is an high impact to the organisation whereas customer channels "systems of engagement" the pace of change is regular and needs to be quick to market to maintain market relevance. • Provides the flexibility to prioritise and enhance applications, as required. • Provides flexibility to innovate to customers without impact to operations support applications.

Future State ICT Landscape

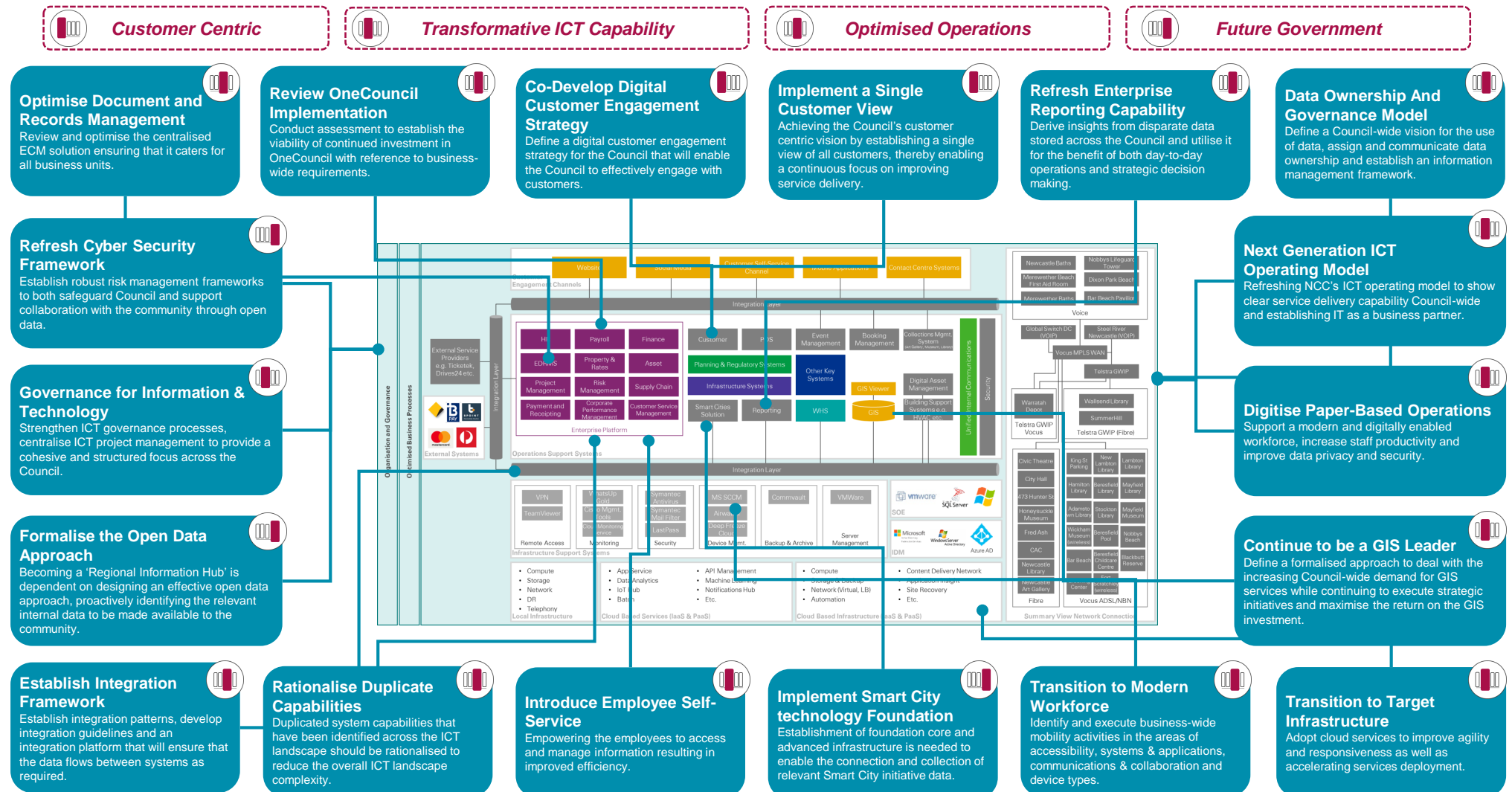
Newcastle City Council's (NCC's) future ICT landscape has been developed to enable the Council to realise its ICT Vision and to address some of the key pain points and inefficiencies that have been identified during the current state. The future state ICT landscape needs to be supported by an effective ICT governance, a refreshed IT operating model, and well-defined business processes.

Key Highlights

- 1** An integration layer (consider iPaaS) that enables systems integration for increased operational efficiency.
- 2** Rationalisation of duplicate system capabilities to simplify ICT landscape for reduced ongoing operational costs.
- 3** Centralisation of customer information into a single repository / system to enable a single view of the customer.
- 4** Cloud based applications, services and infrastructure where possible to improve organisation agility.
- 5** Refreshed IT operating model, governance, and alignment to business processes as overarching elements that informs the future state ICT landscape.
- 6** Existing directorate-specific applications highlighted in the current state landscape to be reviewed and rationalised to eliminate duplicate capabilities.



Eighteen ICT initiatives have been identified and proposed for implementation in enabling NCC to achieve its strategic vision and in addressing its current challenges toward becoming a more service-led and customer focused Council.



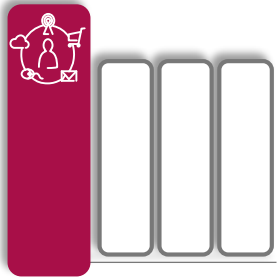
Rough order of magnitudes (ROM) have been identified for each of the ICT initiatives to provide indicative investment values to support the prioritisation of the ICT initiatives and creation of a roadmap that is realistic and actionable.

ICT INITIATIVES		ROM	
		\$	months
	1. Co-Develop Digital Customer Engagement Strategy: Define a digital customer engagement strategy for the Council that will enable the Council to effectively engage with customers.	medium	6-12
	2. Implement a Single Customer View: Achieving the Council's customer centric vision by establishing a single view of all customers, thereby enabling a continuous focus on improving service delivery.	high	6-12
	3. Next Generation ICT Operating Model: Refreshing NCC's ICT operating model to show clear service delivery capability Council-wide and establishing IT as a business partner.	low	1-2
	4. Governance for Information & Technology: Strengthen ICT governance processes, centralise ICT project management to provide a cohesive and structured focus across the Council.	low	3-6
	5. Transition to Target Infrastructure: Adopt cloud services to improve agility and responsiveness as well as accelerating services deployment.	high	12-18
	6. Digitise Paper-Based Operations: Support a modern and digitally enabled workforce, increase staff productivity and improve data privacy and security.	medium	6-12
	7. Introduce Employee Self-Service: Empowering the employees to access and manage information resulting in improved efficiency.	medium	3-6
	8. Continue to be a GIS Leader: Define a formalised approach to deal with the increasing Council-wide demand for GIS services while continuing to execute strategic initiatives and maximise the return on the GIS investment.	medium	6-12
	9. Rationalise Duplicate Capabilities: Duplicated system capabilities that have been identified across the ICT landscape should be rationalised to reduce the overall ICT landscape complexity.	medium	6-12
	10. Transition to Modern Workforce: Identify and execute business-wide mobility activities in the areas of accessibility, systems & applications, communications & collaboration and device types.	high	3-6
	11. Data Ownership and Governance Model: Define a Council-wide vision for the use of data, assign and communicate data ownership and establish an information management framework that aligns to the business objectives.	medium	3-6
	12. Refresh Enterprise Reporting Capability: Derive insights from disparate data stored across the Council and utilise it for the benefit of both day-to-day operations and strategic decision making.	medium	6-12
	13. Review OneCouncil Implementation: Conduct assessment to establish the viability of continued investment in OneCouncil with reference to business-wide requirements.	high	12-18
	14. Establish Integration Framework: Establish integration patterns, develop integration guidelines and an integration platform that will ensure that the data flows between systems as required.	medium	3-6
	15. Optimise Document and Records Management: Review and optimise the centralised ECM solution ensuring that it caters for all business units.	medium	3-6
	16. Implement Smart City technology Foundation: Establishment of foundation core and advanced infrastructure is needed to enable the connection and collection of relevant Smart City initiative data.	medium	3-6
	17. Formalise the Open Data Approach: Becoming a 'Regional Information Hub' is dependent on designing an effective open data approach, proactively identifying the relevant internal data to be made available to the community.	medium	3-6
	18. Refresh Cyber Security Framework: Establish robust risk management frameworks to both safeguard Council & support collaboration with the community through open data.	medium	3-6

Note: The estimates provided are 'rough order of magnitude' estimates, no detailed business case or cost analysis has been performed, these figures should not be used for budgeting purposes.

A construction worker wearing a yellow hard hat and a plaid shirt is shown from the side, holding a tablet computer. The worker is pointing at the screen with their right index finger. The background is a construction site with a large yellow excavator and a pile of dirt. The sky is bright and cloudy. A semi-transparent blue and orange overlay is on the right side of the image, containing the text.

Section 4: Future State ICT Initiatives



NCC ICT Vision 2018 - 2020

CUSTOMER CENTRIC

Focusing on delivering valuable services to the customer by driving seamless and effective customer engagement across multiple channels and changing into a regional information hub.



Co-Develop Digital Customer Engagement Strategy

In collaboration between the business and IT, define a digital customer engagement strategy for the Council that will enable it to effectively engage with customers, and assess the eServices capabilities in supporting strategy execution.



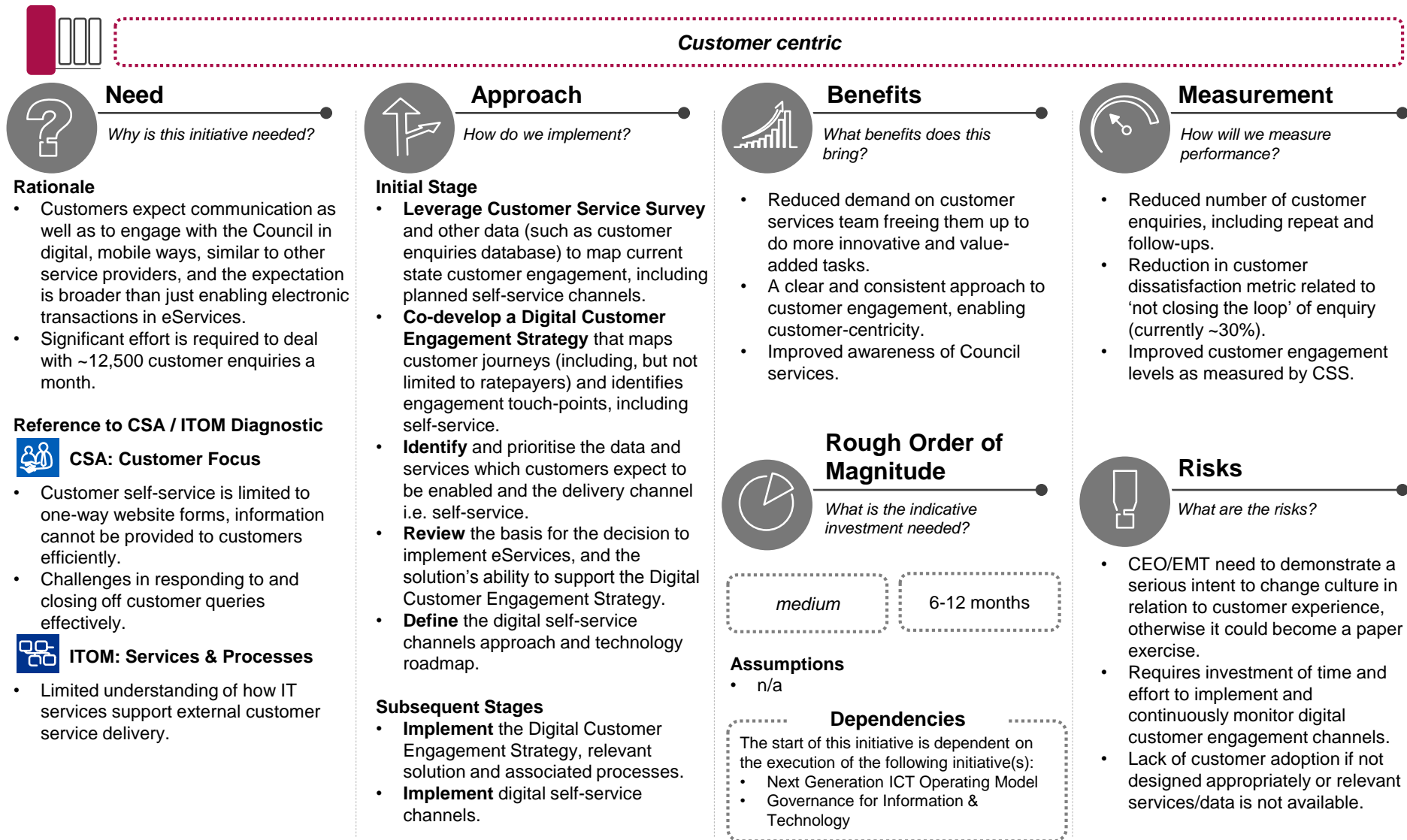
Implement a Single Customer View

Achieving the Council's customer centric vision by establishing a single view of all customers, thereby enabling a continuous focus on improving service delivery.

ICT Initiatives

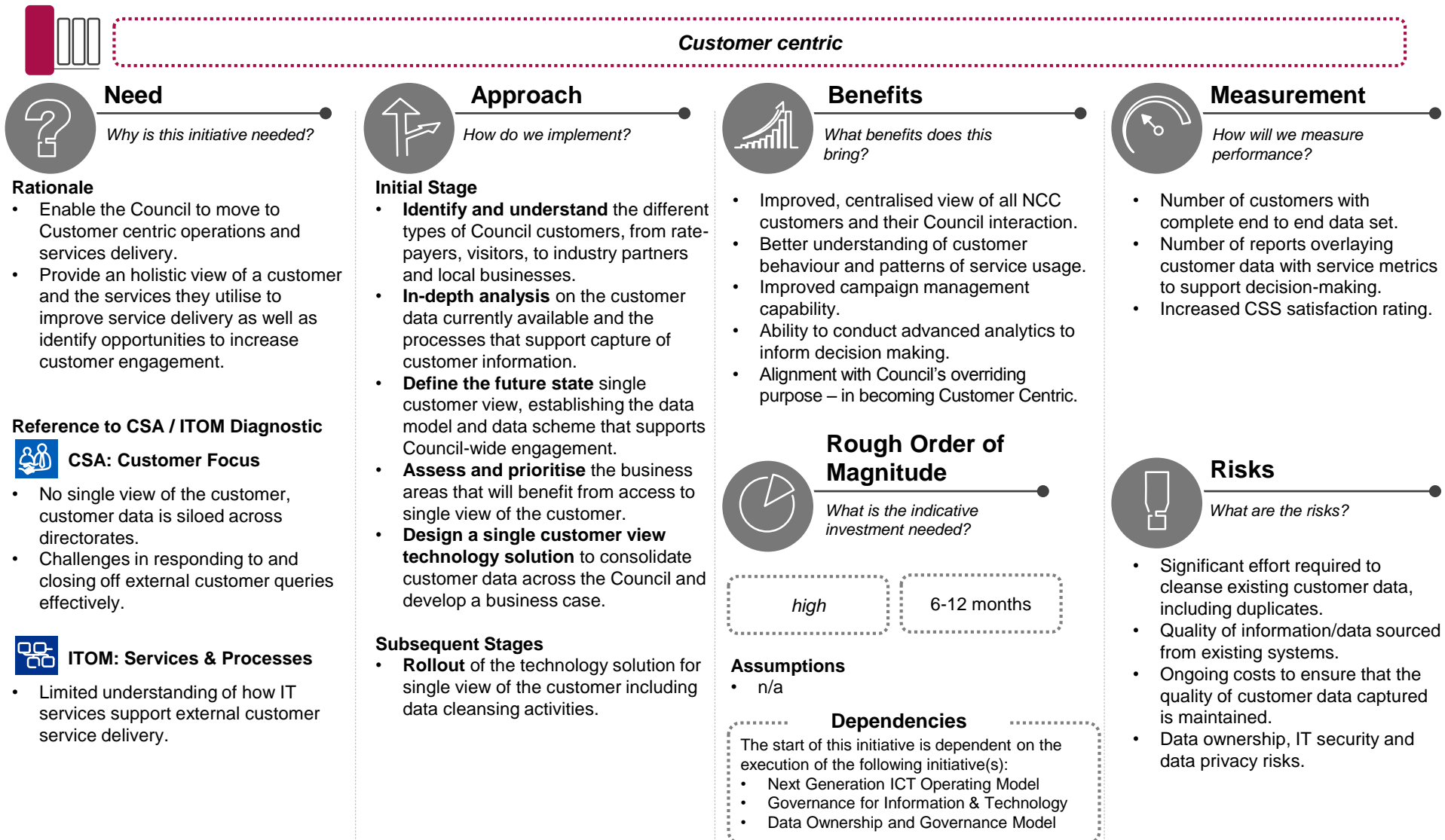
Co-develop Digital Customer Engagement Strategy

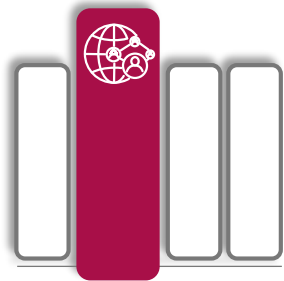
In collaboration between the business and IT, define a digital customer engagement strategy for the Council that will enable it to effectively engage with customers, and assess the eServices capabilities in supporting strategy execution.



Implement a Single Customer View

Achieving the Council's customer centric vision by establishing a single view of all customers, thereby enabling a continuous focus on improving service delivery.





NCC ICT Vision 2018 - 2020

TRANSFORMATIVE ICT CAPABILITY

Setting a strong foundation in ICT governance, weaving into all areas of the Council as a reliable business partner and facilitating new opportunities for technology transformation.

ICT Initiatives



Next Generation ICT Operating Model

The redefined ICT Operating model needs to show clear, Council-wide service delivery capability and set up the organisation for successful implementation and changes for all future technology-related initiatives. Ultimately, it will inform the way in which the IT team meet the needs of all their stakeholders both direct and indirect.



Governance for Information & Technology

ICT must become the foundation for supporting the daily operation of the Council in the age of digital. Improved ICT Governance and centralised project management, with Council-wide representation and buy-in, will provide a cohesive and structured focus for the entire organisation.



Transition to Target Infrastructure

Adoption of cloud services is necessary to improve agility and responsiveness and accelerate service deployment across the organisation. The mature cloud services market can address the strict security and privacy needs of councils, removing the need to build and operate own data centres.



Digitise Paper-Based Operations

Transitioning to a paperless environment is needed to improve staff productivity through eliminating manual handling, enhance data privacy and security, and ultimately enable better office space utilisation.



Introduce Employee Self-Service

Employees need access to view and change information relating to their employment at NCC. The ability to access, edit and share information by all employees and managers improves efficiency, and reduces the requirement for support staff to complete high frequency and low value add tasks.

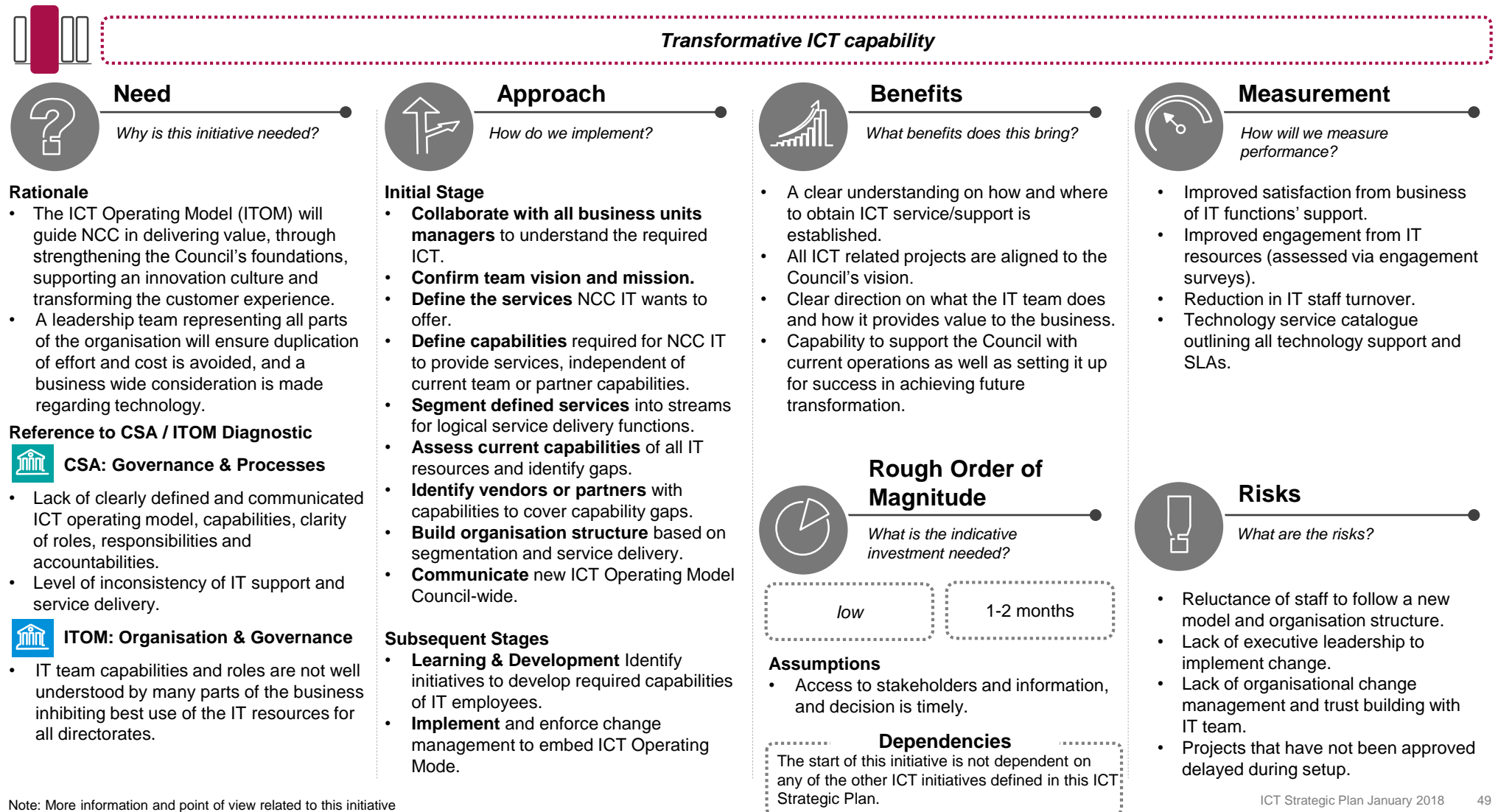


Continue to be a GIS Leader

NCC has implemented a leading GIS solution and has strong capability in this space. A formalised approach is needed to deal with the increasing Council-wide demand for GIS services while continuing to execute strategic initiatives and maximise the return on the GIS investment.

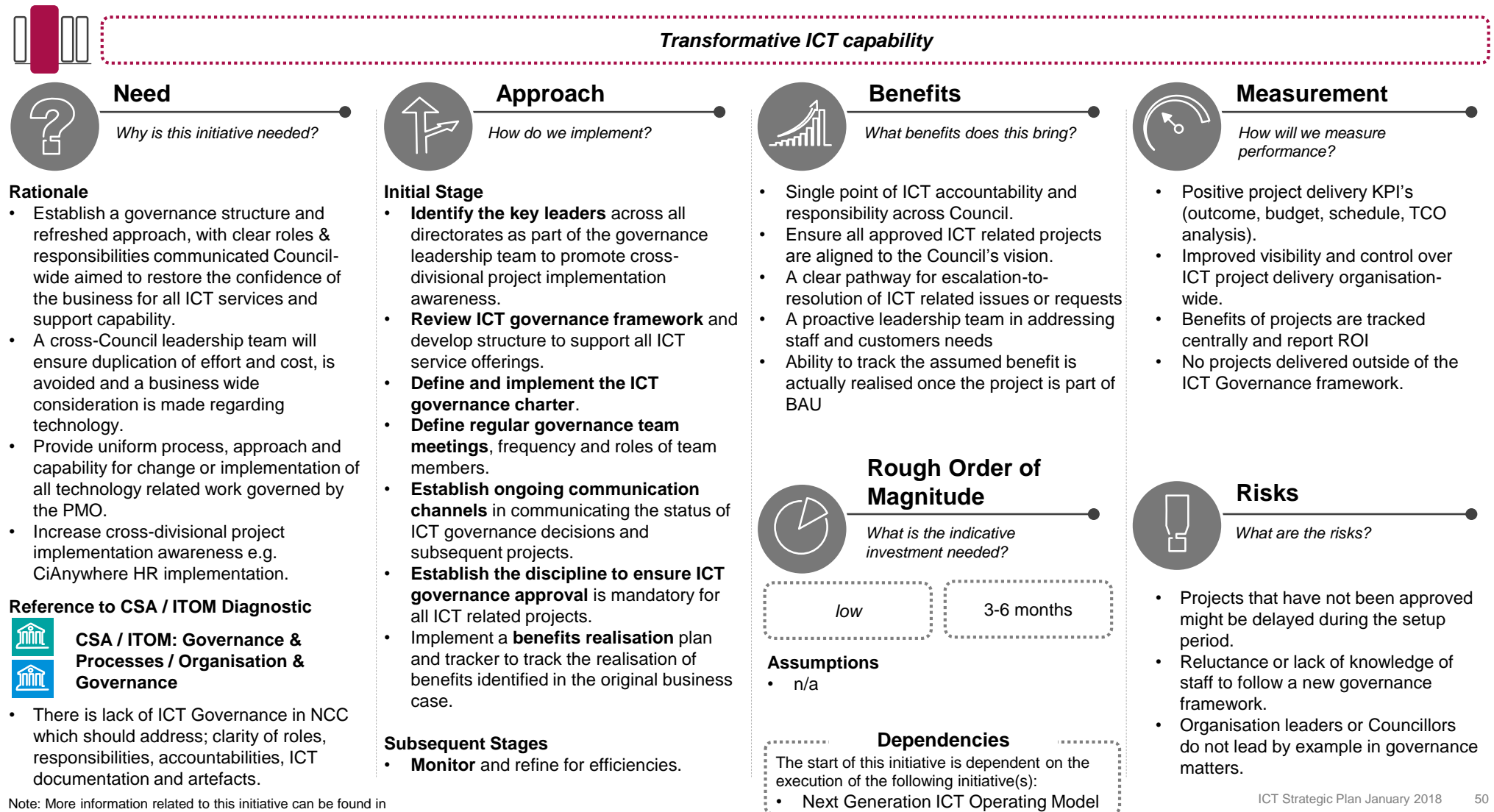
Next Generation ICT Operating Model

The redefined ICT Operating model needs to show clear, Council-wide service delivery capability and set up the organisation for successful implementation and changes for all future technology-related initiatives. The pockets of 'shadow IT' that exist across the Council will need to be embedded into the redefined ICT Operating model. Ultimately, it will inform the way in which the IT team (and 'shadow IT') meet the needs of all their stakeholders both direct and indirect.



Governance for Information & Technology

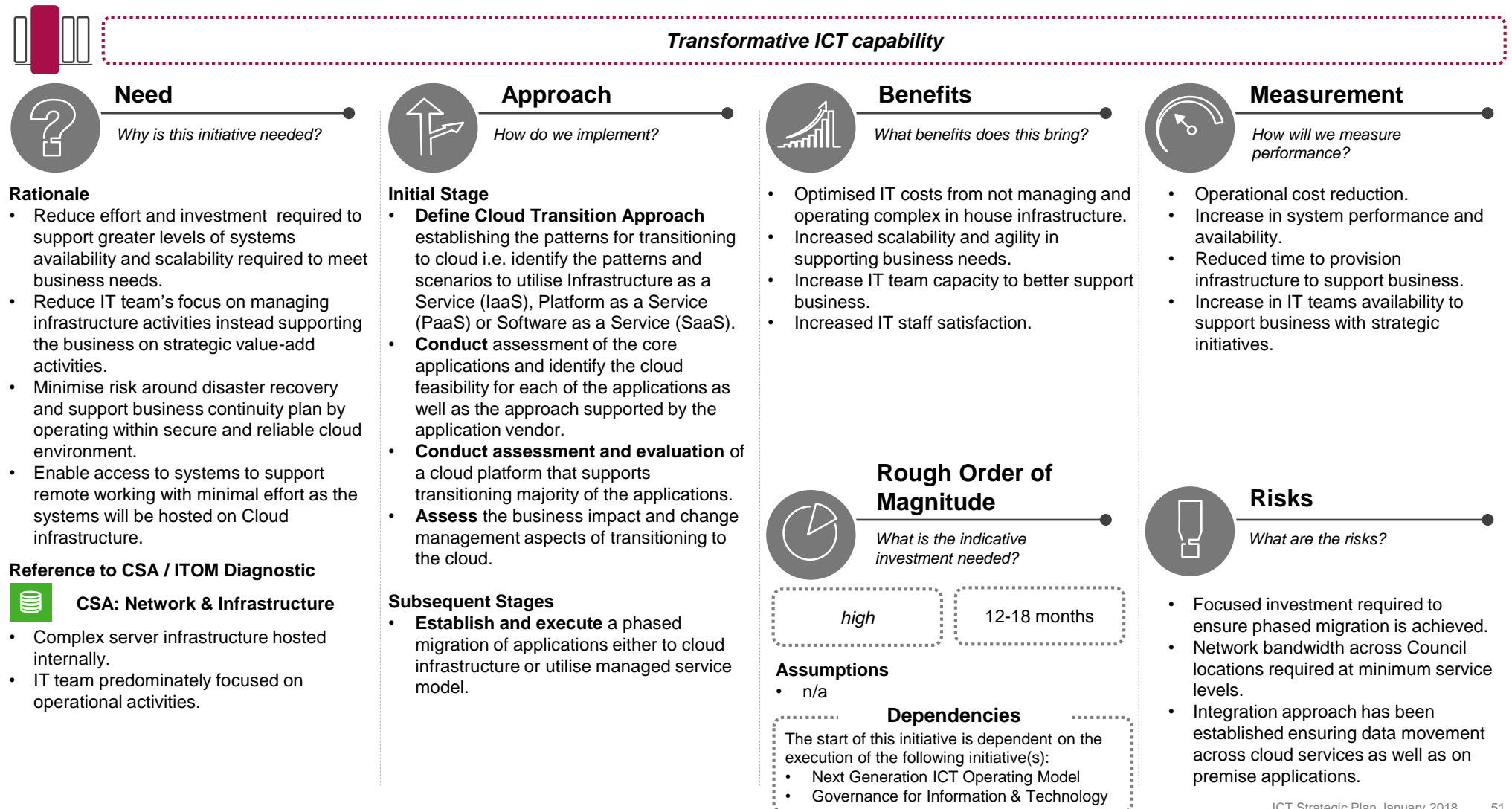
ICT must become the foundation for supporting organisation wide technology related work. Improved ICT Governance and centralised project management, with Council-wide buy-in, will provide a cohesive technology focus for the entire organisation. Without improved governance for technology, continued investment will result in limited return, duplication of investment and inefficient use of resources.



Note: More information related to this initiative can be found in the Appendix section of this report.

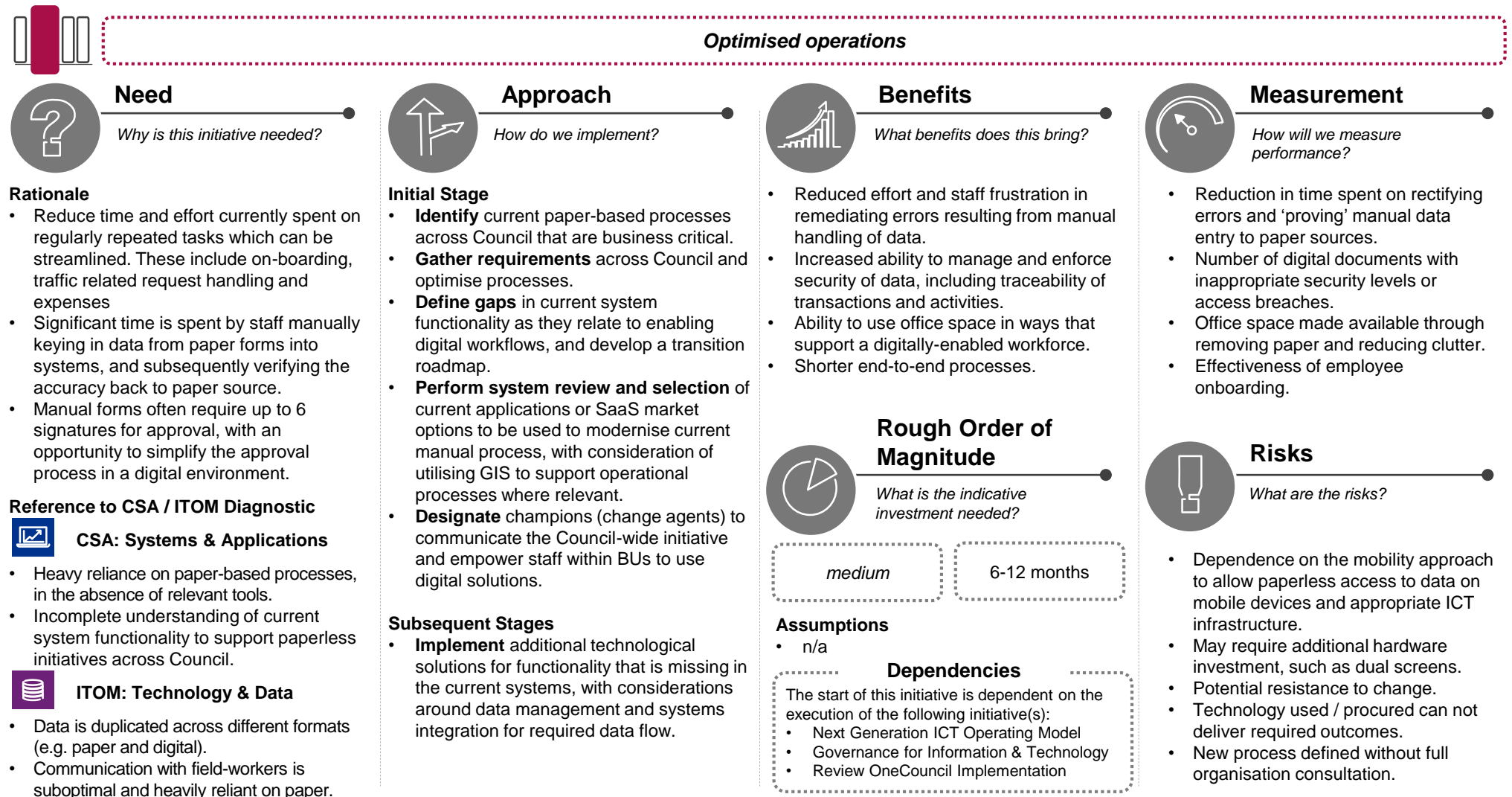
Transition to Target Infrastructure

The target council IT infrastructure should support agility and responsiveness to accelerate service deployment. Councils are increasingly turning to cloud services to utilise on-demand and easily provisioned cloud infrastructure which have all but made obsolete the need for managing their own data centres. Whilst cloud-first approach is strongly recommended, the target infrastructure needs to support the needs of each solution which could be Cloud, On-premise or a hybrid model.



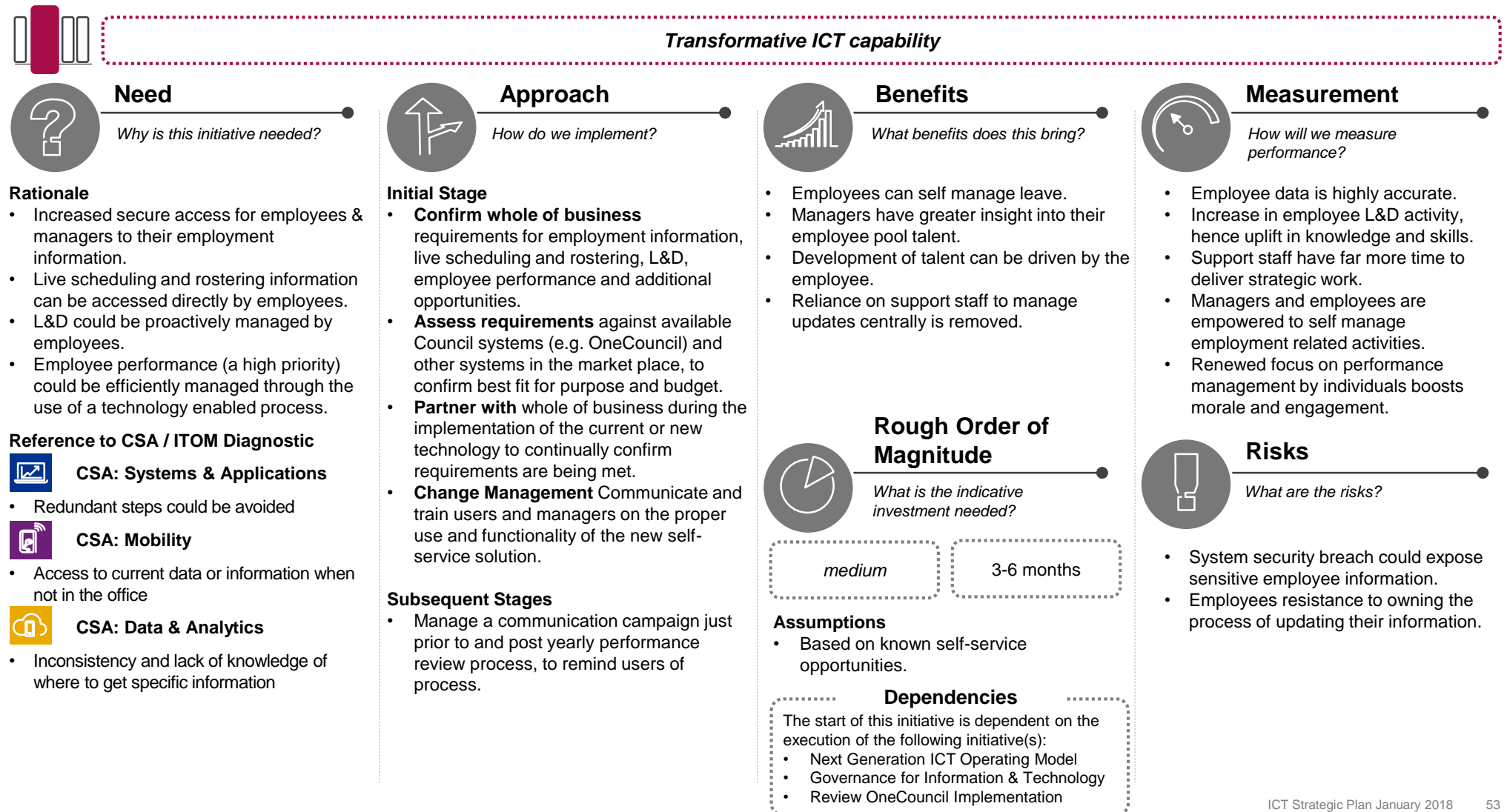
Digitise Paper-Based Operations

Transitioning to a paperless environment is needed to improve staff productivity through eliminating manual handling, enhance data privacy and security, and ultimately enable better office space utilisation. Key processes that include a high degree of manual intervention need to be automated to enable staff to focus more on strategic tasks.



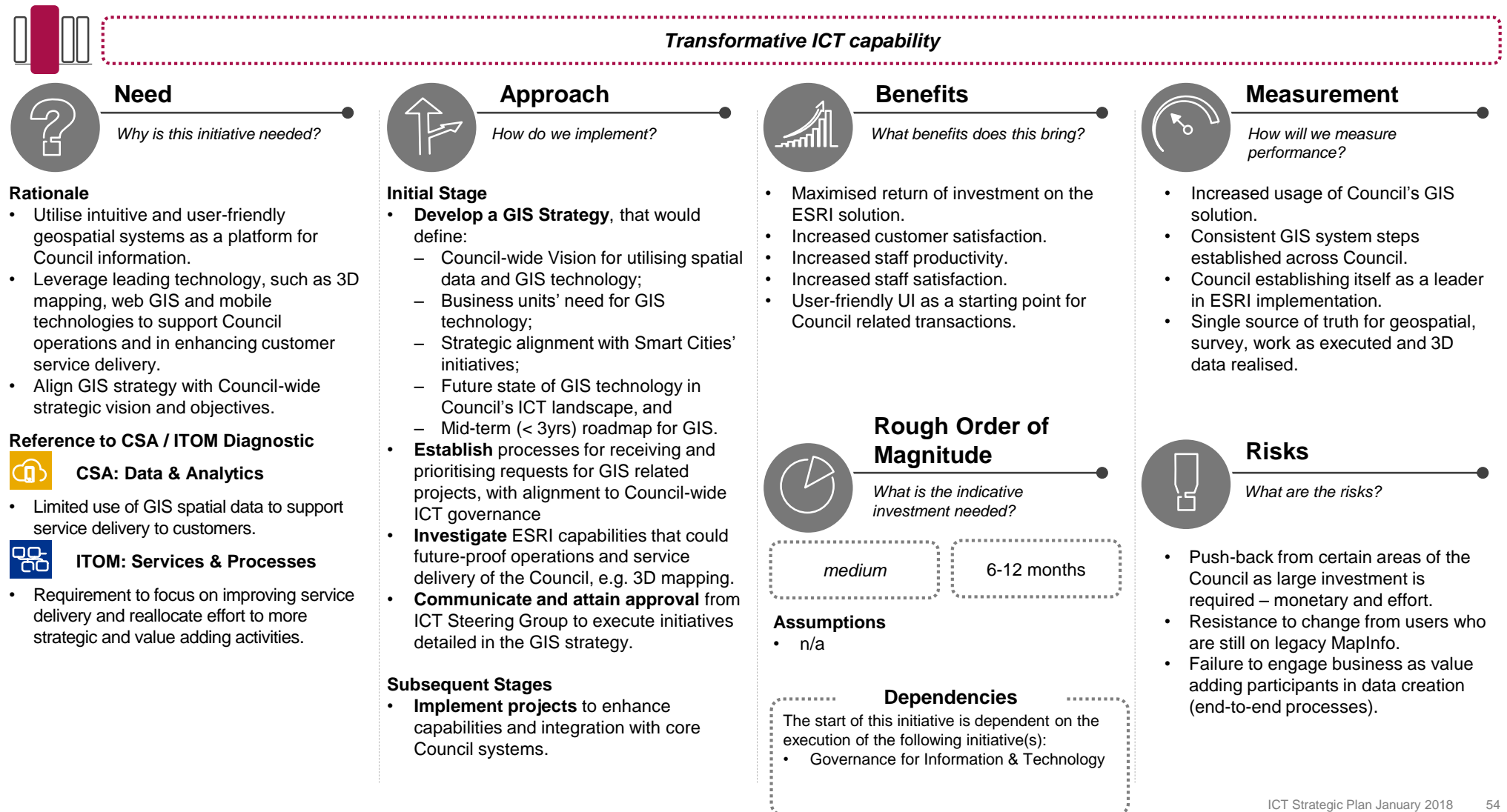
Introduce Employee Self-service

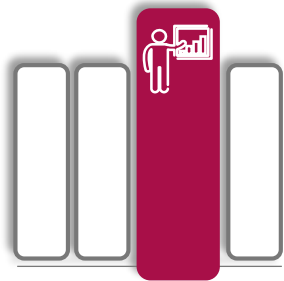
Employees need access to view and change information relating to their employment at NCC. The ability to access, edit and share information by all employees and managers improves efficiency, and reduces the requirement for support staff to complete high frequency and low value add tasks.



Continue to be a GIS Leader

NCC has implemented a leading GIS solution and has strong capability in this space. A formalised approach is needed to deal with the increasing Council-wide demand for GIS services while continuing to execute strategic initiatives and maximise the return on the GIS investment.





NCC ICT Vision 2018 - 2020

OPTIMISED OPERATIONS

Establishing a sustainable, high performing organisation that leverages technology to enable a modern and agile workforce and translates data into actionable insights to optimise business operations.

ICT Initiatives



Rationalise Duplicate Capabilities

Duplicated system capabilities that have been identified across the ICT landscape (existing or identified as duplicate as part of ICT transformation) should be rationalised to reduce the overall ICT landscape complexity.



Transition to Modern Workforce

While initial work has begun in several areas across the Council, such as development of policies and roll-out of mobile devices, more is needed to transition to a modern workforce. NCC has to identify and execute business-wide mobility activities in the areas of accessibility, systems & applications, communications & collaboration and device types.



Data Ownership and Governance Model

In order to transform into a data-led Council, NCC needs to first define a Council-wide vision for the use of data, assign and communicate data ownership and establish an information management framework that aligns to the business objectives.



Refresh Enterprise Reporting Capability

The ability to derive insights from disparate data stored across the Council, and use it for the benefit of both day-to-day operational, as well as strategic decision making is critical. Business intelligence needs to be enabled in order to truly optimise operations.



Review OneCouncil Implementation

NCC has invested heavily in OneCouncil to support its core capabilities, with varying degrees of success across the organisation. An assessment is required to establish the viability of continued investment in OneCouncil with reference to business-wide requirements.



Establish Integration Framework

A well defined integration framework that establishes integration patterns, develops integration guidelines and an integration platform will ensure that the data flows between systems as required and also reducing interdependency between systems providing agility within the Council's IT landscape.

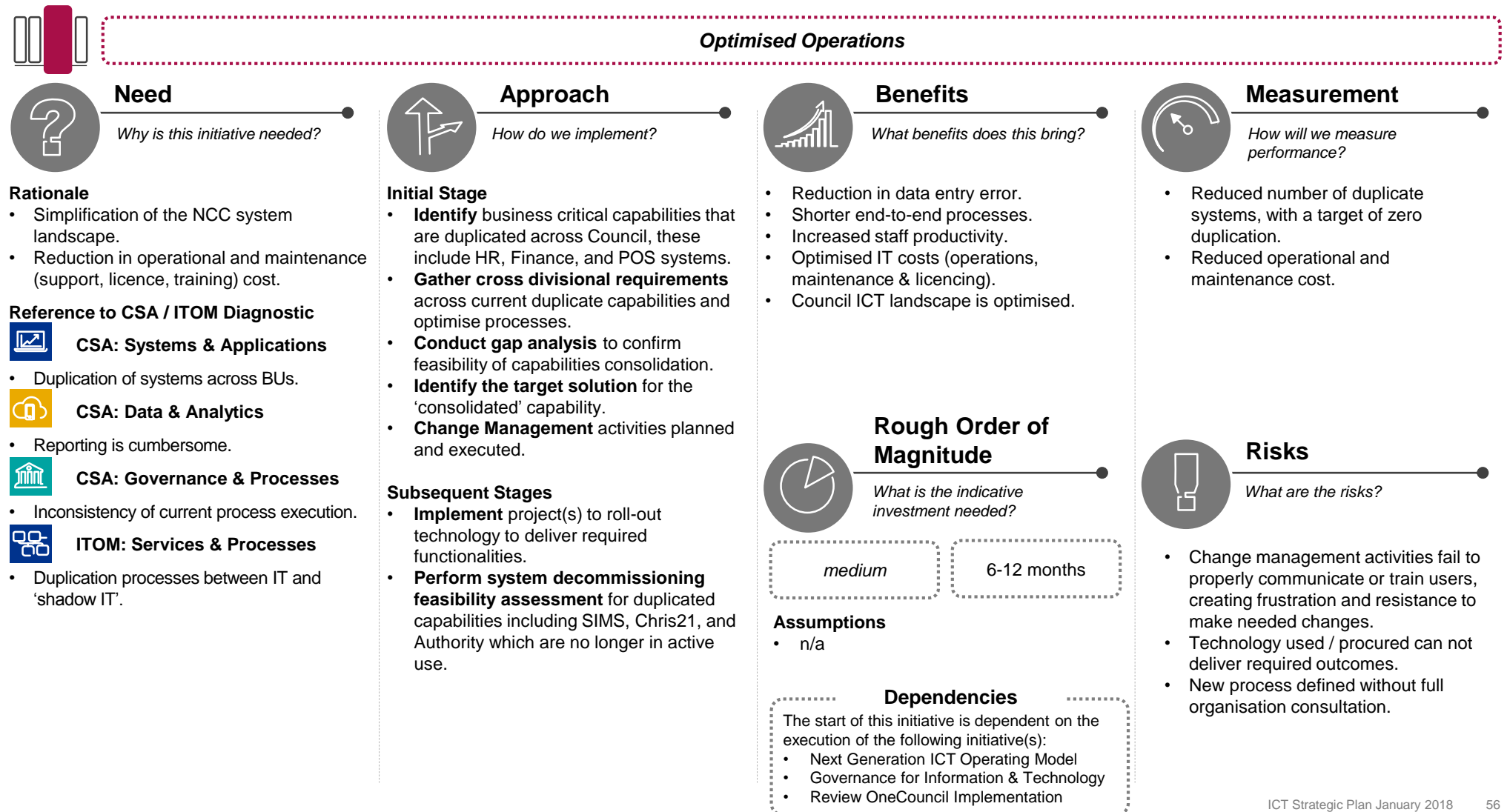


Optimise Document and Records Management

Challenges with ECM functionality have been experienced across the Council, compromising the effectiveness of document and records management. In order to establish a centralised ECM solution that caters for all business units, policies and business processes must be defined, and documents and records management capability improved.

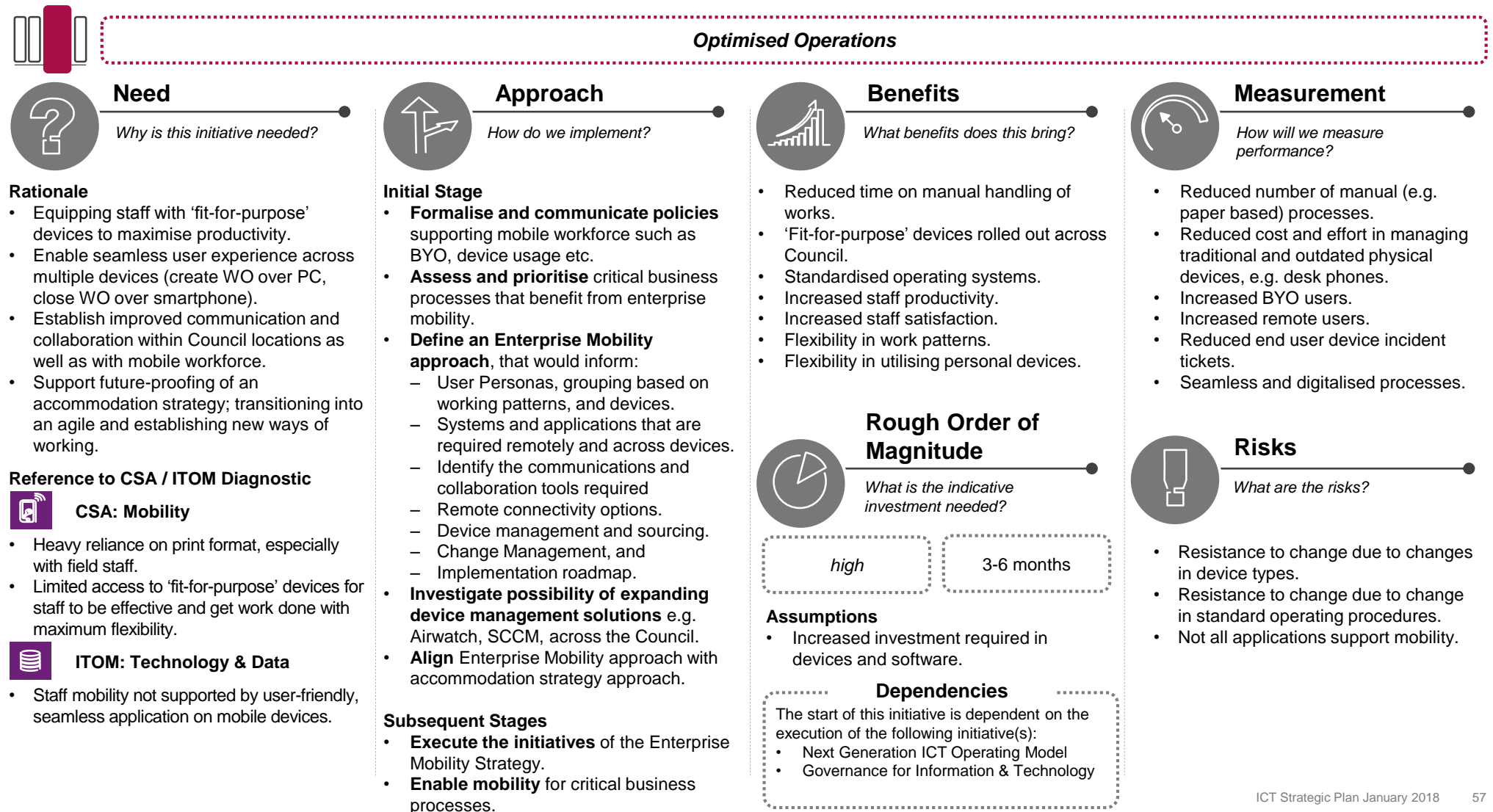
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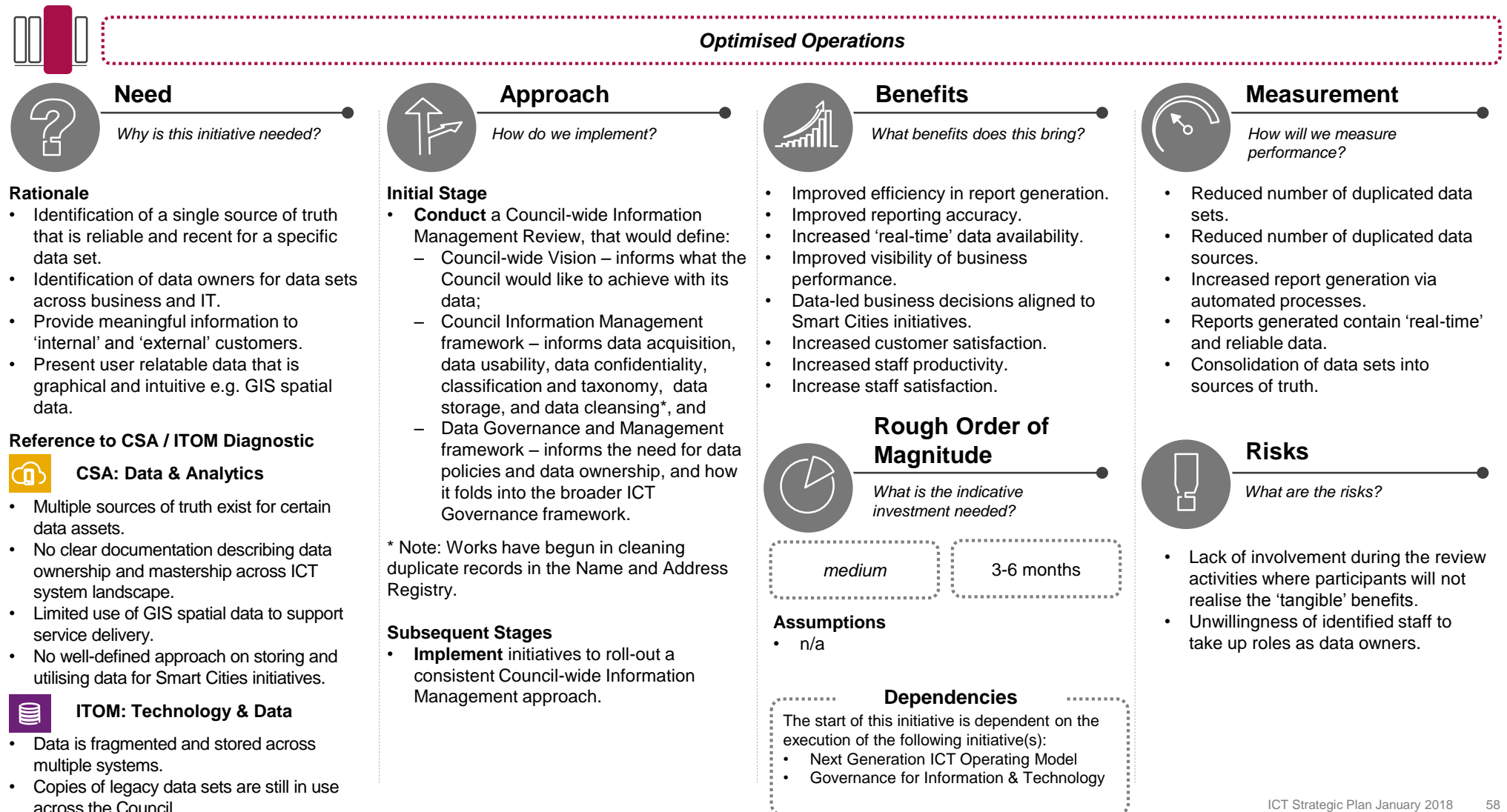
Transition to Modern Workforce

While initial work has begun in several areas across the Council, such as development of policies and roll-out of mobile devices, more is needed to transition to a modern workforce. NCC has to identify and execute business-wide mobility activities in the areas of accessibility, systems & applications, communications & collaboration and device types. The implementation of this initiative is crucial in supporting NCC toward a successful accommodation strategy.



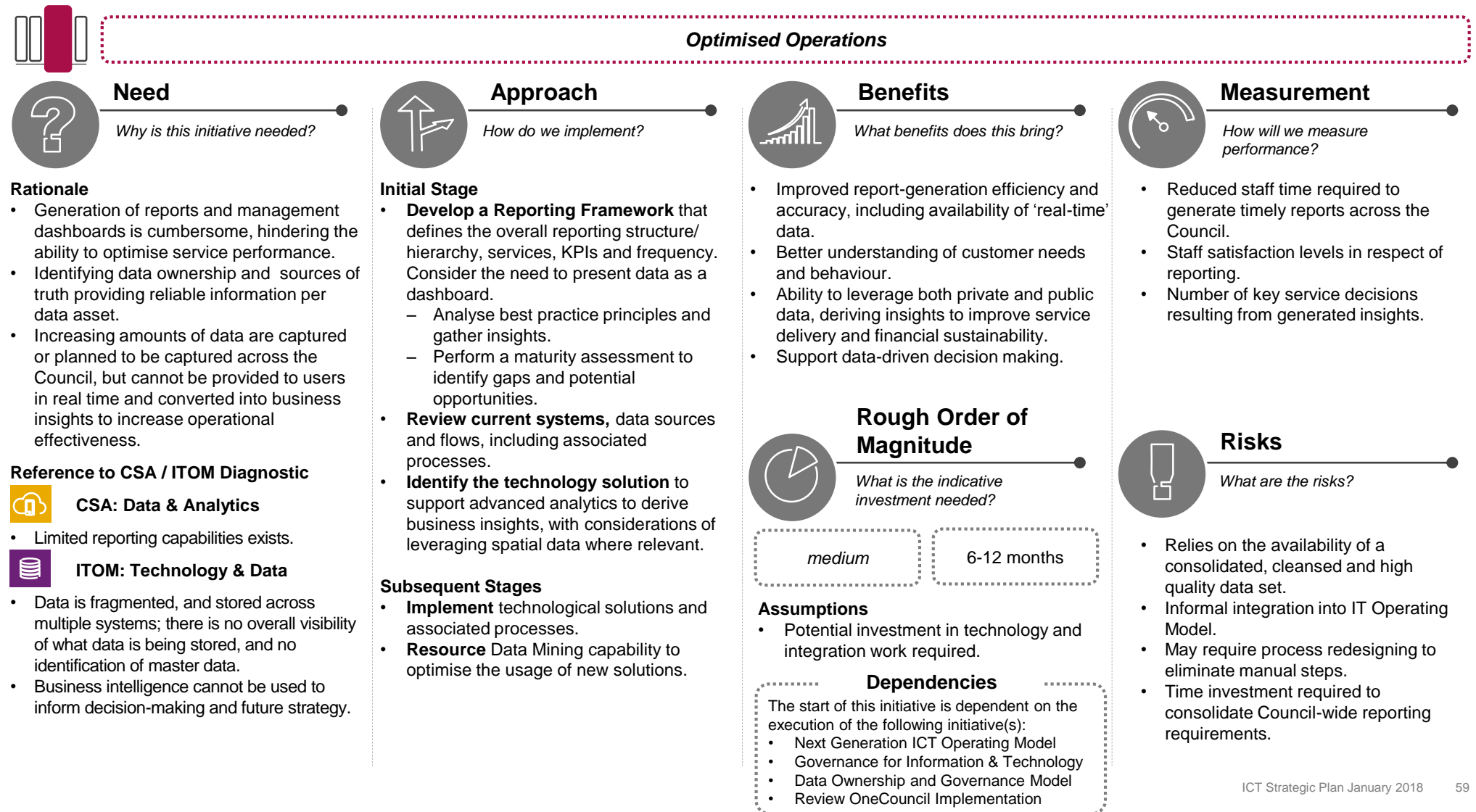
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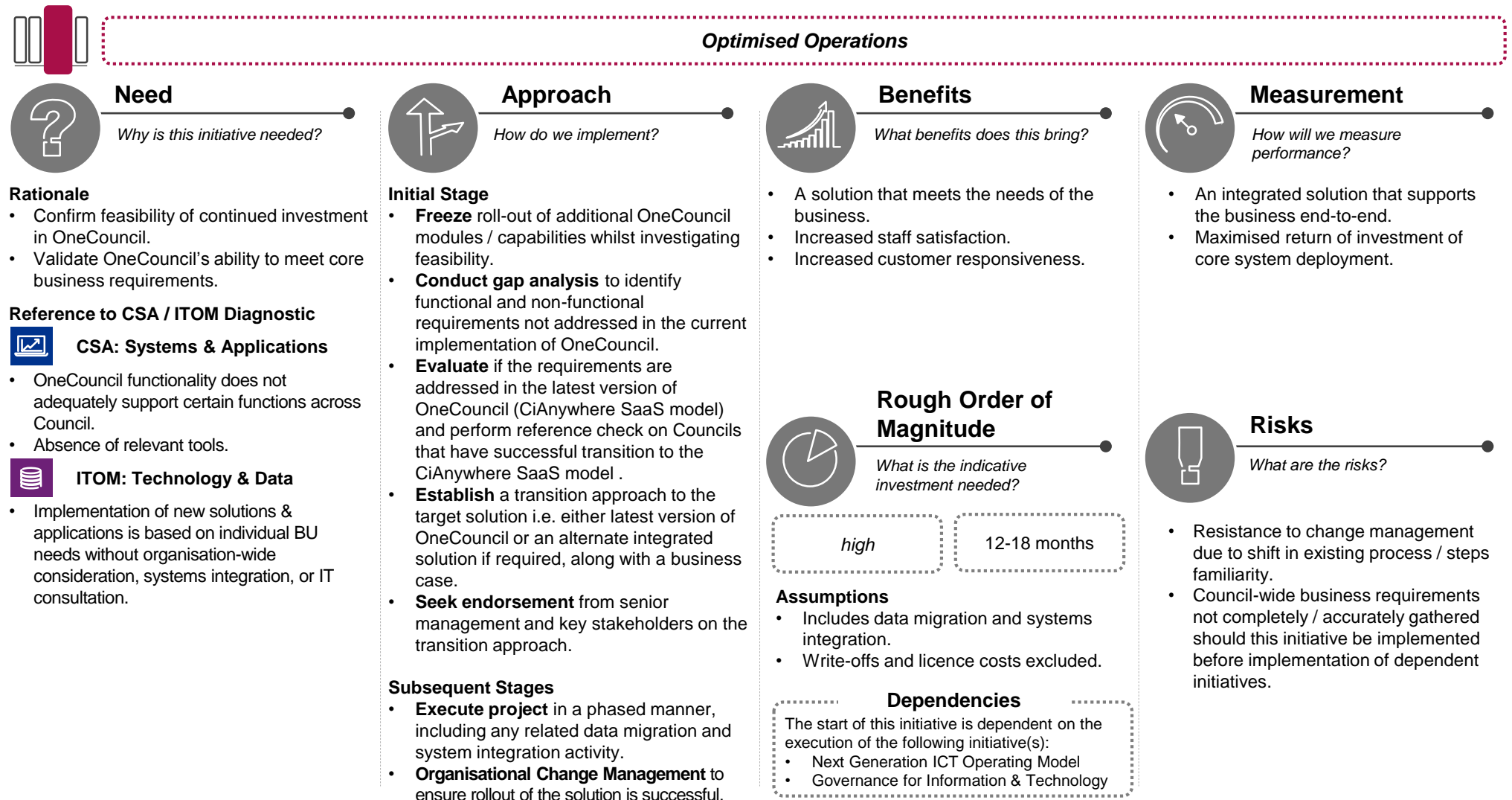
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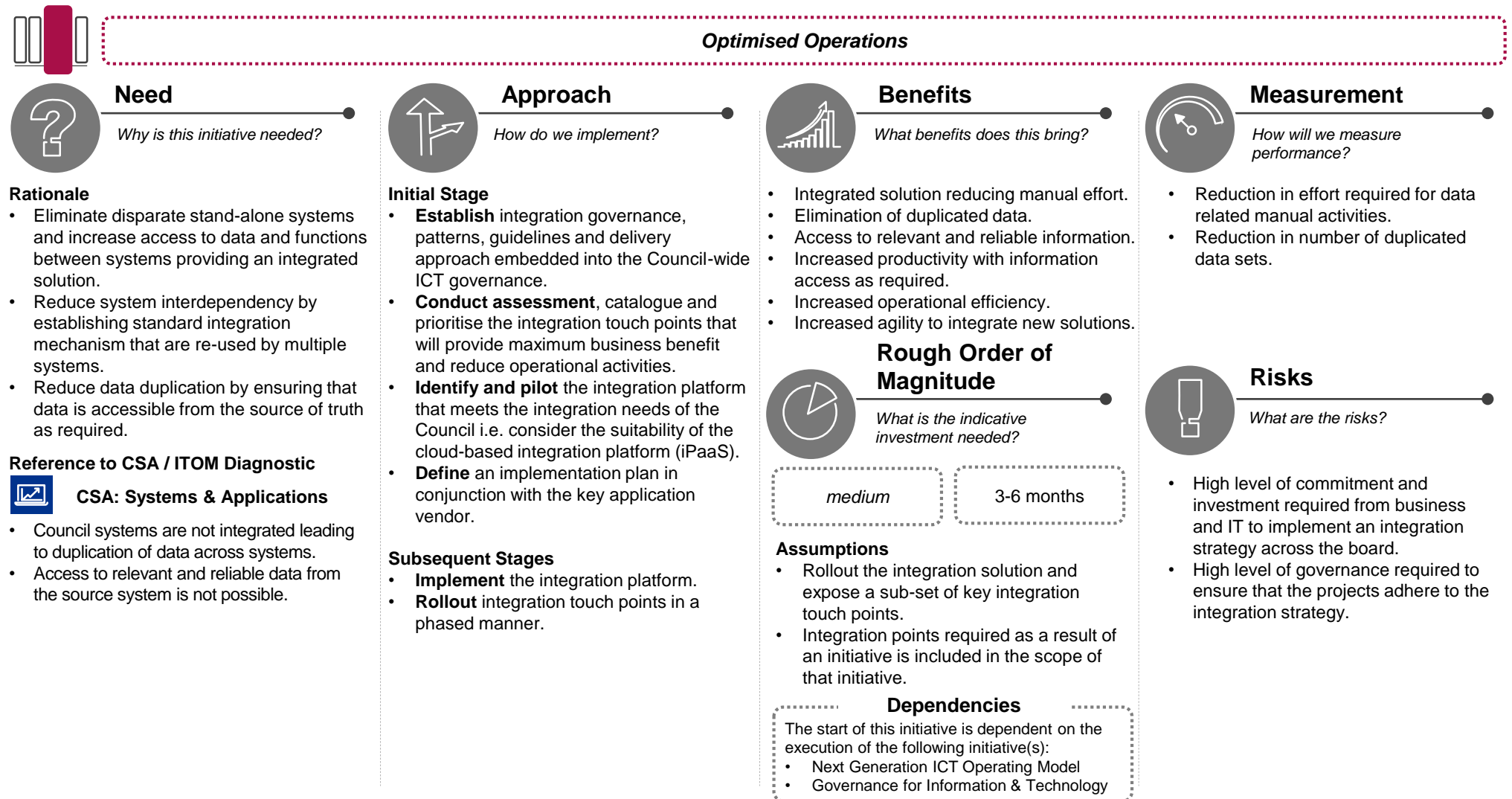
The decision on whether or not OneCouncil is the right fit cannot be made at this time. A comprehensive assessment is required to establish the viability of continued investment in OneCouncil with reference to business-wide requirements.



Note: More information and point of view related to this initiative can be found in the Appendix section of this report.

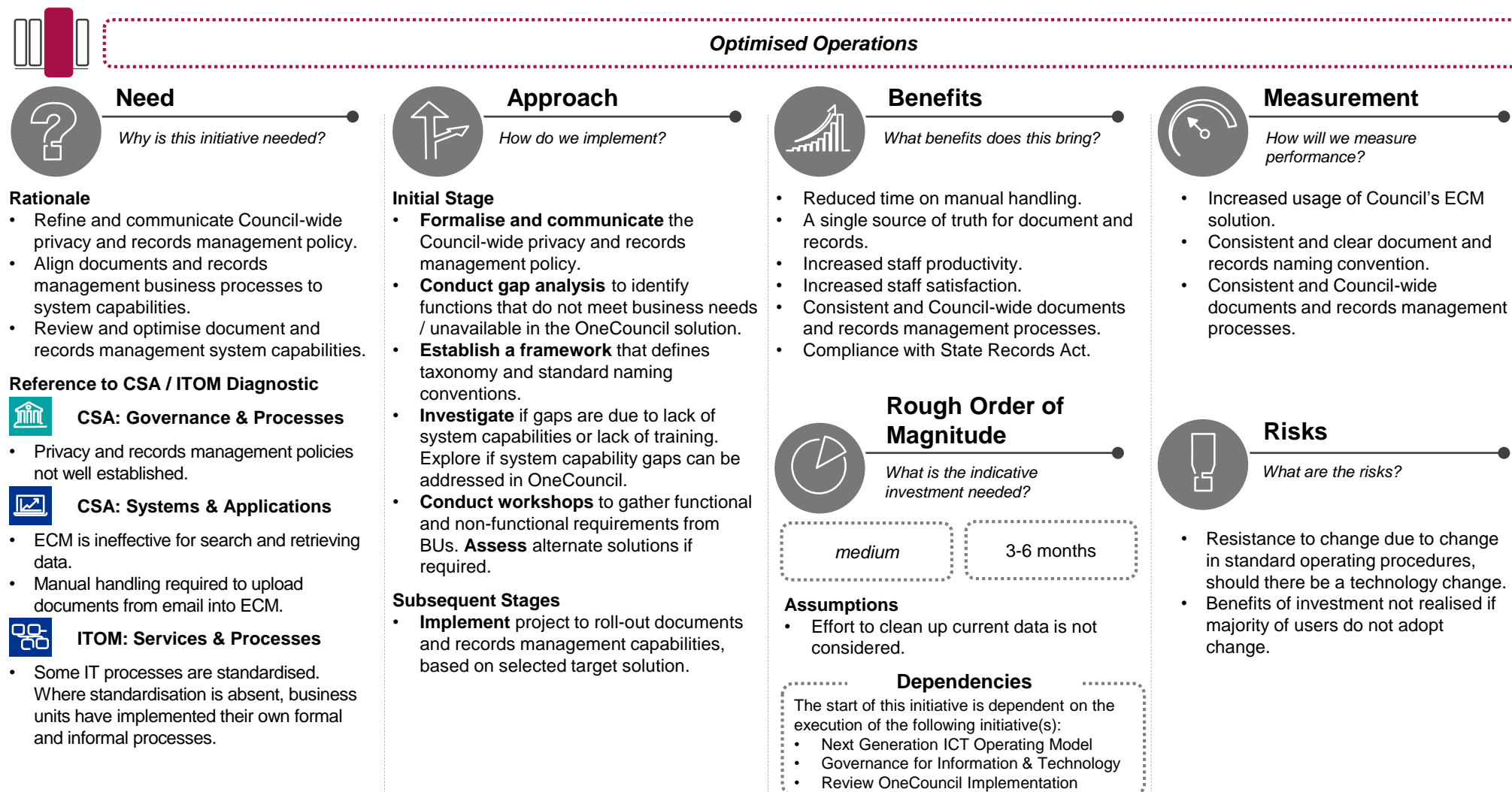
Establish Integration Framework

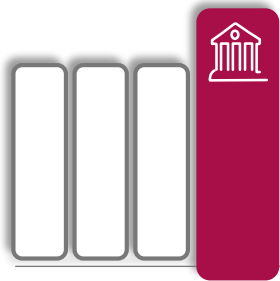
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NCC ICT Vision 2018 - 2020

FUTURE GOVERNMENT

Proactively identifying and exceeding customer expectations of the future through driving agility and connectivity, and ultimately supporting the evolution of Newcastle into one of the leading local governments globally.



Implement Smart City Technology Foundation

The opportunity to improve service efficiency by leveraging Smart Cities is significant. Establishment of foundation core and advanced infrastructure is needed to enable the connection and collection of relevant Smart City initiative data.



Formalise the Open Data Approach

Becoming a 'Regional Information Hub' is dependent on designing an effective open data approach, proactively identifying the relevant internal data to be made available to the community and enabling effective collaboration with customers, other government and industry organisations.



Refresh Cyber Security Framework

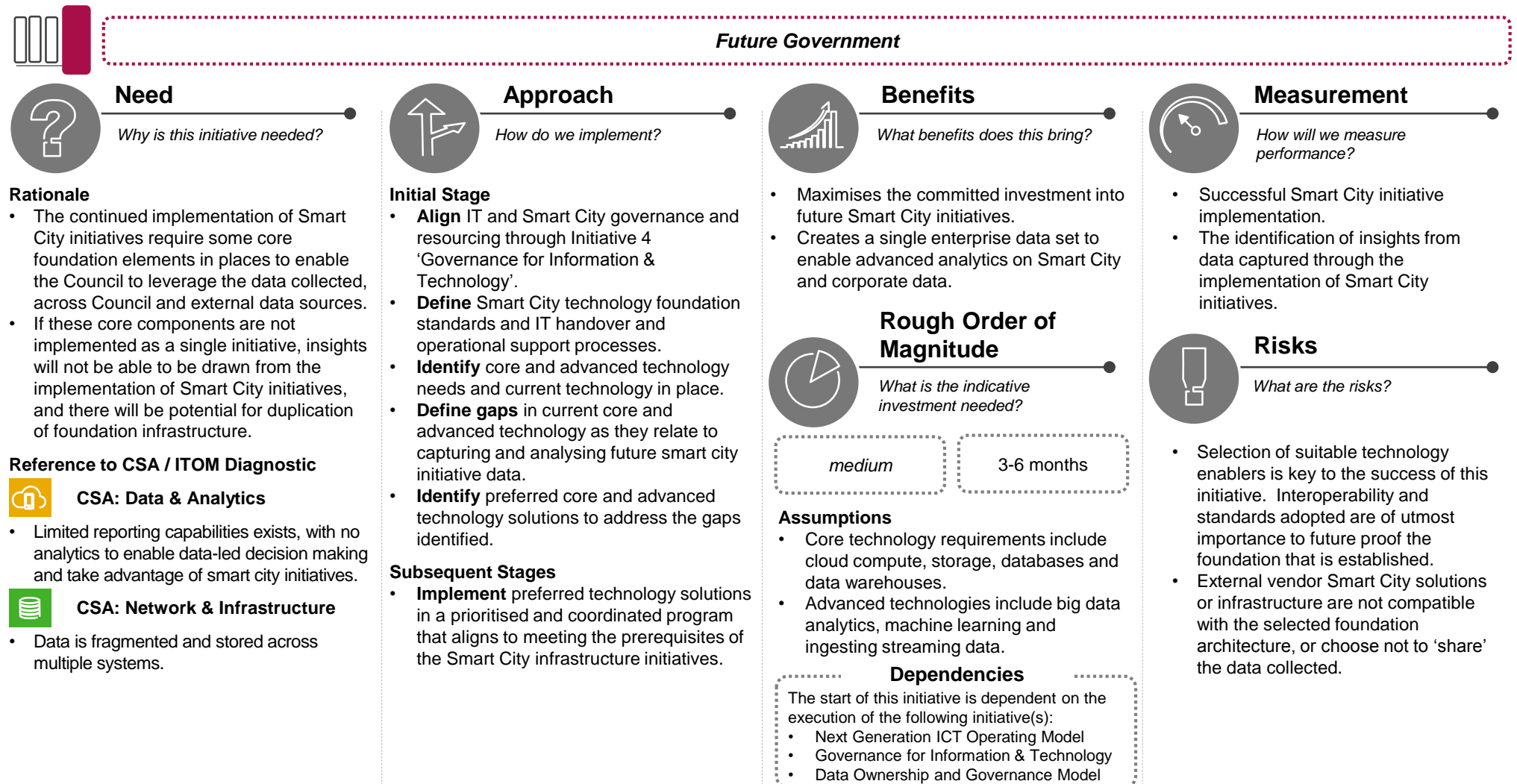
Cyber attacks and data leakage are daily threats to all organisations, reiterating the need for robust risk management frameworks to both safeguard Council and support collaboration with the community through open data.

ICT Initiatives

Implement Smart City Technology Foundation

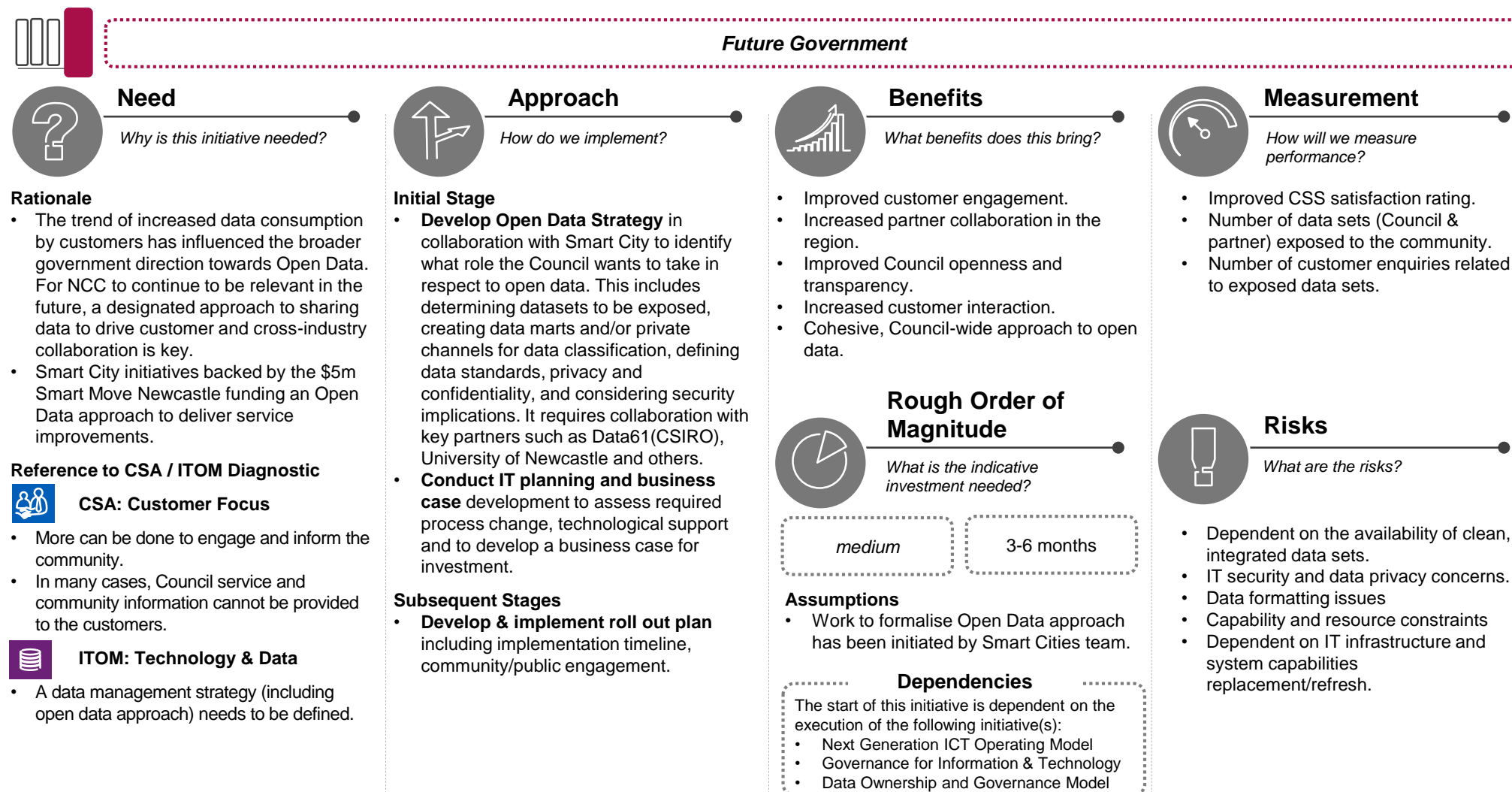
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Future Government



Formalise the Open Data Approach

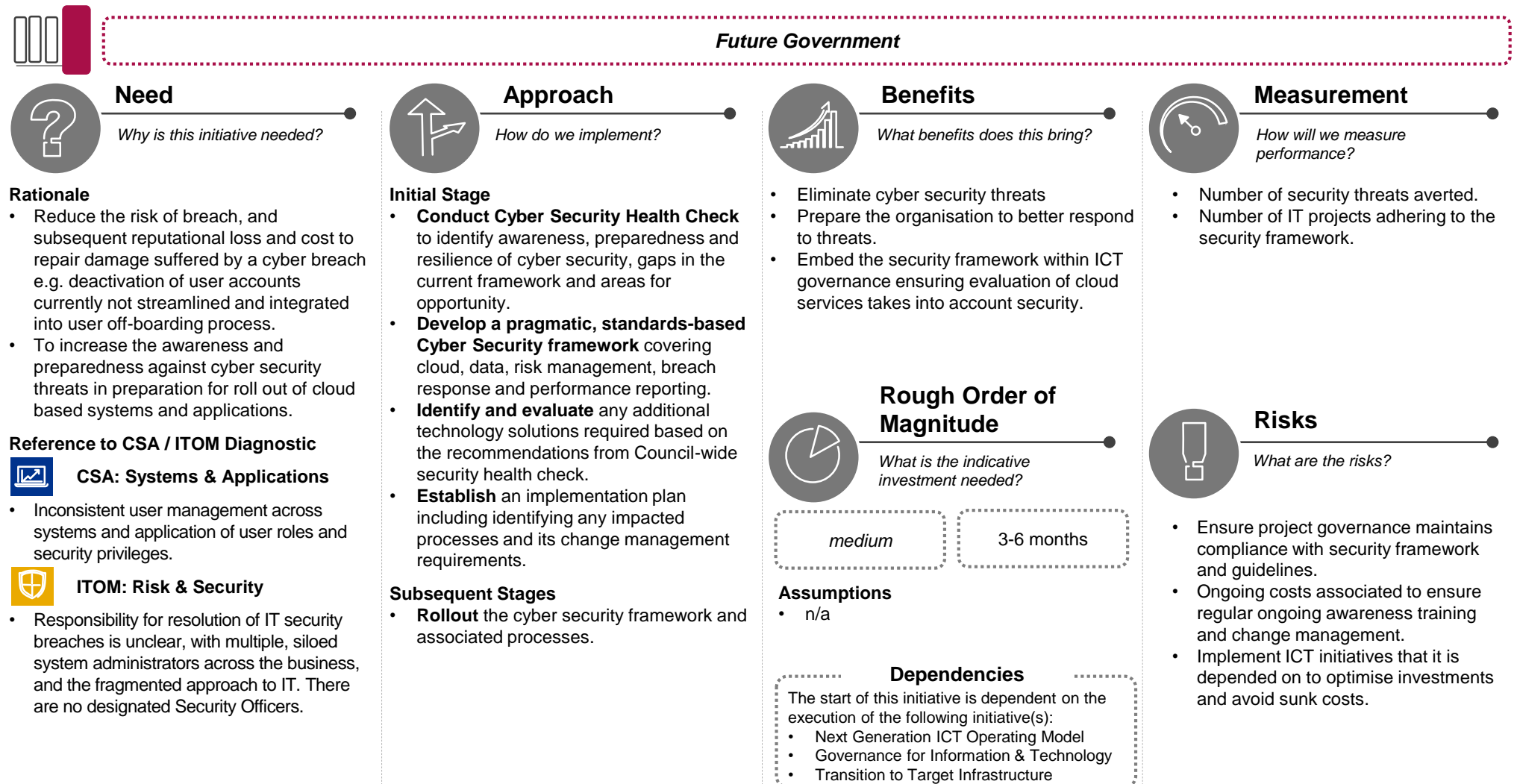
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Future Government



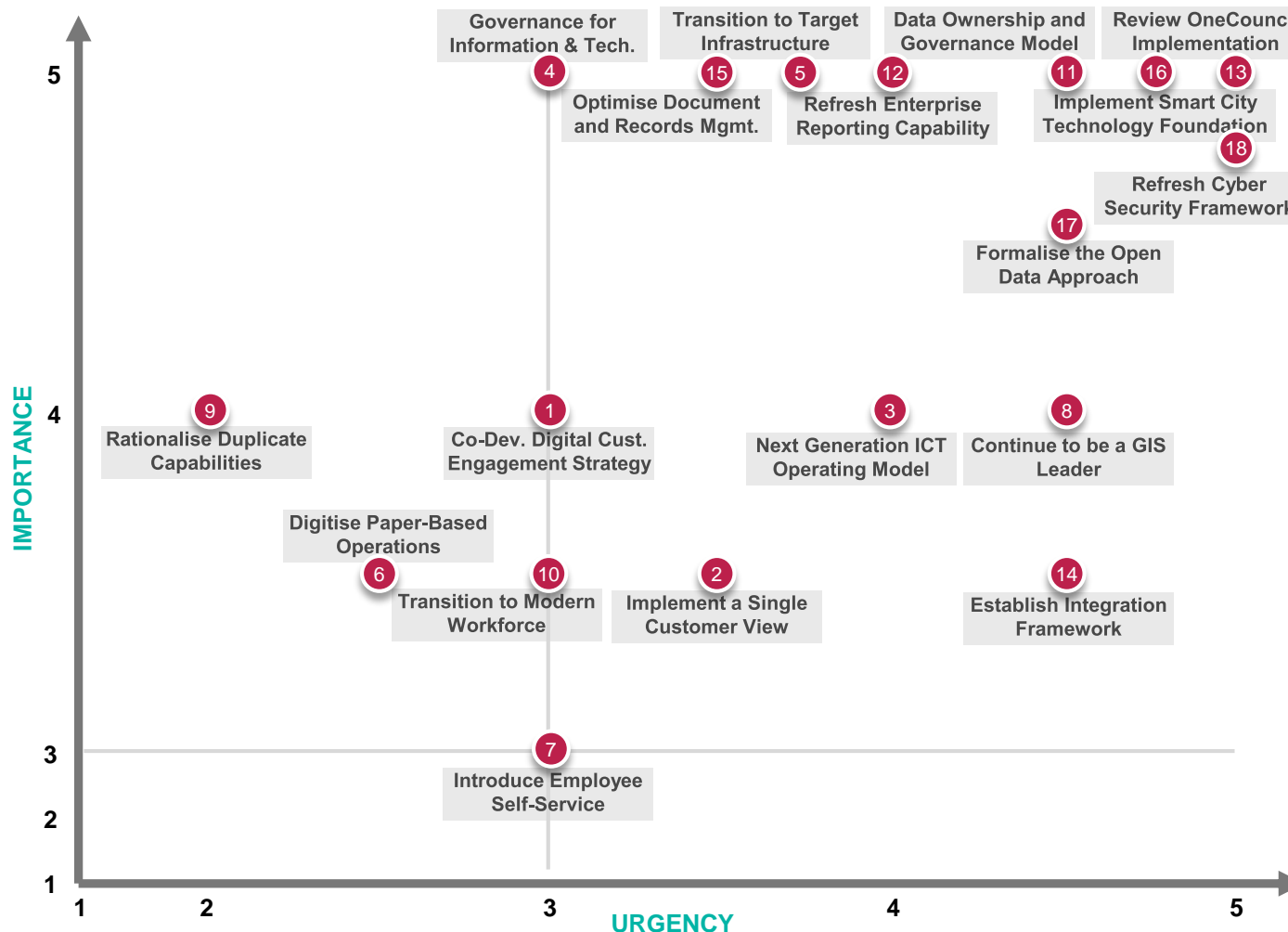
Section 5: ICT Roadmap



Urgency and Importance Defined

Key representatives across the Council's directorates and business units (including IT) have assessed each of 18 ICT initiatives and mapped them on an Urgency-Importance matrix.

16 out of 18 of the initiatives have been mapped on and above the (3,3) axis in the 'Urgent and Important' quadrant.

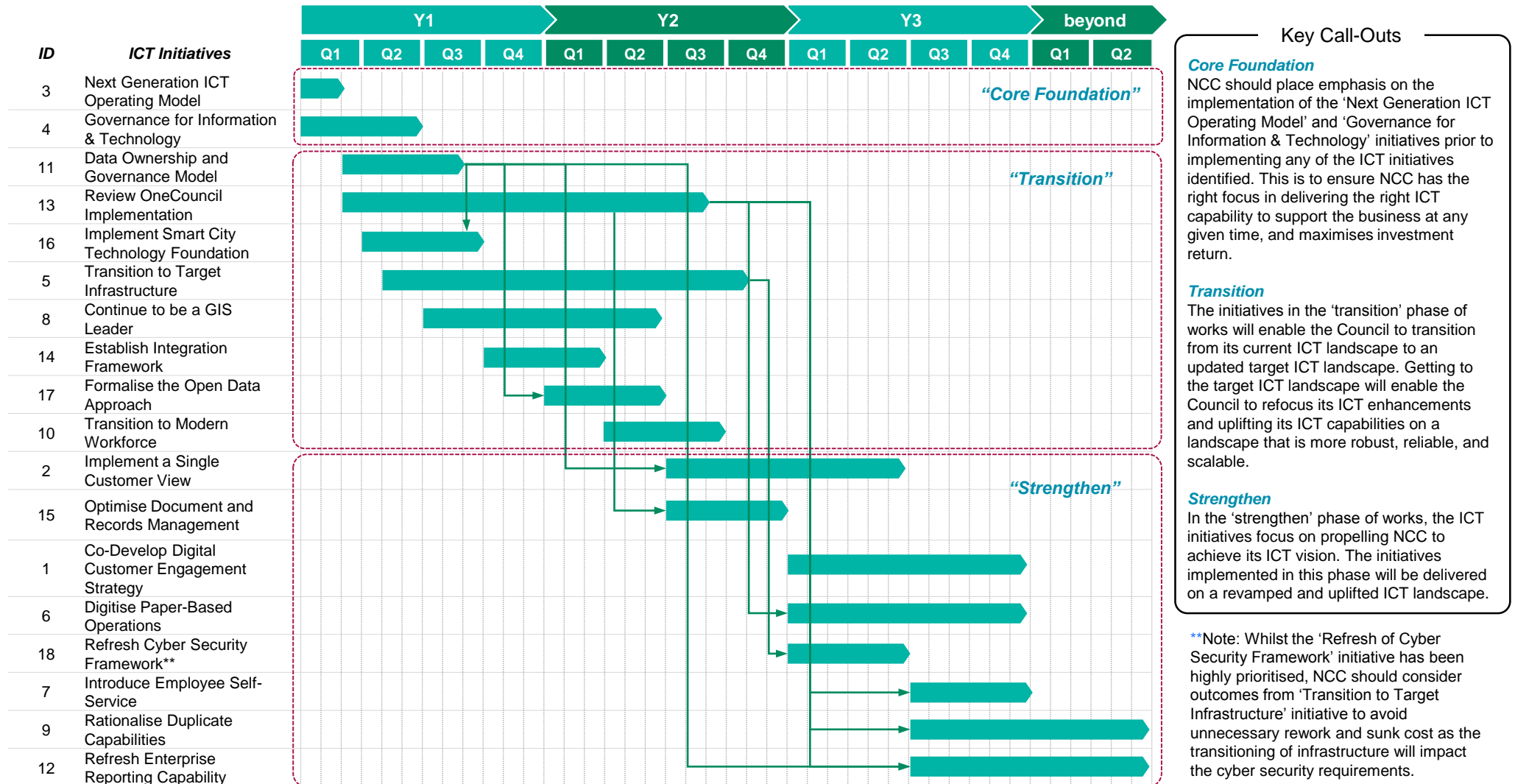


ICT INITIATIVES		PRIORITY	
		U	I
	1. Co-Develop Digital Customer Engagement Strategy	3.00	4.00
	2. Implement a Single Customer View	3.50	3.50
	3. Next Generation ICT Operating Model	4.00	4.00
	4. Governance for Information & Technology	3.00	5.00
	5. Transition to Target Infrastructure	3.75	5.00
	6. Digitise Paper-Based Operations	2.50	3.50
	7. Introduce Employee Self-Service	3.00	3.00
	8. Continue to be a GIS Leader	4.50	4.00
	9. Rationalise Duplicate Capabilities	2.00	4.00
	10. Transition to Modern Workforce	3.00	3.50
	11. Data Ownership and Governance Model	4.50	5.00
	12. Refresh Enterprise Reporting Capability	4.00	5.00
	13. Review OneCouncil Implementation	5.00	5.00
	14. Establish Integration Framework	4.50	3.50
	15. Optimise Document and Records Management	3.50	5.00
	16. Implement Smart City technology Foundation	4.75	5.00
	17. Formalise the Open Data Approach	4.50	4.50
	18. Refresh Cyber Security Framework	5.00	4.75

Note: The definition of the axes and the considerations are described on the "Urgency-Importance Matrix" page in the Appendix.

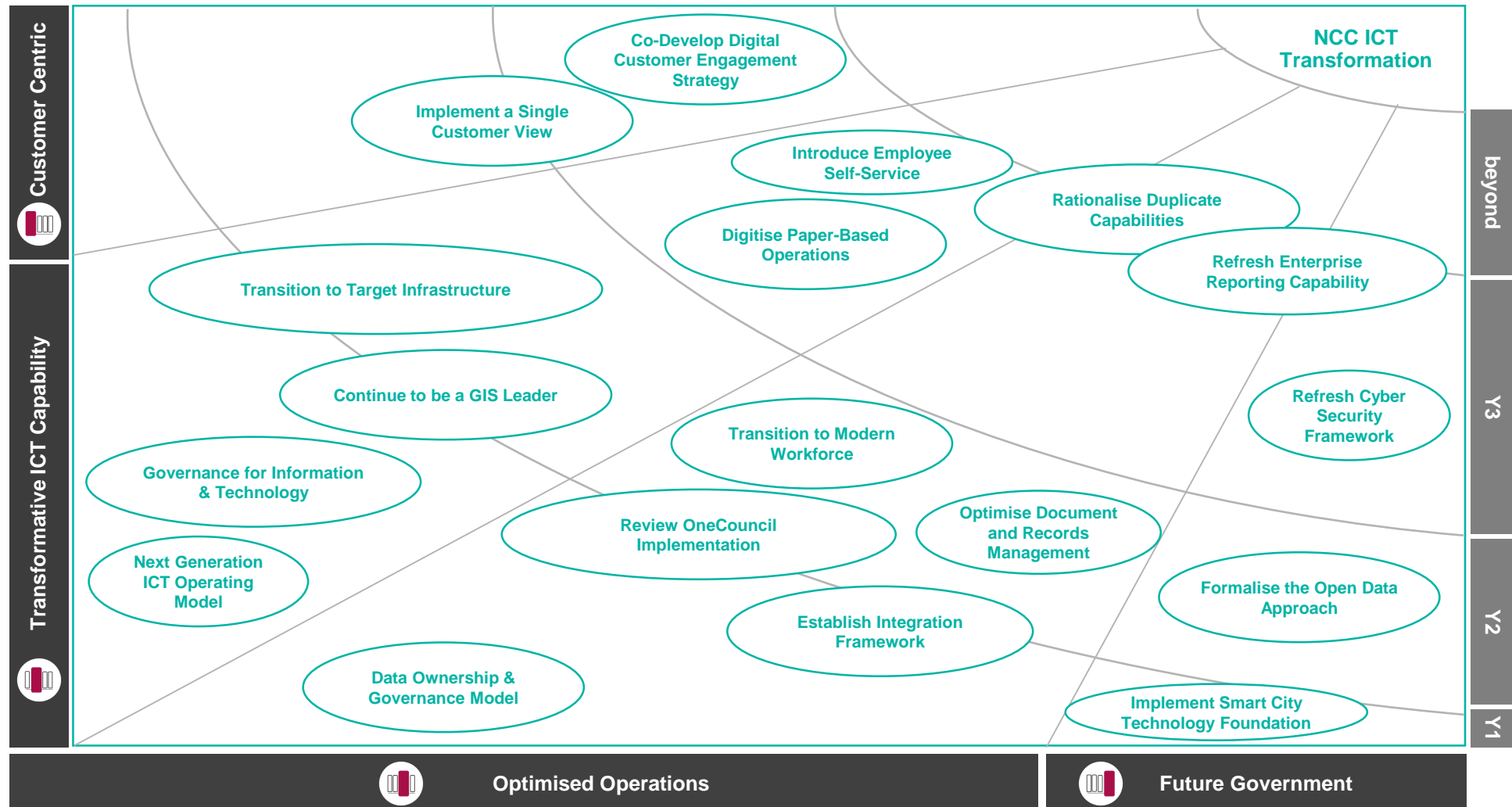
NCC ICT Strategic Plan

The NCC ICT Strategic Plan is a 3+ year plan that encapsulates the 18 ICT initiatives that will address key ICT challenges and help NCC achieve its ICT vision.



An Overview of the ICT Roadmap

The 18 ICT initiatives were mapped on a roadmap toward achieving NCC's transformative ICT ambition where key dependencies and capabilities had been accounted for.



Section 6: Appendix

6.1: Points of View to support the ICT Initiatives

- Our Point of View: Next Gen IT Operating Model
- Our Point of View: Bi-modal IT
- Governance for Information & Technology – Initial Thinking
- Our Findings on OneCouncil
- TechnologyOne's Recommended Approach

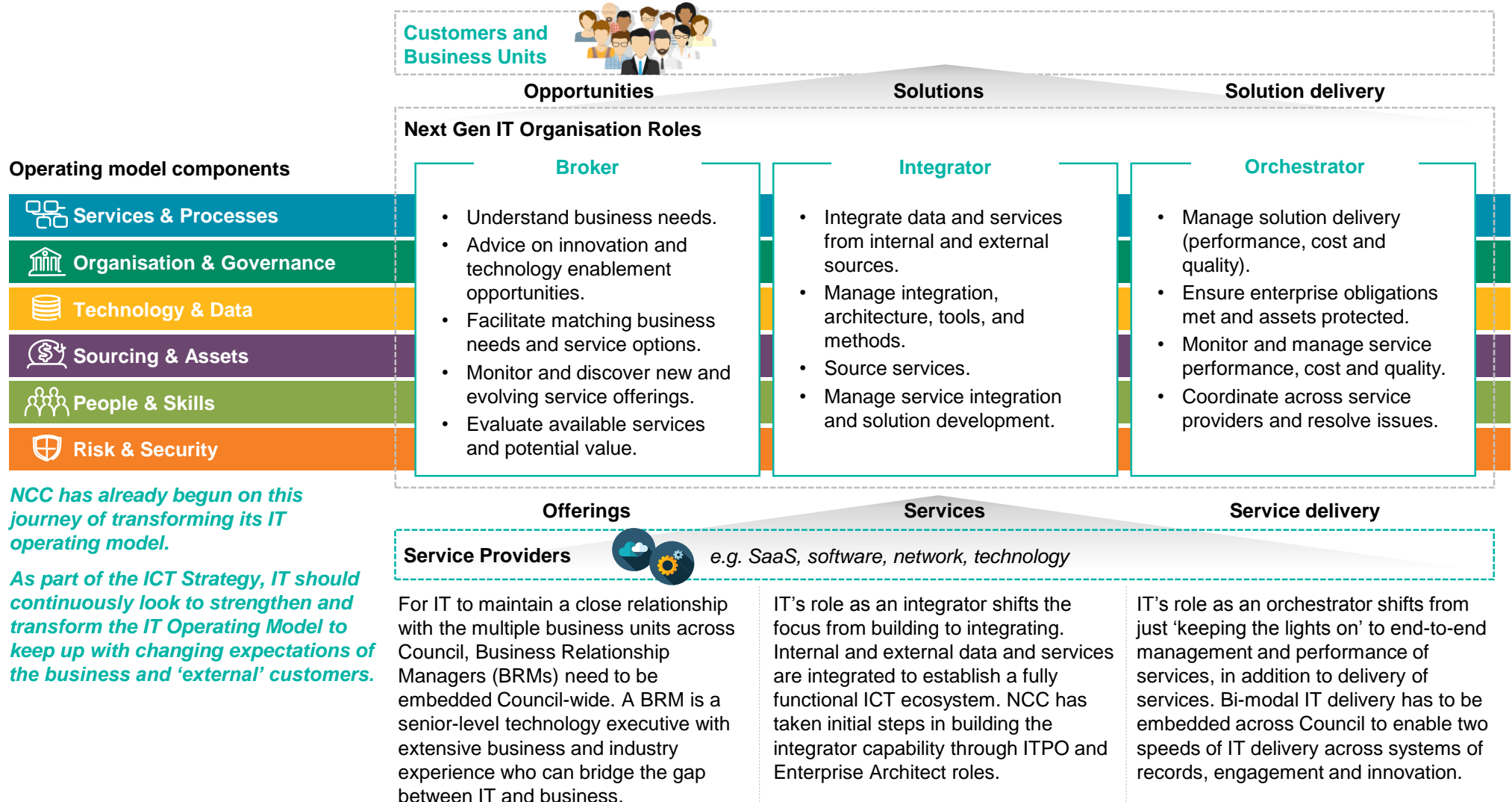
6.2: Additional Information

- Key Considerations for ICT Solution Selection
- Urgency-Importance Matrix
- Participants and Workshops Conducted



Our Point of View: Next Gen IT Operating Model

In the digital age, the business expects a different value proposition from IT. This requires IT to shift its focus into becoming a business partner. The Next Gen IT Operating Model describes three critical roles that IT needs to play – as a Broker, Integrator, and Orchestrator.



NCC has already begun on this journey of transforming its IT operating model.

As part of the ICT Strategy, IT should continuously look to strengthen and transform the IT Operating Model to keep up with changing expectations of the business and 'external' customers.

Our Point of View: Bi-modal IT

Bi-modal IT is the practice of managing two separate modes of IT delivery, one focused on stability and the other on agility. Bi-modal IT is essential for delivery of a successful digitisation strategy.

Think Marathon Runner		Think Sprinter
Mode 1	Drivers	Mode 2
Reliability	Goal	Agility
Price for performance	Value	Revenue, brand, customer experience
Waterfall, V-Model	Approach	Agile, Kanban
Plan-driven, approval-based	Governance	Empirical, process-based
Enterprise suppliers, long-term deals	Sourcing	Small, new vendors, short-term deals
Good at conventional process, projects	Talent	Good at new and uncertain projects
IT-centric, removed from customer	Culture	Business-centric, close to customer
Long (months)	Cycle Times	Short (days, weeks)

Bi-modal IT encourage an organisation to accept that there are two different IT operating models:

- Mode 1 is used for core corporate application environments, which are the “Systems of Record”. The systems that are the owners of core business information and are the backbone of the organisation, for example:
 - ERP
 - CRM
 - Finance, HR and Payroll
 - Infrastructure deployment
- Mode 2 is used for the rapid development and launch of lightweight, digital and mobile services which are “Systems of Engagement”. The systems that require continuous improvement to meet changing customer demands and to maintain relevance in a competitive market for example:
 - Marketing Automation
 - Website
 - Analytics and Business Insights

The architecture concept, which aligns with Bi-modal IT Strategy, is *Pace-layer architecture* that highlights:

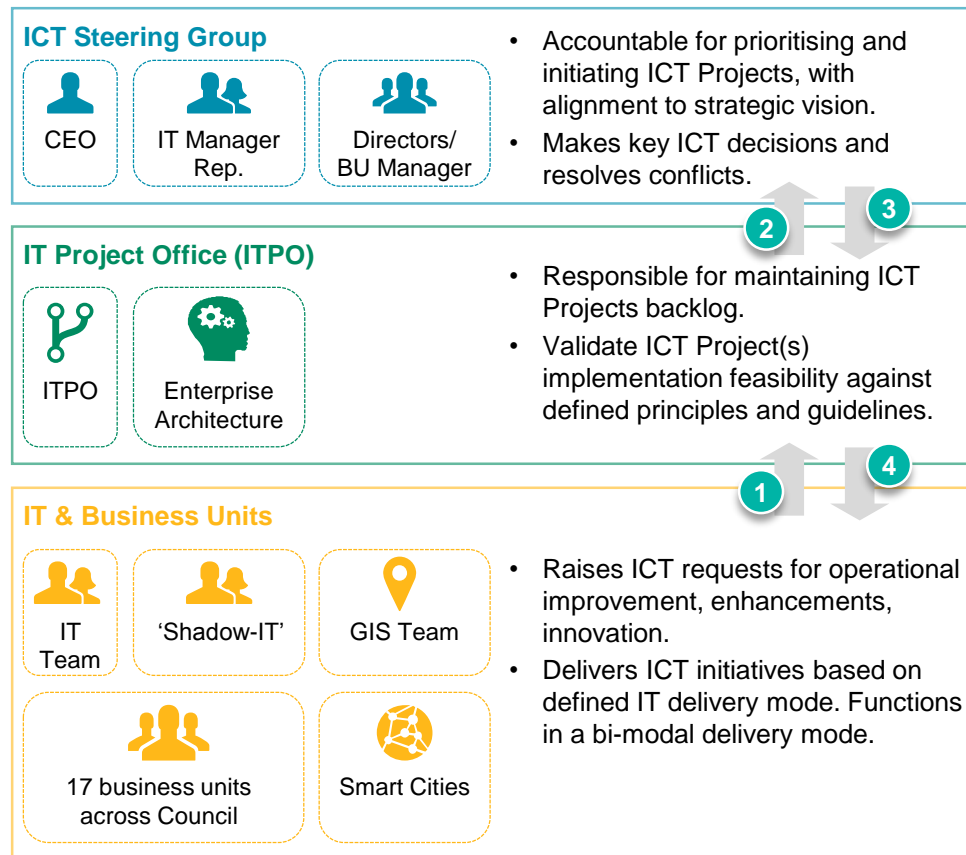
- Systems of Record
- Systems of Differentiation
- Systems of Innovation

Governance for Information & Technology – Initial Thinking

An example of a high level project initiation governance process is highlighted below. This example is only one of the processes that needs to be standardised across all of Council's ICT project governance processes.

ICT Governance – High Level Overview

Illustrative



High Level ICT Governance processes

- 1 Raise ICT Request**
 - IT/Business Unit (BU) raises ICT request for new roll-out or enhancement documented in a Project Charter form.
- 2 Update ICT Project Backlog**
 - ITPO creates new record in the ICT Project Backlog for prioritisation and decision by ICT Steering Group
 - ITPO validates implementation feasibility, indicates risks and dependencies.
 - Provides start date of ICT initiative based on Council-wide ICT project plan.
- 3 Prioritise and Decide**
 - Utilising a standardisation prioritisation framework, prioritise ICT initiatives.
 - Revise and update ICT Project Backlog where required.
 - Makes key decisions with alignment to Council-wide business vision and objectives.
 - Confirm start date of ICT initiatives.
- 4 Mobilise and Deliver**
 - ITPO determine mode of delivery – agile, waterfall, etc.
 - ITPO identifies available resources and mobilises project team
 - Project team (with BU representation) delivers the project.

Note: The ICT Governance illustrated is a high-level representation and used to guide initial discussions. Detailed design of the ICT Governance framework and processes will need to be performed as described in the *Governance for Information & Technology* initiative to provide NCC with a Council-wide ICT Governance that is effective and reliable.

Our Findings on OneCouncil

Based on our current state assessment and findings, we have identified 6 key OneCouncil themes and recommend each of these areas to be further analysed as part of the “Review OneCouncil Implementation” initiative, to identify future solution options and define a clear path forward.

Theme 1.



Heavily Customised

- Modules within OneCouncil have been heavily customised to meet business needs. Key modules customised include Integrated Planning and Optimisation (IPO), Property & Rates (P&R), and Works & Assets (W&A).
- Heavy customisation adds complexity and constraints on NCC's ability to upgrade to newer versions and taking advantage of new functionality released by TechnologyOne e.g. CiAnywhere.
- Further analysis is required in conjunction with TechnologyOne to identify alternate solutions available to address the required functionality without customisations.

Theme 3.



Performance Issues

- The legacy version of the OneCouncil platform has displayed performance issues impacting user experience (ability to finish tasks in a timely manner) and user adoption (depend on manual workarounds). An example we have heard; it takes approximately 9s to load a screen in OneCouncil while facing a customer.
- The root cause of the performance issues has not been fully investigated and could be related to either the system design, infrastructure or are the by-product of heavy customisations within the core modules.
- Deep-dive analysis across these possible root causes is required before a solution can be identified.

Theme 5.



Limited Usability

- Some of the core modules of OneCouncil provide poor user experience e.g. 4 screens required to be populated in the P&R module, searching in the ECM is clunky and manual drag and drop of files is required to upload a file into ECM.
- Further analysis is required in conjunction with TechnologyOne to identify how the user experience can be improved either in the current version or the functionality in the newer version.

Theme 2.



Not a Fully Integrated Solution

- The version of OneCouncil at NCC consists of 4 core modules within a single platform that are not fully integrated, even though the product was sold as an integrated solution.
- This has led to duplication of information across the core modules which has led to operational inefficiencies and manual workarounds across the Council eliminating benefits that could have been realised by a single integrated cross-council platform.
- TechnologyOne has advised that the latest OneCouncil version (on the CiAnywhere SaaS model) has been re-architected and is fully integrated. However, this needs to be tested.

Theme 4.



Business Needs not Fully Met

- Key feedback from most business units on OneCouncil is that the current version does not fully meet their business needs e.g. asset management functionality not fully met.
- We believe this has led to customisation of the application to meet NCC's current business processes rather than looking at possibility of aligning the business processes with the built-in functionality.
- Any decision on the future of OneCouncil should take into consideration a detailed review of the business requirements and validating their fit against the solution and level of configuration available.

Theme 6.



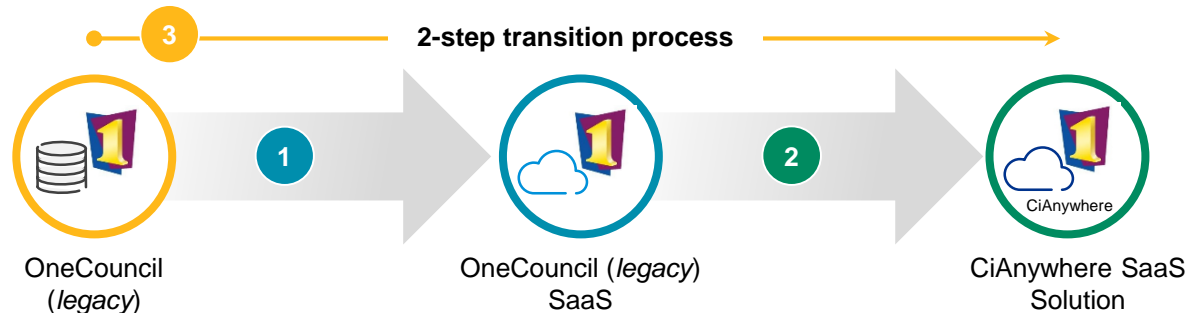
Lack of Change Management and Ongoing Training

- The OneCouncil solution has been rolled out without proper change management, training and handover from the vendor to the IT team.
- External consultants have been engaged to conduct training initially. However, there are currently no change managers / agents or trainers to support change and training across the Council.
- Establish a detailed change management plan to address on-going training, implementation and roll-out of core solution modules or platform.

TechnologyOne's Recommended Approach

We have understood from TechnologyOne that the path forward is to migrate the current NCC OneCouncil solution to CiAnywhere SaaS solution which will provide an integrated solution and potentially address some of the concerns highlighted with the current version.

Transitioning from NCC's current OneCouncil version to the CiAnywhere SaaS solution is a **2-step process**.



Key Considerations for NCC at each stage of transition are as follows:

1 Transition legacy on premise to legacy SAAS

- The aim of this step is to **eliminate customisations** built into the legacy solution into a standard OneCouncil environment.
- For NCC detailed analysis on the **impact on business processes** due to loss of customisations is required.

2 Transition legacy SaaS to CiAnywhere SaaS

- **Data migration** from legacy data model to CiAnywhere data model.
- **P&R module** for NSW is due to be released in 2018, **understanding the impact** of potentially not having a fully functional P&R module in the interim.
- Establishing an **integration framework** to ensure data flows between CiAnywhere SaaS and any required on premise applications.

3 Overall Transition Program Considerations

- **Dependency on integration approach** and platform to enable integration between the SaaS model and other NCC on premise applications.
- **2-step Change Management approach** (transitioning to TechnologyOne legacy SaaS and then to CiAnywhere SaaS) and its feasibility.
- **Validate the modules** that are currently available and the roadmap for future releases and **cross-reference case studies**.

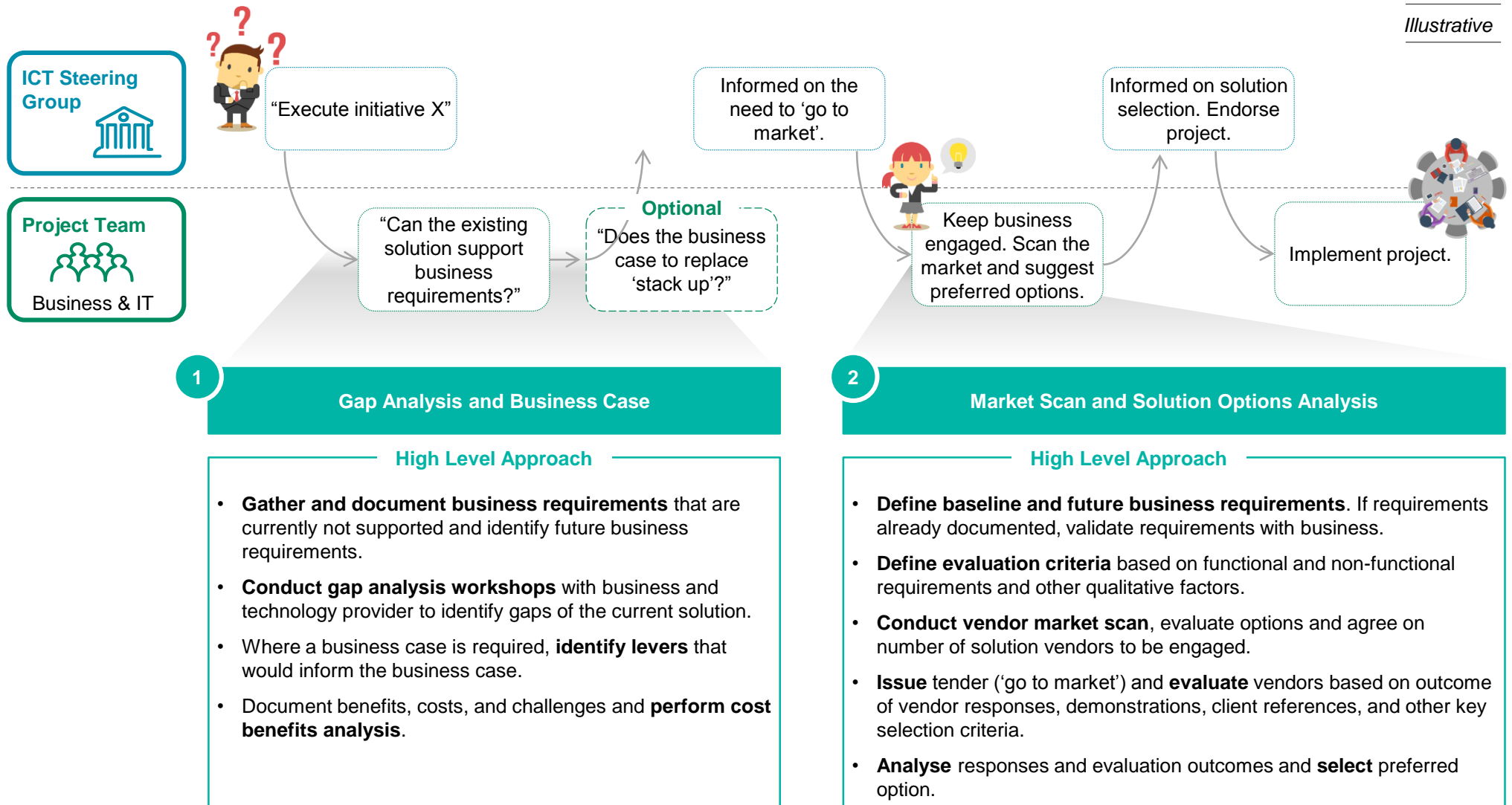
Our recommendation

The 'Review OneCouncil Implementation' initiative has been suggested to ensure a comprehensive assessment is carried out on the future of OneCouncil at NCC with the key reasons being:

- **Maximise return on investment** by working in collaboration with TechnologyOne to identify options available to overcome the issues identified, eliminating customisations and establishing a roadmap for the transition.
- **Transitioning to alternate solution(s)** and moving completely away from TechnologyOne will incur significant **Re-investment** and disruption both from business and IT, in part due to contractual obligations with TechnologyOne and the costs related to evaluating, designing, implementing and the change management required to support transition to alternate solution(s).
- **Capture detailed requirements** as part of the assessment which will benefit NCC regardless of the decision to upgrade to CiAnywhere or implement a new solution.

Key Considerations for ICT Solution Selection

Proper processes and check-points have to be enforced to ensure centralisation and transparency of ICT project delivery. High-level approach is outlined below for NCC's consideration when designing the Next Generation ICT Operating Model.



Urgency – Importance Matrix

The Urgency-Importance Matrix was utilised in the Initiatives Prioritisation workshop to allow participants to discuss and assess the urgency and importance of each of the identified ICT initiatives.

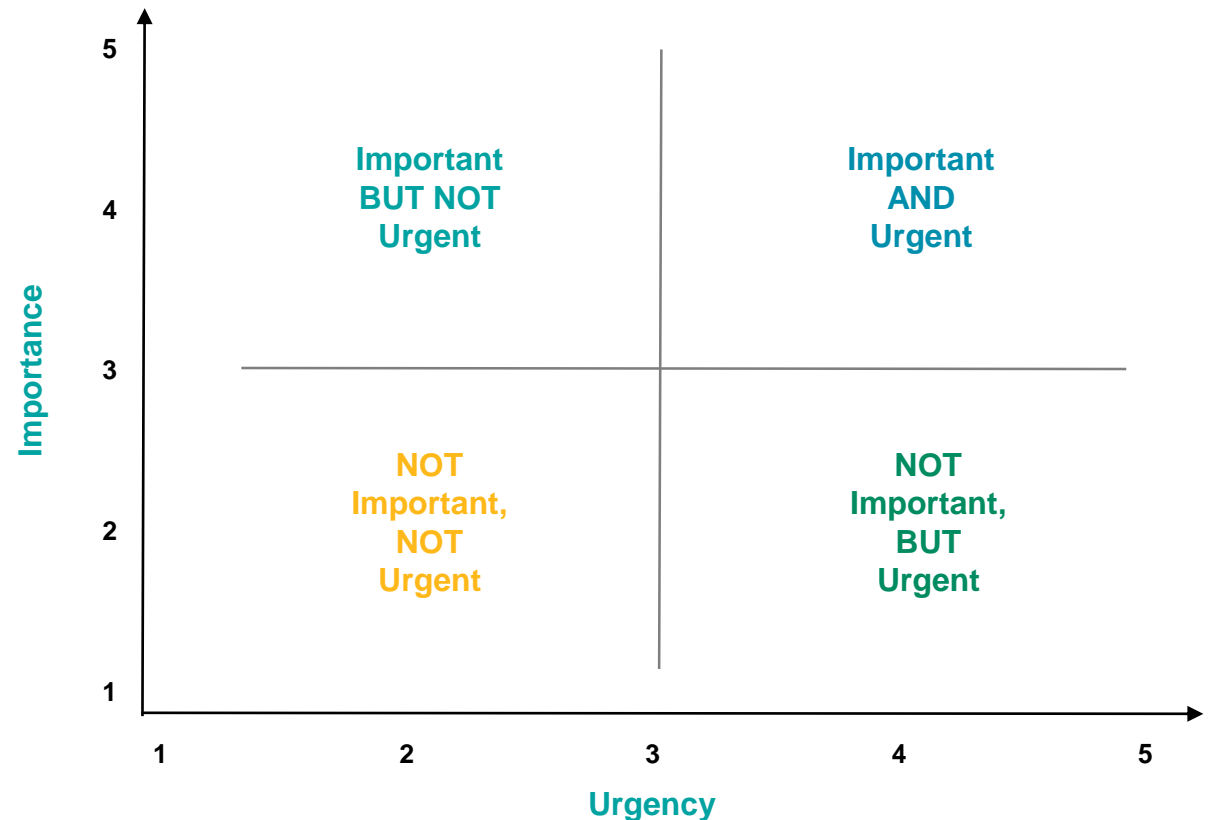
- **Urgent** means that a task requires immediate attention. These are the to-do's that shout "Now!". Urgent tasks put us in a reactive mode, one marked by a defensive, negative, hurried, and narrowly-focused mindset.
- **Important** tasks are those that contribute to our long-term mission, values, and goals. Sometimes important tasks are also urgent, but typically they're not. When we focus on important activities we operate in a responsive mode, which helps us remain calm, rational, and open to new opportunities.

Considerations for the Urgency axis:

- What is the foundation (before we can implement others)?
- What is not working today and needs to be fixed ASAP?
- What can be done to eliminate staff frustration?

Considerations for the Importance axis:

- What can help us be the best Council in Australia?
- What can improve staff productivity?
- What can increase our operational effectiveness?
- What can help us save costs?



Participants and Workshops Conducted



