

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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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

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.

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.

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.

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.

- Co-develop Digital Customer Engagement Strategy
- Implement a Single Customer View
- 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

- 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

- Implement Smart City Technology Foundation
- Formalise the Open Data Approach
- Refresh Cyber Security Framework

ICT initiatives identified



The Path Forward

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.



Discovery

Understand the Council's vision that underpins the ICT Strategy

- NCC and KPMG teams mobilised and ready.
- Defined deliverables for the ICT Strategic Plan project.
- Agreed level of detail of analysis.
- Kev drivers and outcomes ("Vision") that underpins the ICT strategy considered.



Exploration & Current state

Understand Council's current ICT challenges and pain points

- Key challenges and pain points identified across Council.
- Expectations aligned and future opportunities discussed.
- Current state ICT landscape analysed.
- IT diagnostics and benchmarking performed.



Strategy **Development**

Establish guiding principles, future state of ICT, and identify ICT initiatives

- ICT Strategic Plan quiding principles established.
- Future state ICT landscape defined.
- ICT initiatives identified with clear alignment to Council's ICT Vision.
- The need, approach, benefits. rough order of magnitude, and risks of initiatives analysed and presented.



Strategy & Roadmap

Prioritise ICT initiatives and develop roadmap to bring strategy to life

- · Priority of ICT initiatives agreed across Council, represented by kev stakeholders and decision makers.
- ICT roadmap developed with considerations of key dependencies and capabilities.







Current State Assessment

Current State ICT Landscape

Delivering meaningful outputs





- **Future State ICT Landscape**
- 18 ICT Initiatives



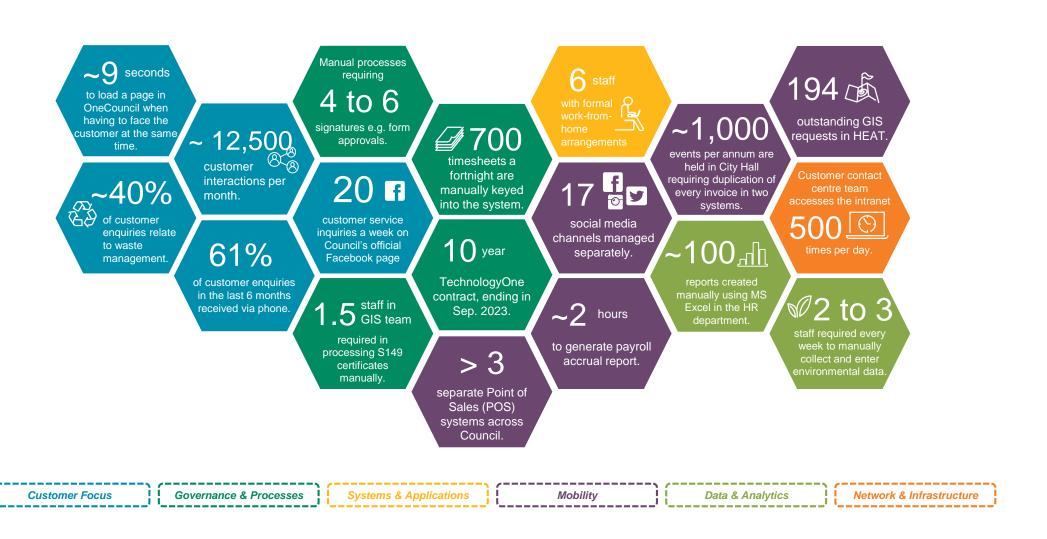
- **Urgency-Importance Matrix** (Priority of Initiatives)
- ICT Roadmap





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.



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.



Customer Focus

To become a more customer focused and service-led Council.

We don't focus enough on communicating with our customers to understand their actual needs

We could do more to engage and inform the community operating as a "regional information hub"

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

We need to get better at updating customers, especially with 'closing the loop'

Customers want access to self-serve capabilities across digital & mobile channels



Governance & **Processes**

We are not very effective at enforcing the

prioritisation of projects.

We don't enforce ICT change management and (on-going) training for employees

To provide systems that are intuitive, efficient and support business processes.

Council-wide policies for legislation compliance are inconsistent e.g. privacy and records mamt

We are vet to develop. communicate & govern a Council-wide policy for mobility & working remotely

Our business processes across the Council are inconsistent.



Systems & **Applications**

There are redundant steps that could be avoided to optimise the usability of 'OneCouncil'

We have gaps in our current 'OneCouncil' system, it does not serve all our needs

We have a lot of systems and a lot of new initiatives, but not much consideration is given to connecting systems

Our systems don't support communication and collaboration across our entire organisation



Mobility

To establish a modern workforce by enabling mobility across the Council.

Our large mobile workforce have a limited ability to take advantage of smart devices and applications to complete work in the field efficiently

Some staff have devices however do not have the applications, process or training to take advantage of a mobile device

It is difficult to help our customers in the field quickly and efficiently due to a lack of process and equipment which would make customer contact to fit their needs



Data & Analytics

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

Data capture across the Council is inconsistent, duplicated and inefficient, with limited rules and processes in place

Reporting and generation of management dashboards is cumbersome and time-consuming

We are unable to provide our customers with access to 'on-demand' data to meet their everincreasing expectations



Network & Infrastructure To improve underlying infrastructure to support new ways of working, increasing efficiency and productivity.

Complex server infrastructure hosted internally to support core business systems with IT team predominately focused on operational activities

Connection to internet and council systems across our network of buildings and operations is inconsistent creating frustration for staff

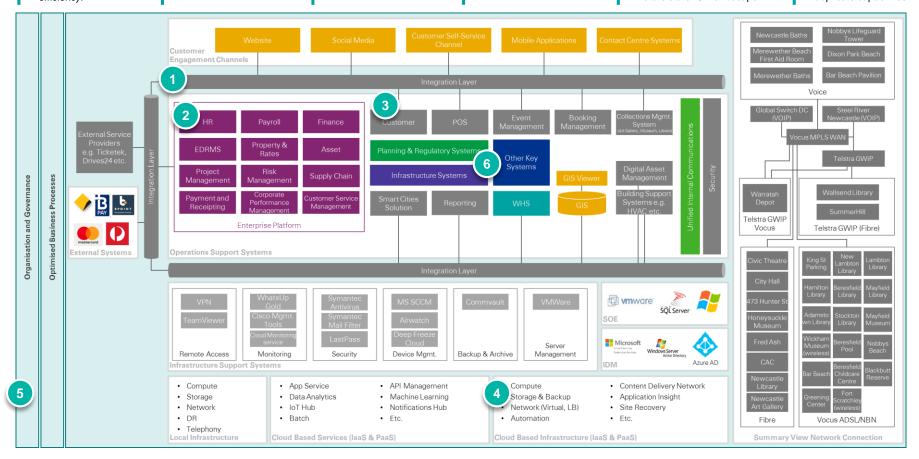
There is limited ability to work remotely as and when required, delays are experienced when staff need to be in the office to complete certain tasks

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.

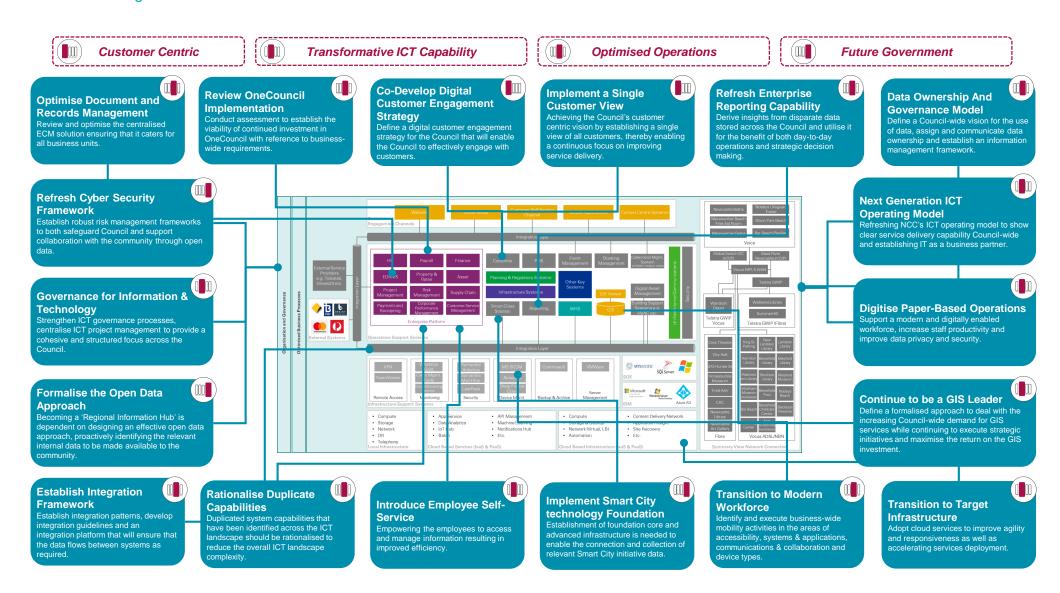
Key Highlights

- An integration layer (consider iPaaS) that enables systems integration for increased operational efficiency.
- Rationalisation of duplicate system capabilities to simplify ICT landscape for reduced ongoing operational costs.
 - 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.
- Refreshed IT operating model, governance, and alignment to business processes as overarching elements that informs the future state ICT landscape.
- 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.



ICT Initiatives

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
000	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.	mediui	m 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.	mediui	m 6-12
	7. Introduce Employee Self-Service: Empowering the employees to access and manage information resulting in improved efficiency.	mediui	m 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.	mediui	m 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.	mediui	m 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.	mediui	m 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.	mediui	m 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.	mediui	m 3-6
	15. Optimise Document and Records Management: Review and optimise the centralised ECM solution ensuring that it caters for all business units.	mediui	m 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.	mediui	m 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.	mediui	m 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

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

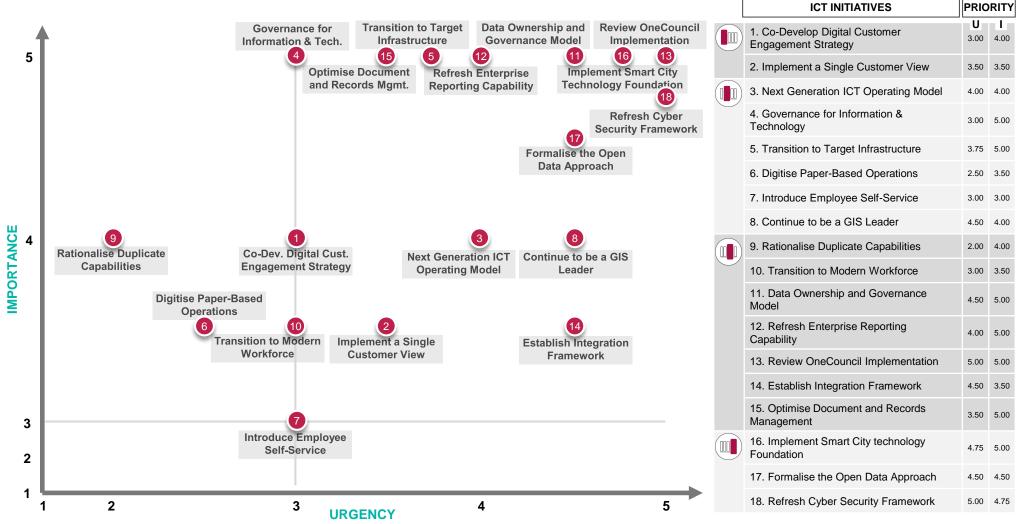


Enable Council-wide change management by appointing change agents and managers across the business units. Ensure that the change agents / managers are informed of the planned change in the Council's business, processes or IT capabilities. Change agents / managers would be responsible to deliver training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

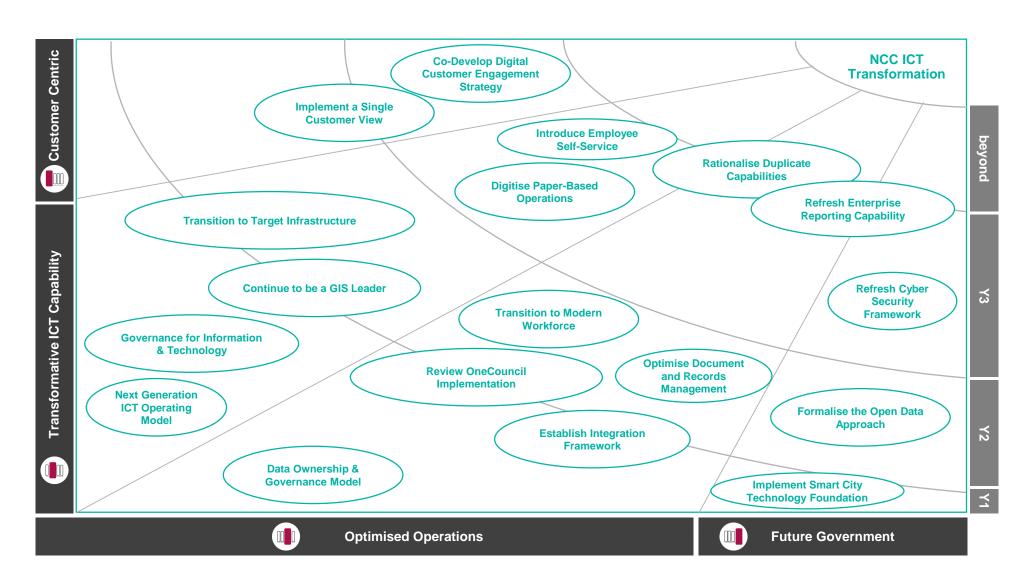
16 out of 18 of the initiatives have been mapped on and above the (3,3) axis in the 'Urgent and Important' quadrant.



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

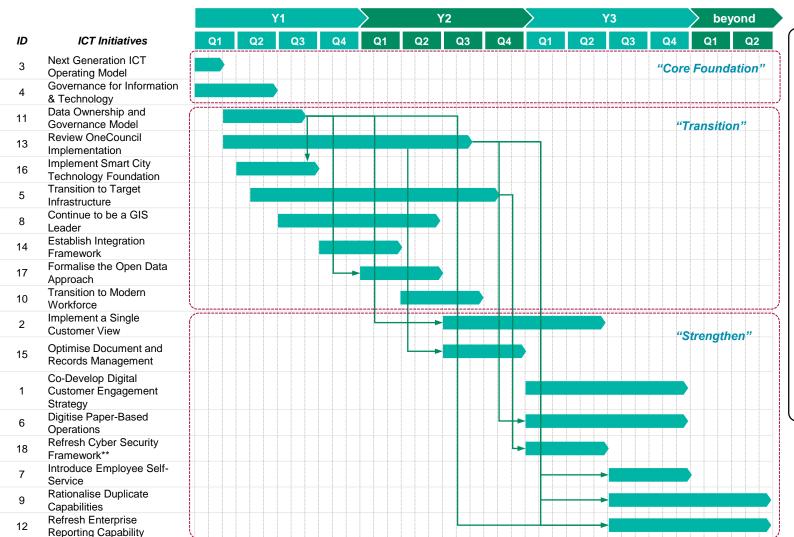
An Overview of the ICT Roadmap

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.



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.



Key Call-Outs

Core Foundation

NCC should place emphasis on the implementation of the 'Next Generation ICT Operating Model' and 'Governance for Information & Technology' initiatives prior to implementing any of the ICT initiatives identified. This is to ensure NCC has the right focus in delivering the right ICT capability to support the business at any given time, and maximises investment return.

Transition

The initiatives in the 'transition' phase of works will enable the Council to transition from its current ICT landscape to an updated target ICT landscape. Getting to the target ICT landscape will enable the Council to refocus its ICT enhancements and uplifting its ICT capabilities on a landscape that is more robust, reliable, and scalable.

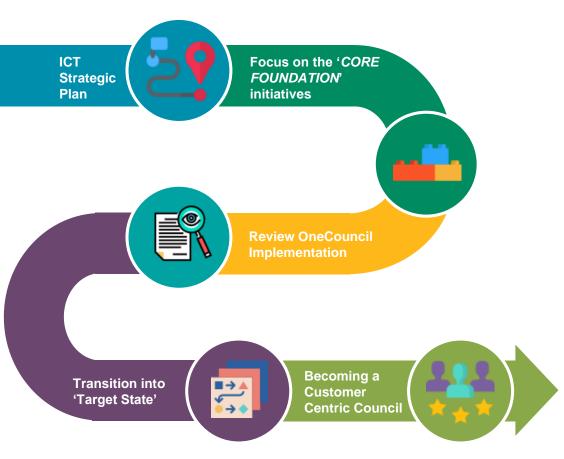
Strenathen

In the 'strengthen' phase of works, the ICT initiatives focus on propelling NCC to achieve its ICT vision. The initiatives implemented in this phase will be delivered on a revamped and uplifted ICT landscape.

**Note: Whilst the 'Refresh of Cyber Security Framework' initiative has been highly prioritised, NCC should consider outcomes from 'Transition to Target Infrastructure' initiative to avoid unnecessary rework and sunk cost as the transitioning of infrastructure will impact the cyber security requirements.

The Next Steps

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.



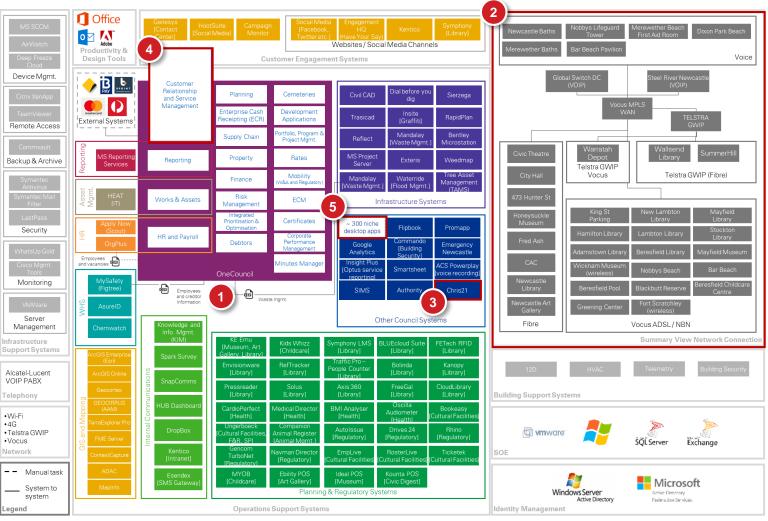
Becoming a Customer Centric Council

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.



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

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



To become a more customer focused and service-led Council.

We don't focus enough on communicating with our customers to understand their actual needs

We could do more to engage and inform the community operating as a "regional information hub"

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

We need to get better at updating customers, especially with 'closing the loop'

Customers want access to self-serve capabilities across digital & mobile channels



We are not very effective at enforcing the prioritisation of projects.

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To establish a modern workforce by enabling mobility across the Council.

To provide systems that are intuitive, efficient and support business processes.

Council-wide policies for legislation compliance are inconsistent e.g. privacy and records mamt

We are yet to develop, communicate & govern a Council-wide policy for mobility & working remotely

Our business processes across the Council are inconsistent.

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There are redundant steps that could be avoided to optimise the usability of 'OneCouncil'

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Data & Analytics

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Network & Infrastructure

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

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

Complex server infrastructure hosted internally to support core business systems with IT team predominately focused on operational activities

Connection to internet and council systems across our network of buildings and operations is inconsistent creating frustration for staff

There is limited ability to work remotely as and when required, delays are experienced when staff need to be in the office to complete certain tasks

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:



Current State Findings: 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

- 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



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.
- 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

- 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



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

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.
- 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

the Council as a 2 min task now takes 10 mins

- 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.

- 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.

Current State Findings: 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.

- 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



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.

- 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



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

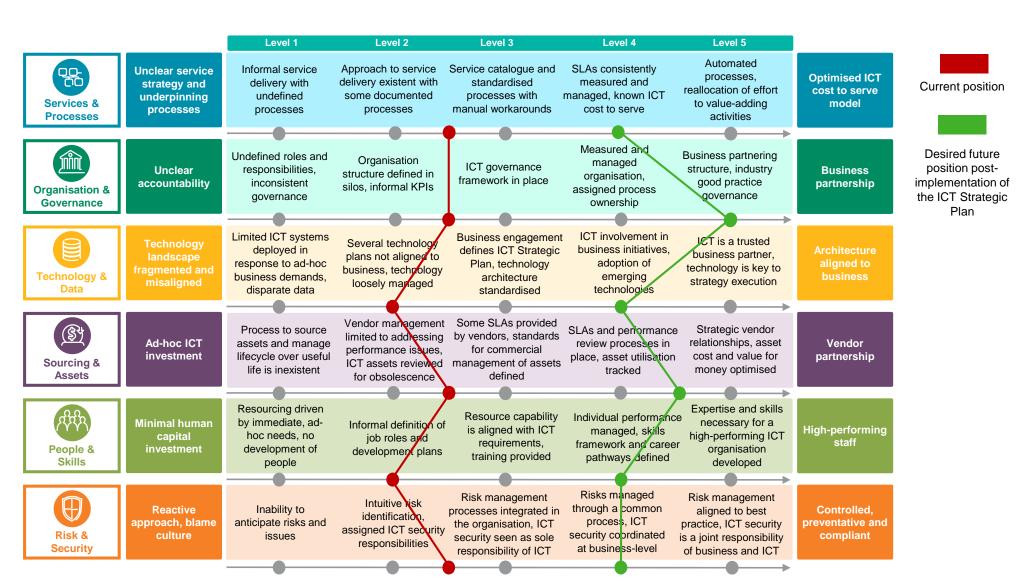
Most of the Council's core business systems are managed internally with the IT team responsible for ensuring system availability, scalability and reliability. e.g. Council staff have highlighted that the system performance can be quite slow

- 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

- 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 a 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.



Services & Processes

Level 5

Automated processes,

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

Level 3

Service catalogue and

Level 4

SLAs consistently

Level 2

Approach to service

delivery existent with

Level 1

Informal service

Unclear service

Services & Processes	underpinning	ry with undefined processes some doc proce	umented	standardised processes with manual workarounds	measured and mai	0 ,	to serve model
	Current Po	osition: 2.5		Transitional Perio	od	Future Posit	ion: 4
ICT Services	No service catalogue outlining exists ICT resources are currently in capacity leading to a focus or support instead of on proactive.	high demand and lack reactive and operational	and o proce frame	ervices and service catalogue documented with supporting sesses and procedures in placed around the customer and itery channels are identified to port.	standards, e. They are innovative	ICT service delivery strategy and p catalogue) are developed with alig Plan and associated strategies. Services are customer-focused an and externally through innovative	nment to the Council and delivered internally
Processes	There is lack of controls and pofend to end service delivery maintenance and enhanceme Some IT processes are stand standardised processes, direct have implemented their own fand procedures based on ind further encouraging segregate system use across the organical ending of the service of t	life cycles, including service ent across the IT organisation. lardised. In the absence of ctorates and/or business units formal and informal processes ividual business requirements, ed working practices and	acros works impro is exo • ICT p unde cons	ocesses are defined and star is the IT organisation. Manual arounds may still be required overments will be recognised a ecuted. Processes are standardised, or rstood across the organisation stent and efficient working prim use.	al fixes and , but as the strategy embedded and on enabling	ICT processes are automated, ope contribute to an efficient and produ focused on improved service deliv effort to more strategic and value-	uctive environment ery and a reallocation of
Service Desk	The service desk and GIS teasupport and most issues go to contact. While key business for manual workarounds are still Key SLAs for IT services exist managed or measured consistence.	o them as the first point of unctions are supported, required. t, but are not actively	and 2 go to • All SI	service desk and GIS teams p 2 support, and the great majo them as the first point of con As are documented, monito ely managed.	ority of issues atact.	The service desk and GIS teams r closure, with clear escalation point support, as documented in the ICT SLAs manage and control IT servi and agreed with the business.	ts for more technical Γ process model.
Financial Management	There is an approach to finan does not result in a transpare of the ICT cost to serve the box	nt and complete measurement		ncial management is formalis understanding of ICT cost to less.		Financial management processes transparent ICT cost to serve mod proactive management of ICT servence.	lel to enable detailed and

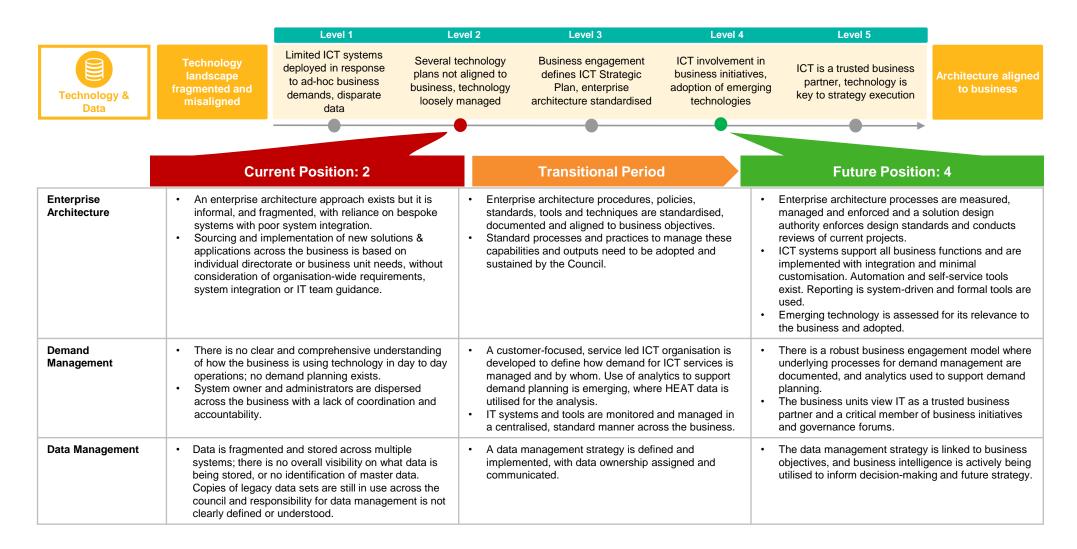
Organisation & Governance

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.

	Level 1	Level 2	Level 3	Level 4	Level 5		
Organisation & Governance	Unclear accountability Undefined roles and responsibilities, inconsistent governance	Organisation struction defined in silos, info	II I dovernance	Measured and manage organisation, assigned process ownership		Business partnership	
	Current Position: 2.5		Transitional Per	iod	Future Position	n: 5	
ICT Governance	There is a high level governance framev Steering Group and reporting to the Exe Management Team Strategic Meetings. The Steering Group meetings are irregu of the Council outside of the IT team are to ICT governance. This has impacted visibility for senior least staff alike and affected Council's ability the strategically implement end-to-end projectific councils.	cutive ap ar and parts ac not subject pe dership and w	ne ICT governance framework is oplicability and updated. It included documented procedures and dopted across the ICT function a erformance management and important to the procedure of the proce	des standardised processes, that are and monitored for aprovement.	 ICT governance processes are based on results of continuous improvements and proactive resolution of issues. Additionally, they are integrated with the organisation-wide governance processes. Development, governance and execution of multiyear ICT strategy. 		
ICT Organisational Structure	 ICT roles and responsibilities are not de understood. Some IT responsibilities are by non-IT staff in the business, with non involvement, leading to duplication of we making IT support complex to provide. KPI's exist but are not well understood racross the organisation. 	being borne et to limited IT Kork and Corporation of the corporation o	Troles and responsibilities are ocumented, communicated and Pls measured and monitored. Torganisational structure is alignerating model and service catalos or duplications.	linked to individual gned to the overall	 ICT organisational structure uses a variety of reporting lines to adopt business partnering (e solid-line reporting relationships within the IT organisation and dotted line to the business si Roles and responsibilities are tied to individua organisational KPIs. 		
Decision-Making	 The use of data analytics and formal and reporting tools to drive decision making inconsistent across the function. Prioritis framework is in place. Data is available but segregated and hig required to extract data from the respect consolidate it and subsequently generat support informed decision making. 	s an article and article article and article article and article and article article article and article article article an	ecision-making is driven by busi nalytics and formal tools that are nalysis and reporting activities a eas. ata owners and data governanc allow integration and improved upport decision making.	e in place to perform cross key functional e model is defined •	Data ownership is clearly defined enabling reinforcement of data ruimprovements in data practices treporting for the organisation. Data analytics and business inte decision-making across the busin 'data-led' organisation.	ules and ro ensure accurate	

Technology & Data

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.



Sourcing & Assets

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.

		Level 1	Leve	el 2	Level 3	Level 4	Level 5	
Sourcing & Assets	Ad-hoc ICT investment	Process to source assets and manage lifecycle over useful life is inexistent	Vendor mar limited to ac performanc ICT assets re obsolese	ddressing e issues, eviewed for	Some SLAs provided by vendors, standards for commercial management of assets defined	SLAs and performance review processes in place, asset utilisation tracked	Strategic vendor relationships, asset cost and value for money optimised	Vendor partnership
						•		
	Curr	ent Position: 2.5			Transitional Period	d	Future Position	n: 4.5
Overall Processes	Sourcing & implementation of new solutions and applications across the business is based on individual directorate or business unit needs and not business-wide requirements, system integration or IT team guidance. Some panel arrangements are in place. There is no common understanding across Council of roles and responsibilities regarding the sourcing of technology solutions. IT Asset Register exists and assets are reviewed for obsolescence.			The business engages the IT team as the first point of contact for procurement of ICT systems. Standards, policies and procedures for IT procurement requests and retirements are standardised and formalised across the organisation. A Software License Register is created, updated periodocially and an annual audit carried out across both IT Asset and Software License Registers.			 A robust, mature commercial management function is embedded to rigorously govern and implement standards, policies and procedures regarding IT sourcing. IT asset management (software licenses & assets) is continuously improved; asset utilisation is tracked and enhanced to maximise use over the asset life and support ongoing decision making. 	
Performance Management	 A number of vendors are being managed outside of the ICT function. Vendor management is largely informal and focused on the contract negotiation stage (e.g. payment schedule types) and data is not available to support sourcing decision making. Major projects use common criteria for vendor selection and Service Level Agreements (SLAs) are mainly dictated by vendor Contracts and vendor performance are not consistently evaluated, monitored or managed across the organisation. 		 Before contracts are signed, the ICT department jointly agrees SLAs and performance review processes with vendors. Appropriate responsibility and accountability for vendor management is ensured on transition from IT Projects to the business. Vendor management, including performance measurement and value for money assessment, is performed formally with reporting against commercial terms and KPIs. 		e review Intability for Irransition from IT Irransce Intable assessment, is Irransition from IT Irransitio	 Standard commercial levers are used consistently to protect the commercial interest of the business, and advanced commercial levers are used for projects that have significant business impact. This process helps develop strategies to address underperformance and compliance failures whilst building strategic vendor relationships. All performance measures are incorporated into contracts and regularly reviewed, ensuring value for money and overall compliance over the lifetime of contracts. 		

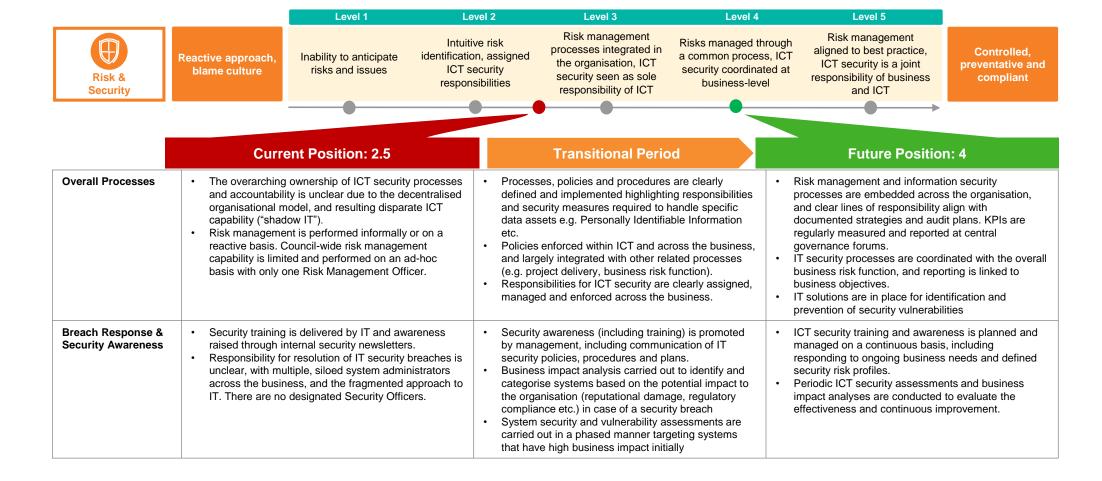
People & Skills

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.

		Level 1	Leve	el 2	Level 3	Level 4	Level 5	
People & Skills	Minimal human capital investment	Resourcing driven by immediate, ad-hoc needs, no development of people	Informal defin roles and dev plan	/elopment	Resource capability is aligned with ICT requirements, training provided	Individual performar managed, skills framework and care pathways defined	necessary for a high- eer performing ICT	High-performing staff
					•			
	Cur	rent Position: 2			Transitional Perio	od	Future Position	n: 4
People Planning & Resourcing	Resource capability, people planning and management processes are limited and not aligned to business needs. Business units have taken to upskilling their staff in department-specific ICT solutions, creating 'shadow IT' teams. Key processes such as professional development and training are driven by the Human Resources (HR) department; IT have limited control and visibility over how they are defined, documented and executed.			manage and exec HR team These re have the impleme IT team planning	Resource capability, people planning and nanagement processes are defined, documented nd executed consistently, in collaboration with the IR team. These realigned processes enable the IT team to ave the right skills and training to successfully applement the ICT Strategic Plan. Team has started the implementation of succession lanning to enable cross-divisional movements to xpose staff in various roles. Resource capability is mo ongoing basis, with forms capabilities. Identified gap immediately via development with professional development with professional development are embedded tracked, managed and sustrategy.			ws of skills and addressed ans or recruitment. work is established, and succession plans. ent processes & ss the organisation,
Job Profiles & Career Development	date, with staff r overlapping role well understood • Clear professior training procedu attempts at succ • There is an info capabilities in th	ofessional development (including formal procedures are not in place. Irregular s at succession planning have been made.		individua council of skills frai • All staff I and succ and prov • Framewand capa	and succession plans, with formal training supported and provided.		Job profiles are well defined, aligned with the business objectives. Individual KPIs are well understood, measured and monitored. Clear career pathways are defined with adequate formal training and certification to support a moderr IT function. IT team becomes a trusted business partner and ar enabler based on proven capability to provide effective support.	

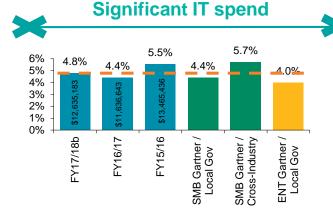
Risk & Security

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.

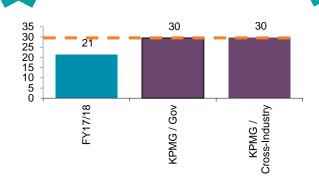


ICT Performance Benchmarking

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%)
- Average Across Benchmarked Data Set

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)

Performance Impacts

- Significant, ever-increasing costs of maintaining and supporting the ICT environment, which could be better used in gaining access to new technology to drive change
- Independent IT investment decisions made by the business units resulting in an inability to holistically manage IT spend to deliver performance improvements and expected returns
- No single source of truth as a result of multiple data silos and lack of trust in the data integrity
- Substantial productivity loss from data manipulation, manual processing and reconciliation required for reporting
- An aging and reactive communication and technology infrastructure that lacks business controls across different areas of the organisation
- Field workers' inability to effectively operate when delivering customer-facing services
- A host of standalone systems which are expensive to maintain and primarily on-premise based

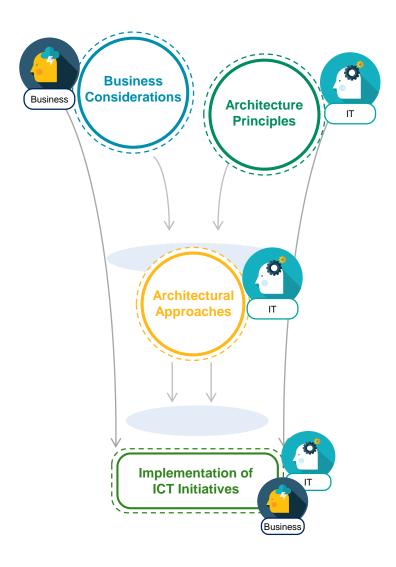
Source: Gartner Key IT Metrics Data 2017 - Midsize Enterprise; Enterprise reports; KPMG Source Benchmarking Tool

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 midsize enterprise with less than \$1bn in revenue. We have selected the \$250 million to \$500 million for annual revenue.



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



- No duplication of capabilities across systems within the Council ICT landscape.
- A modern and consistent user interface / presentation layer across the enterprise.

Integrated and consistent end to end business processes aligned to modern best practice.

• Open systems that allow for standardised integrations, enabling easier data exchange and eliminating double entry of data.



Cloud First

- · 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

- 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

- 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

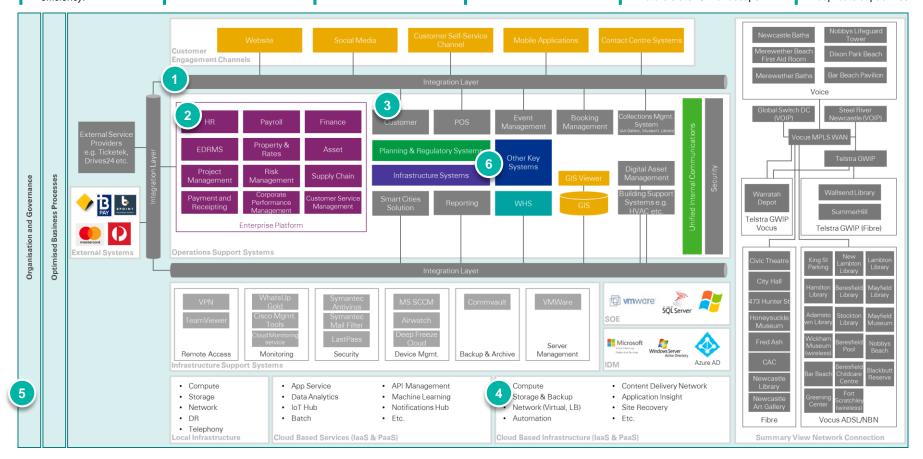
- Grouping of enterprise capabilities that provides agility to Council to execute and manage change with relative independence.
- The approach is grouping of applications based on the pace of change required e.g. core applications "systems of records" change introduced is not regular and any change is 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.

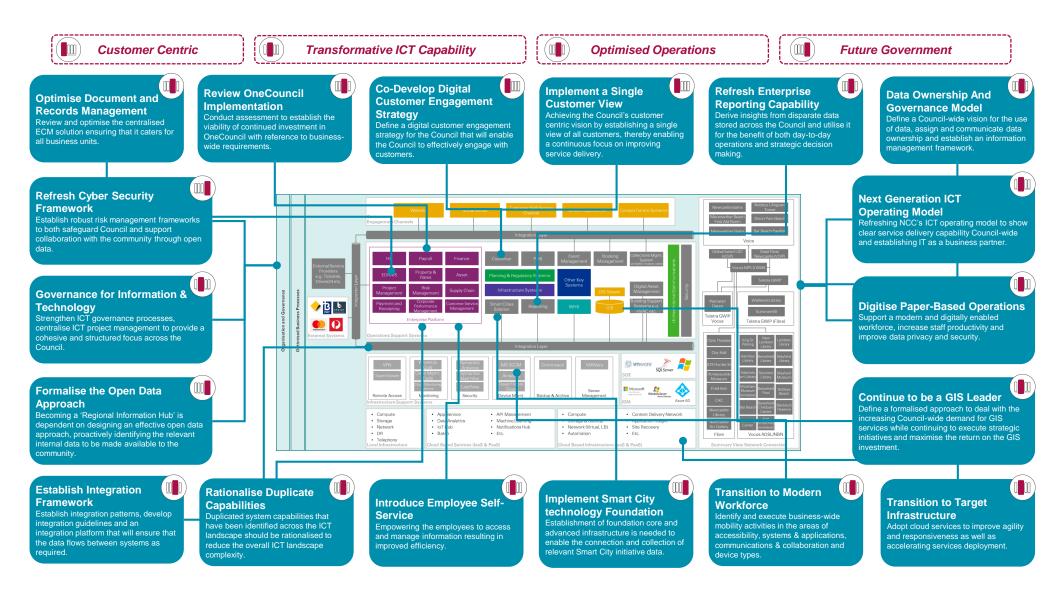
Key Highlights

- An integration layer (consider iPaaS) that enables systems integration for increased operational efficiency.
- Rationalisation of duplicate system capabilities to simplify ICT landscape for reduced ongoing operational costs.
 - 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.
- Refreshed IT operating model, governance, and alignment to business processes as overarching elements that informs the future state ICT landscape.
- Existing directorate-specific applications highlighted in the current state landscape to be reviewed and rationalised to eliminate duplicate capabilities.



ICT Initiatives

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.



ICT Initiatives

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
		\$	month
	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.	mediur	n 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	12-1
	6. Digitise Paper-Based Operations: Support a modern and digitally enabled workforce, increase staff productivity and improve data privacy and security.	mediur	<i>n</i> 6-1
	7. Introduce Employee Self-Service: Empowering the employees to access and manage information resulting in improved efficiency.	mediur	n 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.	mediur	n 6-1
	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.	mediur	n 6-1
	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.	mediur	n 3-
	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.	mediur	n 6-1
	13. Review OneCouncil Implementation: Conduct assessment to establish the viability of continued investment in OneCouncil with reference to business-wide requirements.	high	12-
	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.	mediur	n 3-0
	15. Optimise Document and Records Management: Review and optimise the centralised ECM solution ensuring that it caters for all business units.	mediur	n 3-
	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.	mediur	n 3-
	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.	mediur	m 3-

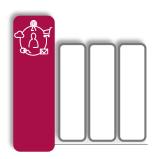
18. Refresh Cyber Security Framework: Establish robust risk management frameworks to both safeguard Council & support collaboration with the community through open data.

medium

3-6



Customer Centric – 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.



Need



Why is this initiative needed?

Rationale

- Customers expect communication as well as to engage with the Council in digital, mobile ways, similar to other service providers, and the expectation is broader than just enabling electronic transactions in eServices.
- Significant effort is required to deal with ~12,500 customer enquiries a month.

Reference to CSA / ITOM Diagnostic



CSA: Customer Focus

- Customer self-service is limited to one-way website forms, information cannot be provided to customers efficiently.
- Challenges in responding to and closing off customer queries effectively.



ITOM: Services & Processes

 Limited understanding of how IT services support external customer service delivery.



Approach

How do we implement?

Initial Stage

- Leverage Customer Service Survey and other data (such as customer enquiries database) to map current state customer engagement, including planned self-service channels.
- Co-develop a Digital Customer Engagement Strategy that maps customer journeys (including, but not limited to ratepayers) and identifies engagement touch-points, including self-service.
- Identify and prioritise the data and services which customers expect to be enabled and the delivery channel i.e. self-service.
- Review the basis for the decision to implement eServices, and the solution's ability to support the Digital Customer Engagement Strategy.
- Define the digital self-service channels approach and technology roadmap.

Subsequent Stages

- Implement the Digital Customer Engagement Strategy, relevant solution and associated processes.
- **Implement** digital self-service channels.



Customer centric

Benefits

......

What benefits does this bring?

- Reduced demand on customer services team freeing them up to do more innovative and valueadded tasks.
- A clear and consistent approach to customer engagement, enabling customer-centricity.
- Improved awareness of Council services.



Measurement

How will we measure performance?

- Reduced number of customer enquiries, including repeat and follow-ups.
- Reduction in customer dissatisfaction metric related to 'not closing the loop' of enquiry (currently ~30%).
- Improved customer engagement levels as measured by CSS.



Rough Order of Magnitude

What is the indicative investment needed?

medium

6-12 months

Assumptions

n/a

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- Next Generation ICT Operating Model
- Governance for Information & Technology



Risks

- CEO/EMT need to demonstrate a serious intent to change culture in relation to customer experience, otherwise it could become a paper exercise.
- Requires investment of time and effort to implement and continuously monitor digital customer engagement channels.
- Lack of customer adoption if not designed appropriately or relevant services/data is not available.

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.



Need



Why is this initiative needed?

Rationale

- Enable the Council to move to Customer centric operations and services delivery.
- Provide an holistic view of a customer and the services they utilise to improve service delivery as well as identify opportunities to increase customer engagement.

Reference to CSA / ITOM Diagnostic



CSA: Customer Focus

- No single view of the customer, customer data is siloed across directorates.
- Challenges in responding to and closing off external customer queries effectively.



ITOM: Services & Processes

 Limited understanding of how IT services support external customer service delivery.



Approach

How do we implement?

Initial Stage

- Identify and understand the different types of Council customers, from ratepayers, visitors, to industry partners and local businesses.
- In-depth analysis on the customer data currently available and the processes that support capture of customer information.
- Define the future state single customer view, establishing the data model and data scheme that supports Council-wide engagement.
- Assess and prioritise the business areas that will benefit from access to single view of the customer.
- Design a single customer view technology solution to consolidate customer data across the Council and develop a business case.

Subsequent Stages

 Rollout of the technology solution for single view of the customer including data cleansing activities.



Customer centric

Benefits

.....

.....

What benefits does this bring?

- Improved, centralised view of all NCC customers and their Council interaction.
- Better understanding of customer behaviour and patterns of service usage.
- Improved campaign management capability.
- Ability to conduct advanced analytics to inform decision making.
- Alignment with Council's overriding purpose – in becoming Customer Centric.



Measurement

How will we measure performance?

- Number of customers with complete end to end data set.
- Number of reports overlaying customer data with service metrics to support decision-making.
- · Increased CSS satisfaction rating.



Rough Order of Magnitude

What is the indicative investment needed?

high

6-12 months

Assumptions

n/a

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- Next Generation ICT Operating Model
- Governance for Information & Technology
- Data Ownership and Governance Model



Risks

- Significant effort required to cleanse existing customer data, including duplicates.
- Quality of information/data sourced from existing systems.
- Ongoing costs to ensure that the quality of customer data captured is maintained.
- Data ownership, IT security and data privacy risks.

Transformative ICT Capability – ICT Initiatives



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.

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.



Need



Why is this initiative needed?

Rationale

- The ICT Operating Model (ITOM) will guide NCC in delivering value, through strengthening the Council's foundations, supporting an innovation culture and transforming the customer experience.
- A leadership team representing all parts of the organisation will ensure duplication of effort and cost is avoided, and a business wide consideration is made regarding technology.

Reference to CSA / ITOM Diagnostic



CSA: Governance & Processes

- Lack of clearly defined and communicated ICT operating model, capabilities, clarity of roles, responsibilities and accountabilities.
- Level of inconsistency of IT support and service delivery.



ITOM: Organisation & Governance

 IT team capabilities and roles are not well understood by many parts of the business inhibiting best use of the IT resources for all directorates.



Approach

How do we implement?

Initial Stage

- Collaborate with all business units managers to understand the required ICT.
- Confirm team vision and mission.
- Define the services NCC IT wants to offer.
- Define capabilities required for NCC IT to provide services, independent of current team or partner capabilities.
- Segment defined services into streams for logical service delivery functions.
- Assess current capabilities of all IT resources and identify gaps.
- Identify vendors or partners with capabilities to cover capability gaps.
- **Build organisation structure** based on segmentation and service delivery.
- Communicate new ICT Operating Model Council-wide.

Subsequent Stages

- Learning & Development Identify initiatives to develop required capabilities of IT employees.
- Implement and enforce change management to embed ICT Operating Mode.



Transformative ICT capability

Benefits

What benefits does this bring?

- A clear understanding on how and where to obtain ICT service/support is established.
- All ICT related projects are aligned to the Council's vision.
- Clear direction on what the IT team does and how it provides value to the business.
- Capability to support the Council with current operations as well as setting it up for success in achieving future transformation.



Measurement

How will we measure performance?

- Improved satisfaction from business of IT functions' support.
- Improved engagement from IT resources (assessed via engagement surveys).
- · Reduction in IT staff turnover.
- Technology service catalogue outlining all technology support and SLAs.



Rough Order of Magnitude

What is the indicative investment needed?

low

1-2 months

Assumptions

 Access to stakeholders and information, and decision is timely.

Dependencies

The start of this initiative is not dependent on any of the other ICT initiatives defined in this ICT Strategic Plan.



Risks

- Reluctance of staff to follow a new model and organisation structure.
- Lack of executive leadership to implement change.
- Lack of organisational change management and trust building with IT team.
- Projects that have not been approved delayed during setup.

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.



Need



Why is this initiative needed?

Rationale

- Establish a governance structure and refreshed approach, with clear roles & responsibilities communicated Councilwide aimed to restore the confidence of the business for all ICT services and support capability.
- A cross-Council leadership team will ensure duplication of effort and cost, is avoided and a business wide consideration is made regarding technology.
- Provide uniform process, approach and capability for change or implementation of all technology related work governed by the PMO.
- Increase cross-divisional project implementation awareness e.g. CiAnywhere HR implementation.

Reference to CSA / ITOM Diagnostic



CSA / ITOM: Governance & Processes / Organisation & Governance

There is lack of ICT Governance in NCC which should address; clarity of roles, responsibilities, accountabilities, ICT documentation and artefacts.



Approach

How do we implement?

Initial Stage

- **Identify the key leaders** across all directorates as part of the governance leadership team to promote crossdivisional project implementation awareness.
- Review ICT governance framework and develop structure to support all ICT service offerings.
- Define and implement the ICT governance charter.
- Define regular governance team meetings, frequency and roles of team members.
- **Establish ongoing communication** channels in communicating the status of ICT governance decisions and subsequent projects.
- Establish the discipline to ensure ICT governance approval is mandatory for all ICT related projects.
- Implement a benefits realisation plan and tracker to track the realisation of benefits identified in the original business case.

Subsequent Stages

Monitor and refine for efficiencies.



Transformative ICT capability

Benefits

What benefits does this bring?

- Single point of ICT accountability and responsibility across Council.
- Ensure all approved ICT related projects are aligned to the Council's vision.
- A clear pathway for escalation-toresolution of ICT related issues or requests
- A proactive leadership team in addressing staff and customers needs
- Ability to track the assumed benefit is actually realised once the project is part of BAU



Measurement

How will we measure performance?

- Positive project delivery KPI's (outcome, budget, schedule, TCO analysis).
- · Improved visibility and control over ICT project delivery organisationwide.
- Benefits of projects are tracked centrally and report ROI
- · No projects delivered outside of the ICT Governance framework.



Rough Order of Magnitude

What is the indicative investment needed?

3-6 months

Assumptions

n/a

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

Next Generation ICT Operating Model



Risks

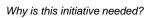
- Projects that have not been approved might be delayed during the setup period.
- Reluctance or lack of knowledge of staff to follow a new governance framework.
- Organisation leaders or Councillors do not lead by example in governance matters.

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.



Need



Rationale

- Reduce effort and investment required to support greater levels of systems availability and scalability required to meet business needs.
- Reduce IT team's focus on managing infrastructure activities instead supporting the business on strategic value-add activities.
- Minimise risk around disaster recovery and support business continuity plan by operating within secure and reliable cloud environment.
- Enable access to systems to support remote working with minimal effort as the systems will be hosted on Cloud infrastructure.

Reference to CSA / ITOM Diagnostic



CSA: Network & Infrastructure

- Complex server infrastructure hosted internally.
- IT team predominately focused on operational activities.



Approach

How do we implement?

Initial Stage

- Define Cloud Transition Approach establishing the patterns for transitioning to cloud i.e. identify the patterns and scenarios to utilise Infrastructure as a Service (laaS), Platform as a Service (PaaS) or Software as a Service (SaaS).
- Conduct assessment of the core applications and identify the cloud feasibility for each of the applications as well as the approach supported by the application vendor.
- Conduct assessment and evaluation of a cloud platform that supports transitioning majority of the applications.
- Assess the business impact and change management aspects of transitioning to the cloud.

Subsequent Stages

 Establish and execute a phased migration of applications either to cloud infrastructure or utilise managed service model.



Transformative ICT capability

Benefits

What benefits does this bring?

- Optimised IT costs from not managing and operating complex in house infrastructure.
- Increased scalability and agility in supporting business needs.
- Increase IT team capacity to better support business.
- · Increased IT staff satisfaction.



Measurement

How will we measure performance?

- Operational cost reduction.
- Increase in system performance and availability.
- Reduced time to provision infrastructure to support business.
- Increase in IT teams availability to support business with strategic initiatives.



Rough Order of Magnitude

What is the indicative investment needed?

high

12-18 months

Assumptions

n/a

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- Next Generation ICT Operating Model
- Governance for Information & Technology



Risks

- Focused investment required to ensure phased migration is achieved.
- Network bandwidth across Council locations required at minimum service levels.
- Integration approach has been established ensuring data movement across cloud services as well as on premise applications.

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.



Need

Why is this initiative needed?

Rationale

- Reduce time and effort currently spent on regularly repeated tasks which can be streamlined. These include on-boarding, traffic related request handling and expenses
- Significant time is spent by staff manually keying in data from paper forms into systems, and subsequently verifying the accuracy back to paper source.
- Manual forms often require up to 6 signatures for approval, with an opportunity to simplify the approval process in a digital environment.

Reference to CSA / ITOM Diagnostic



CSA: Systems & Applications

- Heavy reliance on paper-based processes, in the absence of relevant tools.
- Incomplete understanding of current system functionality to support paperless initiatives across Council.



ITOM: Technology & Data

- Data is duplicated across different formats (e.g. paper and digital).
- Communication with field-workers is suboptimal and heavily reliant on paper.



Approach

How do we implement?

Initial Stage

- Identify current paper-based processes across Council that are business critical.
- Gather requirements across Council and optimise processes.
- Define gaps in current system functionality as they relate to enabling digital workflows, and develop a transition roadmap.
- Perform system review and selection of current applications or SaaS market options to be used to modernise current manual process, with consideration of utilising GIS to support operational processes where relevant.
- Designate champions (change agents) to communicate the Council-wide initiative and empower staff within BUs to use digital solutions.

Subsequent Stages

 Implement additional technological solutions for functionality that is missing in the current systems, with considerations around data management and systems integration for required data flow.



Optimised operations

Benefits

What benefits does this bring?

- Reduced effort and staff frustration in remediating errors resulting from manual handling of data.
- Increased ability to manage and enforce security of data, including traceability of transactions and activities.
- Ability to use office space in ways that support a digitally-enabled workforce.
- · Shorter end-to-end processes.



Measurement

How will we measure performance?

- Reduction in time spent on rectifying errors and 'proving' manual data entry to paper sources.
- Number of digital documents with inappropriate security levels or access breaches.
- Office space made available through removing paper and reducing clutter.
- Effectiveness of employee onboarding.



Rough Order of Magnitude

What is the indicative investment needed?

medium

6-12 months

Assumptions

n/a

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- · Next Generation ICT Operating Model
- Governance for Information & Technology
- Review OneCouncil Implementation



Risks

- Dependence on the mobility approach to allow paperless access to data on mobile devices and appropriate ICT infrastructure.
- May require additional hardware investment, such as dual screens.
- · Potential resistance to change.
- Technology used / procured can not deliver required outcomes.
- New process defined without full organisation consultation.

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.



Need



Why is this initiative needed?

Rationale

- Increased secure access for employees & managers to their employment information.
- Live scheduling and rostering information can be accessed directly by employees.
- L&D could be proactively managed by employees.
- Employee performance (a high priority) could be efficiently managed through the use of a technology enabled process.

Reference to CSA / ITOM Diagnostic



CSA: Systems & Applications

· Redundant steps could be avoided



CSA: Mobility

 Access to current data or information when not in the office



CSA: Data & Analytics

 Inconsistency and lack of knowledge of where to get specific information



Approach

How do we implement?

Initial Stage

- Confirm whole of business requirements for employment information, live scheduling and rostering, L&D, employee performance and additional opportunities.
- Assess requirements against available Council systems (e.g. OneCouncil) and other systems in the market place, to confirm best fit for purpose and budget.
- Partner with whole of business during the implementation of the current or new technology to continually confirm requirements are being met.
- Change Management Communicate and train users and managers on the proper use and functionality of the new selfservice solution.

Subsequent Stages

 Manage a communication campaign just prior to and post yearly performance review process, to remind users of process.



Transformative ICT capability

Benefits

What benefits does this bring?

- Employees can self manage leave.
- Managers have greater insight into their employee pool talent.
- Development of talent can be driven by the employee.
- Reliance on support staff to manage updates centrally is removed.



Rough Order of Magnitude

What is the indicative investment needed?

medium

3-6 months

Assumptions

Based on known self-service opportunities.

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- · Next Generation ICT Operating Model
- Governance for Information & Technology

.

Review OneCouncil Implementation



Measurement

How will we measure performance?

- · Employee data is highly accurate.
- Increase in employee L&D activity, hence uplift in knowledge and skills.
- Support staff have far more time to deliver strategic work.
- Managers and employees are empowered to self manage employment related activities.
- Renewed focus on performance management by individuals boosts morale and engagement.



Risks

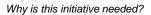
- System security breach could expose sensitive employee information.
- Employees resistance to owning the process of updating their information.

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.



Need



Rationale

- Utilise intuitive and user-friendly geospatial systems as a platform for Council information.
- Leverage leading technology, such as 3D mapping, web GIS and mobile technologies to support Council operations and in enhancing customer service delivery.
- Align GIS strategy with Council-wide strategic vision and objectives.

Reference to CSA / ITOM Diagnostic



CSA: Data & Analytics

• Limited use of GIS spatial data to support service delivery to customers.



ITOM: Services & Processes

 Requirement to focus on improving service delivery and reallocate effort to more strategic and value adding activities.



Approach

How do we implement?

Initial Stage

- Develop a GIS Strategy, that would define:
 - Council-wide Vision for utilising spatial data and GIS technology;
 - Business units' need for GIS technology;
 - Strategic alignment with Smart Cities' initiatives;
 - Future state of GIS technology in Council's ICT landscape, and
 - Mid-term (< 3yrs) roadmap for GIS.
- Establish processes for receiving and prioritising requests for GIS related projects, with alignment to Council-wide ICT governance
- Investigate ESRI capabilities that could future-proof operations and service delivery of the Council, e.g. 3D mapping.
- Communicate and attain approval from ICT Steering Group to execute initiatives detailed in the GIS strategy.

Subsequent Stages

 Implement projects to enhance capabilities and integration with core Council systems.



Transformative ICT capability

Benefits

What benefits does this bring?

- Maximised return of investment on the ESRI solution.
- · Increased customer satisfaction.
- · Increased staff productivity.
- Increased staff satisfaction.
- User-friendly UI as a starting point for Council related transactions.



Measurement

How will we measure performance?

- Increased usage of Council's GIS solution.
- Consistent GIS system steps established across Council.
- Council establishing itself as a leader in ESRI implementation.
- Single source of truth for geospatial, survey, work as executed and 3D data realised.



Rough Order of Magnitude

What is the indicative investment needed?

medium

6-12 months

Assumptions

n/a

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

Governance for Information & Technology



Risks

- Push-back from certain areas of the Council as large investment is required – monetary and effort.
- Resistance to change from users who are still on legacy MapInfo.
- Failure to engage business as value adding participants in data creation (end-to-end processes).

Optimised Operations – ICT Initiatives



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.

0	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.
\Diamond	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 area 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.
\Diamond	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

ICT Initiatives

Review OneCouncil Implementation

operations.

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

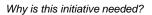
Challenges with ECM functionality have been experienced across the Council, compromising the effectiveness of document and records management. In order to establish a centralised ECM solution that caters for all business units, policies and business processes must to be defined, and documents and records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

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.



Need



Rationale

- Simplification of the NCC system landscape.
- Reduction in operational and maintenance (support, licence, training) cost.

Reference to CSA / ITOM Diagnostic



CSA: Systems & Applications

Duplication of systems across BUs.



CSA: Data & Analytics

· Reporting is cumbersome.



CSA: Governance & Processes

Inconsistency of current process execution.



ITOM: Services & Processes

 Duplication processes between IT and 'shadow IT'.



Approach

How do we implement?

Initial Stage

- Identify business critical capabilities that are duplicated across Council, these include HR, Finance, and POS systems.
- Gather cross divisional requirements across current duplicate capabilities and optimise processes.
- Conduct gap analysis to confirm feasibility of capabilities consolidation.
- Identify the target solution for the 'consolidated' capability.
- Change Management activities planned and executed.

Subsequent Stages

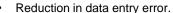
- Implement project(s) to roll-out technology to deliver required functionalities.
- Perform system decommissioning feasibility assessment for duplicated capabilities including SIMS, Chris21, and Authority which are no longer in active use.



Optimised Operations

Benefits

What benefits does this bring?



- Shorter end-to-end processes.
- Increased staff productivity.
- Optimised IT costs (operations, maintenance & licencing).
- · Council ICT landscape is optimised.



Measurement

How will we measure performance?

- Reduced number of duplicate systems, with a target of zero duplication.
- Reduced operational and maintenance cost.



Rough Order of Magnitude

What is the indicative investment needed?

medium

6-12 months

Assumptions

n/a

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

.

- Next Generation ICT Operating ModelGovernance for Information & Technology
- Review OneCouncil Implementation



Risks

- Change management activities fail to properly communicate or train users, creating frustration and resistance to make needed changes.
- Technology used / procured can not deliver required outcomes.
- New process defined without full organisation consultation.

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.



Need



Why is this initiative needed?

Rationale

- Equipping staff with 'fit-for-purpose' devices to maximise productivity.
- Enable seamless user experience across multiple devices (create WO over PC, close WO over smartphone).
- Establish improved communication and collaboration within Council locations as well as with mobile workforce.
- Support future-proofing of an accommodation strategy; transitioning into an agile and establishing new ways of working.

Reference to CSA / ITOM Diagnostic



CSA: Mobility

- Heavy reliance on print format, especially with field staff.
- Limited access to 'fit-for-purpose' devices for staff to be effective and get work done with maximum flexibility.



ITOM: Technology & Data

 Staff mobility not supported by user-friendly, seamless application on mobile devices.



Approach

How do we implement?

Initial Stage

- Formalise and communicate policies supporting mobile workforce such as BYO, device usage etc.
- Assess and prioritise critical business processes that benefit from enterprise mobility.
- Define an Enterprise Mobility approach, that would inform:
 - User Personas, grouping based on working patterns, and devices.
 - Systems and applications that are required remotely and across devices.
 - Identify the communications and collaboration tools required
 - Remote connectivity options.
 - Device management and sourcing.
 - Change Management, and
 - Implementation roadmap.
- Investigate possibility of expanding device management solutions e.g. Airwatch, SCCM, across the Council.
- Align Enterprise Mobility approach with accommodation strategy approach.

Subsequent Stages

- Execute the initiatives of the Enterprise Mobility Strategy.
- Enable mobility for critical business processes.



Optimised Operations

Benefits

What benefits does this bring?

- Reduced time on manual handling of works.
- 'Fit-for-purpose' devices rolled out across Council.
- · Standardised operating systems.
- Increased staff productivity.
- · Increased staff satisfaction.
- Flexibility in work patterns.
- Flexibility in utilising personal devices.



Measurement

How will we measure performance?

- Reduced number of manual (e.g. paper based) processes.
- Reduced cost and effort in managing traditional and outdated physical devices, e.g. desk phones.
- · Increased BYO users.
- · Increased remote users.
- Reduced end user device incident tickets.
- · Seamless and digitalised processes.



Rough Order of Magnitude

What is the indicative investment needed?

high

3-6 months

Assumptions

Increased investment required in devices and software.

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- Next Generation ICT Operating Model
- Governance for Information & Technology



Risks

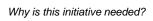
- Resistance to change due to changes in device types.
- Resistance to change due to change in standard operating procedures.
- Not all applications support mobility.

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.



Need



Rationale

- Identification of a single source of truth that is reliable and recent for a specific data set.
- Identification of data owners for data sets across business and IT.
- Provide meaningful information to 'internal' and 'external' customers.
- Present user relatable data that is graphical and intuitive e.g. GIS spatial data.

Reference to CSA / ITOM Diagnostic



CSA: Data & Analytics

- Multiple sources of truth exist for certain data assets.
- No clear documentation describing data ownership and mastership across ICT system landscape.
- Limited use of GIS spatial data to support service delivery.
- No well-defined approach on storing and utilising data for Smart Cities initiatives.



ITOM: Technology & Data

- Data is fragmented and stored across multiple systems.
- Copies of legacy data sets are still in use across the Council.



Approach

How do we implement?

Initial Stage

- Conduct a Council-wide Information Management Review, that would define:
 - Council-wide Vision informs what the Council would like to achieve with its data:
 - Council Information Management framework – informs data acquisition, data usability, data confidentiality, classification and taxonomy, data storage, and data cleansing*, and
 - Data Governance and Management framework – informs the need for data policies and data ownership, and how it folds into the broader ICT Governance framework.
- * Note: Works have begun in cleaning duplicate records in the Name and Address Registry.

Subsequent Stages

 Implement initiatives to roll-out a consistent Council-wide Information Management approach.



Optimised Operations

Benefits

What benefits does this bring?

- Improved efficiency in report generation.
- Improved reporting accuracy.
- Increased 'real-time' data availability.
- Improved visibility of business performance.
- Data-led business decisions aligned to Smart Cities initiatives.
- Increased customer satisfaction.
- Increased staff productivity.
- · Increase staff satisfaction.



Rough Order of Magnitude

What is the indicative investment needed?

medium

3-6 months

Assumptions

n/a

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- · Next Generation ICT Operating Model
- Governance for Information & Technology



Measurement

How will we measure performance?

- Reduced number of duplicated data sets.
- Reduced number of duplicated data sources.
- Increased report generation via automated processes.
- Reports generated contain 'real-time' and reliable data.
- Consolidation of data sets into sources of truth.



Risks

- Lack of involvement during the review activities where participants will not realise the 'tangible' benefits.
- Unwillingness of identified staff to take up roles as data owners.

Refresh Enterprise Reporting Capability

The ability to perform analysis and 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.



Need



Why is this initiative needed?

Rationale

- Generation of reports and management dashboards is cumbersome, hindering the ability to optimise service performance.
- Identifying data ownership and sources of truth providing reliable information per data asset.
- Increasing amounts of data are captured or planned to be captured across the Council, but cannot be provided to users in real time and converted into business insights to increase operational effectiveness.

Reference to CSA / ITOM Diagnostic



CSA: Data & Analytics

Limited reporting capabilities exists.



ITOM: Technology & Data

- Data is fragmented, and stored across multiple systems; there is no overall visibility of what data is being stored, and no identification of master data.
- Business intelligence cannot be used to inform decision-making and future strategy.



Approach

How do we implement?

Initial Stage

- Develop a Reporting Framework that defines the overall reporting structure/ hierarchy, services, KPIs and frequency. Consider the need to present data as a dashboard.
 - Analyse best practice principles and gather insights.
 - Perform a maturity assessment to identify gaps and potential opportunities.
- Review current systems, data sources and flows, including associated processes.
- Identify the technology solution to support advanced analytics to derive business insights, with considerations of leveraging spatial data where relevant.

Subsequent Stages

- **Implement** technological solutions and associated processes.
- Resource Data Mining capability to optimise the usage of new solutions.



Optimised Operations

Benefits

What benefits does this bring?

- Improved report-generation efficiency and accuracy, including availability of 'real-time'
- Better understanding of customer needs and behaviour.
- Ability to leverage both private and public data, deriving insights to improve service delivery and financial sustainability.
- Support data-driven decision making.



Measurement

How will we measure performance?

- Reduced staff time required to generate timely reports across the Council.
- · Staff satisfaction levels in respect of reporting.
- · Number of key service decisions resulting from generated insights.



Rough Order of Magnitude

What is the indicative investment needed?

medium

6-12 months

Assumptions

 Potential investment in technology and integration work required.

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- Governance for Information & Technology

- Next Generation ICT Operating Model
- Data Ownership and Governance Model

*-----

Review OneCouncil Implementation



Risks

- Relies on the availability of a consolidated, cleansed and high quality data set.
- · Informal integration into IT Operating Model.
- May require process redesigning to eliminate manual steps.
- Time investment required to consolidate Council-wide reporting requirements.

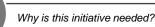
Review OneCouncil Implementation

NCC has invested heavily in OneCouncil to support its core capabilities, with varying degrees of success across the organisation.

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.



Need



Rationale

- Confirm feasibility of continued investment in OneCouncil.
- Validate OneCouncil's ability to meet core business requirements.

Reference to CSA / ITOM Diagnostic



CSA: Systems & Applications

- OneCouncil functionality does not adequately support certain functions across Council.
- · Absence of relevant tools.



ITOM: Technology & Data

 Implementation of new solutions & applications is based on individual BU needs without organisation-wide consideration, systems integration, or IT consultation.



Approach

How do we implement?

Initial Stage

- Freeze roll-out of additional OneCouncil modules / capabilities whilst investigating feasibility.
- Conduct gap analysis to identify functional and non-functional requirements not addressed in the current implementation of OneCouncil.
- Evaluate if the requirements are addressed in the latest version of OneCouncil (CiAnywhere SaaS model) and perform reference check on Councils that have successful transition to the CiAnywhere SaaS model.
- Establish a transition approach to the target solution i.e. either latest version of OneCouncil or an alternate integrated solution if required, along with a business case.
- Seek endorsement from senior management and key stakeholders on the transition approach.

Subsequent Stages

- Execute project in a phased manner, including any related data migration and system integration activity.
- Organisational Change Management to ensure rollout of the solution is successful.



Optimised Operations

Benefits

What benefits does this bring?

- A solution that meets the needs of the business.
- Increased staff satisfaction.
- · Increased customer responsiveness.



Measurement

How will we measure performance?

- An integrated solution that supports the business end-to-end.
- Maximised return of investment of core system deployment.



Rough Order of Magnitude

What is the indicative investment needed?

nigr

12-18 months

Assumptions

- Includes data migration and systems integration.
- Write-offs and licence costs excluded.

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- Next Generation ICT Operating Model
- Governance for Information & Technology



Risks

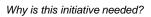
- Resistance to change management due to shift in existing process / steps familiarity.
- Council-wide business requirements not completely / accurately gathered should this initiative be implemented before implementation of dependent initiatives.

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.



Need



Rationale

- Eliminate disparate stand-alone systems and increase access to data and functions between systems providing an integrated solution.
- Reduce system interdependency by establishing standard integration mechanism that are re-used by multiple systems.
- Reduce data duplication by ensuring that data is accessible from the source of truth as required.

Reference to CSA / ITOM Diagnostic



CSA: Systems & Applications

- Council systems are not integrated leading to duplication of data across systems.
- Access to relevant and reliable data from the source system is not possible.



Approach

How do we implement?

Initial Stage

- Establish integration governance, patterns, guidelines and delivery approach embedded into the Council-wide ICT governance.
- Conduct assessment, catalogue and prioritise the integration touch points that will provide maximum business benefit and reduce operational activities.
- Identify and pilot the integration platform that meets the integration needs of the Council i.e. consider the suitability of the cloud-based integration platform (iPaaS).
- Define an implementation plan in conjunction with the key application vendor.

Subsequent Stages

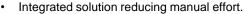
- **Implement** the integration platform.
- Rollout integration touch points in a phased manner.



Optimised Operations

Benefits

What benefits does this bring?



- · Elimination of duplicated data.
- · Access to relevant and reliable information.
- Increased productivity with information access as required.
- Increased operational efficiency.
- · Increased agility to integrate new solutions.



Rough Order of Magnitude

What is the indicative investment needed?

medium

3-6 months

Assumptions

- Rollout the integration solution and expose a sub-set of key integration touch points.
- Integration points required as a result of an initiative is included in the scope of that initiative.

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- Next Generation ICT Operating Model
- Governance for Information & Technology



Measurement

How will we measure performance?

- Reduction in effort required for data related manual activities.
- Reduction in number of duplicated data sets.



Risks

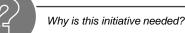
- High level of commitment and investment required from business and IT to implement an integration strategy across the board.
- High level of governance required to ensure that the projects adhere to the integration strategy.

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 have to be defined, and documents and records management capability improved.



Need



Rationale

- Refine and communicate Council-wide privacy and records management policy.
- Align documents and records management business processes to system capabilities.
- Review and optimise document and records management system capabilities.

Reference to CSA / ITOM Diagnostic



CSA: Governance & Processes

 Privacy and records management policies not well established.



CSA: Systems & Applications

- ECM is ineffective for search and retrieving data
- Manual handling required to upload documents from email into ECM.



ITOM: Services & Processes

 Some IT processes are standardised.
 Where standardisation is absent, business units have implemented their own formal and informal processes.



Approach

How do we implement?

Initial Stage

- Formalise and communicate the Council-wide privacy and records management policy.
- Conduct gap analysis to identify functions that do not meet business needs / unavailable in the OneCouncil solution.
- Establish a framework that defines taxonomy and standard naming conventions.
- Investigate if gaps are due to lack of system capabilities or lack of training.
 Explore if system capability gaps can be addressed in OneCouncil.
- Conduct workshops to gather functional and non-functional requirements from BUs. Assess alternate solutions if required.

Subsequent Stages

 Implement project to roll-out documents and records management capabilities, based on selected target solution.



Optimised Operations

Benefits

What benefits does this bring?

- Reduced time on manual handling.
- A single source of truth for document and records.
- Increased staff productivity.
- Increased staff satisfaction.
- Consistent and Council-wide documents and records management processes.
- · Compliance with State Records Act.



Rough Order of Magnitude

What is the indicative investment needed?

medium

3-6 months

Assumptions

.........

Effort to clean up current data is not considered.

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- Next Generation ICT Operating Model
- Governance for Information & Technology
- Review OneCouncil Implementation



Measurement

How will we measure performance?

- Increased usage of Council's ECM solution.
- Consistent and clear document and records naming convention.
- Consistent and Council-wide documents and records management processes.



Risks

- Resistance to change due to change in standard operating procedures, should there be a technology change.
- Benefits of investment not realised if majority of users do not adopt change.

Future Government – ICT Initiatives



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

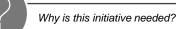
Cyber attacks and data leakage are daily threats to all organisations, reiterating the need for robust risk management frameworks to both safeguard Council and support collaboration with the community through open data.

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.



Need



Rationale

- The continued implementation of Smart City initiatives require some core foundation elements in places to enable the Council to leverage the data collected, across Council and external data sources.
- If these core components are not implemented as a single initiative, insights will not be able to be drawn from the implementation of Smart City initiatives, and there will be potential for duplication of foundation infrastructure.

Reference to CSA / ITOM Diagnostic



CSA: Data & Analytics

 Limited reporting capabilities exists, with no analytics to enable data-led decision making and take advantage of smart city initiatives.



CSA: Network & Infrastructure

 Data is fragmented and stored across multiple systems.



Approach

How do we implement?

Initial Stage

- Align IT and Smart City governance and resourcing through Initiative 4 'Governance for Information & Technology'.
- Define Smart City technology foundation standards and IT handover and operational support processes.
- Identify core and advanced technology needs and current technology in place.
- Define gaps in current core and advanced technology as they relate to capturing and analysing future smart city initiative data.
- Identify preferred core and advanced technology solutions to address the gaps identified.

Subsequent Stages

 Implement preferred technology solutions in a prioritised and coordinated program that aligns to meeting the prerequisites of the Smart City infrastructure initiatives.



Future Government

Benefits

What benefits does this bring?

- Maximises the committed investment into future Smart City initiatives.
- Creates a single enterprise data set to enable advanced analytics on Smart City and corporate data.



Rough Order of Magnitude

What is the indicative investment needed?

medium

3-6 months

Assumptions

- Core technology requirements include cloud compute, storage, databases and data warehouses.
- Advanced technologies include big data analytics, machine learning and ingesting streaming data.

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- Next Generation ICT Operating Model
- Governance for Information & Technology
- Data Ownership and Governance Model



Measurement

How will we measure performance?

- Successful Smart City initiative implementation.
- The identification of insights from data captured through the implementation of Smart City initiatives.



Risks

- Selection of suitable technology enablers is key to the success of this initiative. Interoperability and standards adopted are of utmost importance to future proof the foundation that is established.
- External vendor Smart City solutions or infrastructure are not compatible with the selected foundation architecture, or choose not to 'share' the data collected.

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.



Need

Why is this initiative needed?

Rationale

- The trend of increased data consumption by customers has influenced the broader government direction towards Open Data.
 For NCC to continue to be relevant in the future, a designated approach to sharing data to drive customer and cross-industry collaboration is key.
- Smart City initiatives backed by the \$5m Smart Move Newcastle funding an Open Data approach to deliver service improvements.

Reference to CSA / ITOM Diagnostic



CSA: Customer Focus

- More can be done to engage and inform the community.
- In many cases, Council service and community information cannot be provided to the customers.



ITOM: Technology & Data

 A data management strategy (including open data approach) needs to be defined.



Approach

How do we implement?

Initial Stage

- Develop Open Data Strategy in collaboration with Smart City to identify what role the Council wants to take in respect to open data. This includes determining datasets to be exposed, creating data marts and/or private channels for data classification, defining data standards, privacy and confidentiality, and considering security implications. It requires collaboration with key partners such as Data61(CSIRO), University of Newcastle and others.
- Conduct IT planning and business case development to assess required process change, technological support and to develop a business case for investment.

Subsequent Stages

 Develop & implement roll out plan including implementation timeline, community/public engagement.



Future Government

Benefits

What benefits does this bring?

- Improved customer engagement.
- Increased partner collaboration in the region.
- Improved Council openness and transparency.
- · Increased customer interaction.
- Cohesive, Council-wide approach to open data.



Measurement

How will we measure performance?

- Improved CSS satisfaction rating.
- Number of data sets (Council & partner) exposed to the community.
- Number of customer enquiries related to exposed data sets.



Rough Order of Magnitude

What is the indicative investment needed?

medium

3-6 months

Assumptions

 Work to formalise Open Data approach has been initiated by Smart Cities team.

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- Next Generation ICT Operating Model
- Governance for Information & Technology
- Data Ownership and Governance Model



Risks

- Dependent on the availability of clean, integrated data sets.
- IT security and data privacy concerns.
- Data formatting issues
- Capability and resource constraints
- Dependent on IT infrastructure and system capabilities replacement/refresh.

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.



Need

Why is this initiative needed?

Rationale

- Reduce the risk of breach, and subsequent reputational loss and cost to repair damage suffered by a cyber breach e.g. deactivation of user accounts currently not streamlined and integrated into user off-boarding process.
- To increase the awareness and preparedness against cyber security threats in preparation for roll out of cloud based systems and applications.

Reference to CSA / ITOM Diagnostic



CSA: Systems & Applications

 Inconsistent user management across systems and application of user roles and security privileges.



ITOM: Risk & Security

 Responsibility for resolution of IT security breaches is unclear, with multiple, siloed system administrators across the business, and the fragmented approach to IT. There are no designated Security Officers.



Approach

How do we implement?

Initial Stage

- Conduct Cyber Security Health Check to identify awareness, preparedness and resilience of cyber security, gaps in the current framework and areas for opportunity.
- Develop a pragmatic, standards-based Cyber Security framework covering cloud, data, risk management, breach response and performance reporting.
- Identify and evaluate any additional technology solutions required based on the recommendations from Council-wide security health check.
- Establish an implementation plan including identifying any impacted processes and its change management requirements.

Subsequent Stages

Rollout the cyber security framework and associated processes.



Future Government

Benefits

What benefits does this bring?

- Eliminate cyber security threats
- Prepare the organisation to better respond to threats.
- Embed the security framework within ICT governance ensuring evaluation of cloud services takes into account security.



Measurement

How will we measure performance?

- Number of security threats averted.
- Number of IT projects adhering to the security framework.



Rough Order of Magnitude

What is the indicative investment needed?

medium

3-6 months

Assumptions

n/a

Dependencies

The start of this initiative is dependent on the execution of the following initiative(s):

- Next Generation ICT Operating Model
- Governance for Information & Technology
- Transition to Target Infrastructure



Risks

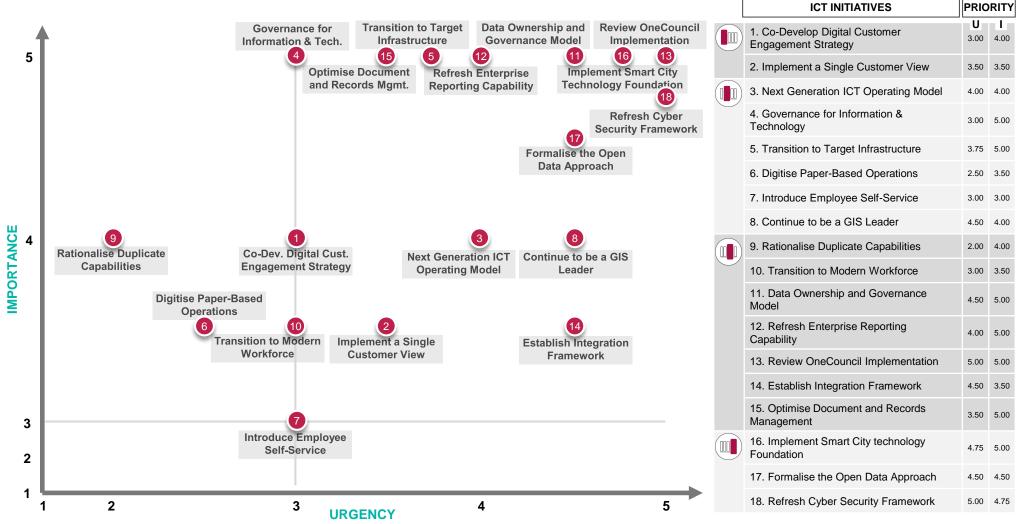
- Ensure project governance maintains compliance with security framework and guidelines.
- Ongoing costs associated to ensure regular ongoing awareness training and change management.
- Implement ICT initiatives that it is depended on to optimise investments and avoid sunk costs.



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.

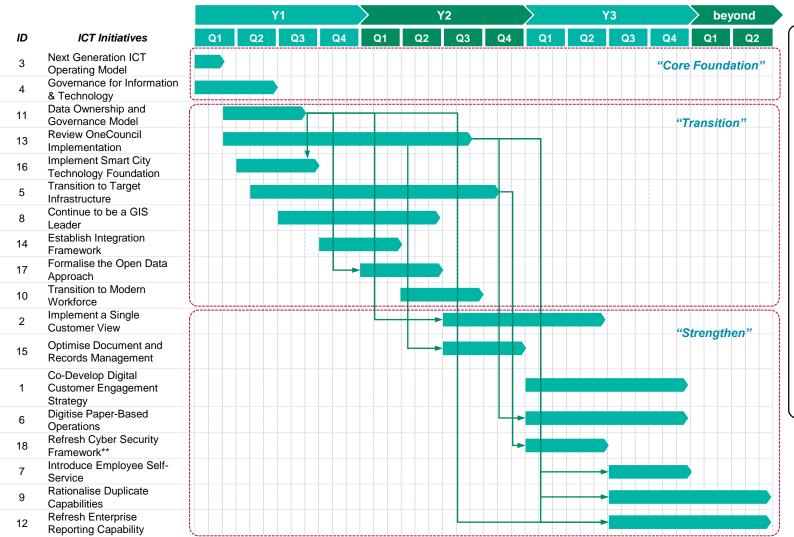
16 out of 18 of the initiatives have been mapped on and above the (3,3) axis in the 'Urgent and Important' quadrant.



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.



Key Call-Outs

Core Foundation

NCC should place emphasis on the implementation of the 'Next Generation ICT Operating Model' and 'Governance for Information & Technology' initiatives prior to implementing any of the ICT initiatives identified. This is to ensure NCC has the right focus in delivering the right ICT capability to support the business at any given time, and maximises investment return.

Transition

The initiatives in the 'transition' phase of works will enable the Council to transition from its current ICT landscape to an updated target ICT landscape. Getting to the target ICT landscape will enable the Council to refocus its ICT enhancements and uplifting its ICT capabilities on a landscape that is more robust, reliable, and scalable.

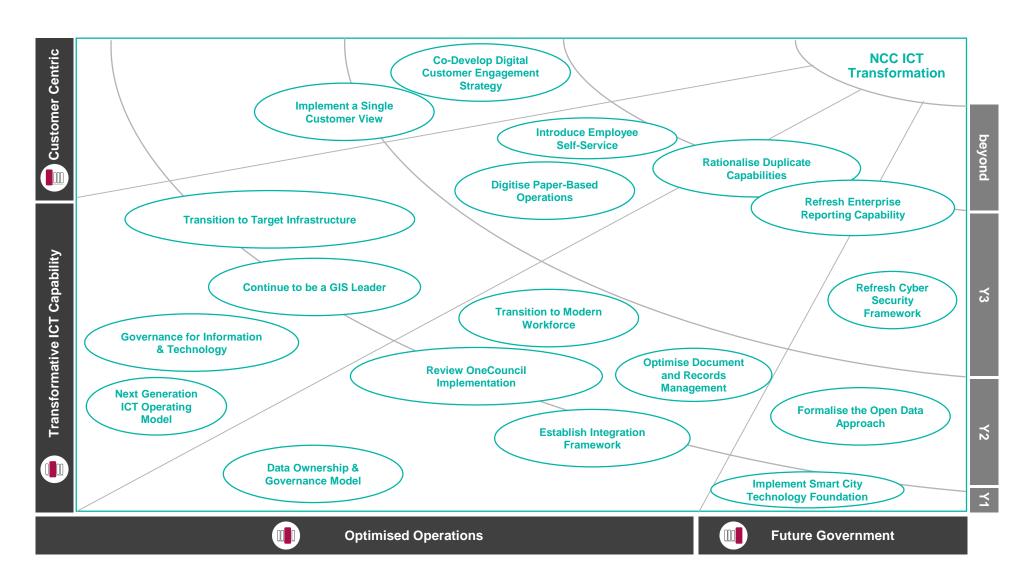
Strenathen

In the 'strengthen' phase of works, the ICT initiatives focus on propelling NCC to achieve its ICT vision. The initiatives implemented in this phase will be delivered on a revamped and uplifted ICT landscape.

**Note: Whilst the 'Refresh of Cyber Security Framework' initiative has been highly prioritised, NCC should consider outcomes from 'Transition to Target Infrastructure' initiative to avoid unnecessary rework and sunk cost as the transitioning of infrastructure will impact the cyber security requirements.

An Overview of the ICT Roadmap

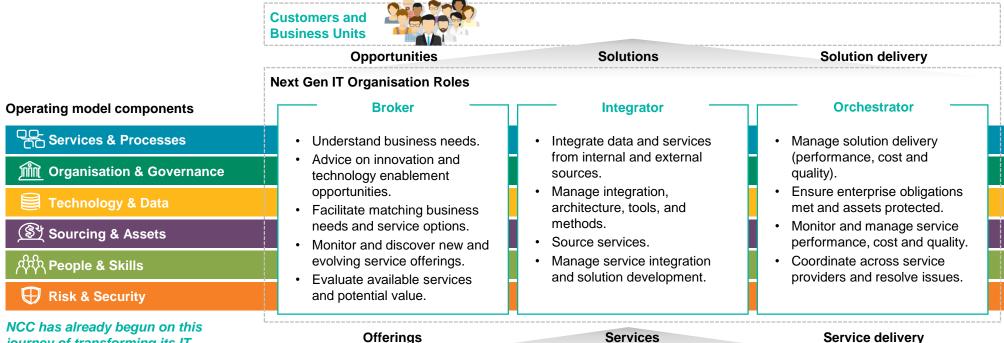
The 18 ICT initiatives were mapped on a roadmap toward achieving NCC's transformative ICT ambition where key dependencies and capabilities had been accounted for.





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.

For IT to maintain a close relationship with the multiple business units across Council, Business Relationship Managers (BRMs) need to be embedded Council-wide. A BRM is a senior-level technology executive with extensive business and industry experience who can bridge the gap

Service Providers

between IT and business.

IT's role as an integrator shifts the focus from building to integrating. Internal and external data and services are integrated to establish a fully functional ICT ecosystem. NCC has taken initial steps in building the integrator capability through ITPO and Enterprise Architect roles.

e.g. SaaS, software, network, technology

IT's role as an orchestrator shifts from just 'keeping the lights on' to end-to-end management and performance of services, in addition to delivery of services. Bi-modal IT delivery has to be embedded across Council to enable two speeds of IT delivery across systems of records, engagement and innovation.

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

ICT Steering Group









Directors/ BU Manager

- Accountable for prioritising and initiating ICT Projects, with alignment to strategic vision.
- Makes key ICT decisions and resolves conflicts.





IT Project Office (ITPO)





Enterprise Architecture

- Responsible for maintaining ICT Projects backlog.
- Validate ICT Project(s) implementation feasibility against defined principles and guidelines.



IT & Business Units

17 business units

across Council











Smart Cities

- Raises ICT requests for operational improvement, enhancements, innovation.
- Delivers ICT initiatives based on defined IT delivery mode. Functions in a bi-modal delivery mode.

High Level ICT Governance processes



• 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.



- 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.

<u>Note:</u> 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

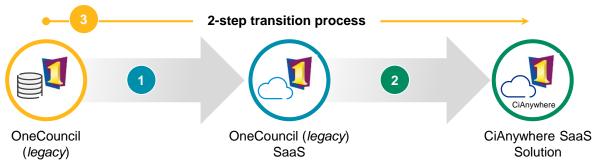


- management, training and handover from the vendor to the IT team.
 External consultants have been engaged to conduct training initially.
 However, there are currently no change managers / agents or trainers to
- support change and training across the Council.Establish a detailed change management plan 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:

Transition legacy on premise to legacy SAAS

- The aim of the 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.

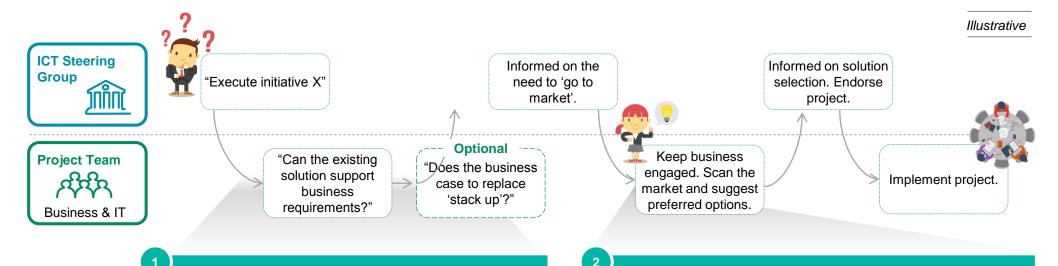
Our recommendation

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.



Gap Analysis and Business Case

High Level Approach

- Gather and document business requirements that are currently not supported and identify future business requirements.
- Conduct gap analysis workshops with business and technology provider to identify gaps of the current solution.
- Where a business case is required, **identify levers** that would inform the business case.
- Document benefits, costs, and challenges and **perform cost** benefits analysis.

Market Scan and Solution Options Analysis

High Level Approach

- **Define baseline and future business requirements**. If requirements already documented, validate requirements with business.
- **Define evaluation criteria** based on functional and non-functional requirements and other qualitative factors.
- Conduct vendor market scan, evaluate options and agree on number of solution vendors to be engaged.
- Issue tender ('go to market') and evaluate vendors based on outcome
 of vendor responses, demonstrations, client references, and other key
 selection criteria.
- Analyse responses and evaluation outcomes and select preferred option.

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.

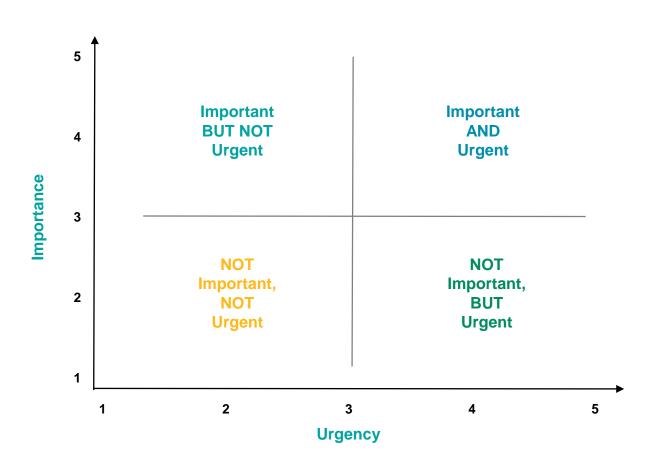
- **Urgent** means that a task requires immediate attention. These are the to-do's that shout "Now!". Urgent tasks put us in a reactive mode, one marked by a defensive, negative, hurried, and narrowly-focused mindset.
- **Important** tasks are those that contribute to our long-term mission, values, and 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

- Communications & Engagement
- · Human Resources

Participation from

Council representatives

- Cultural Facilities
- · Development & Building
- Libraries

Information Technology



- Civil Works
- Facilities & Recreation
- Waste Management
- Infrastructure Planning

- **Customer Service**
- · Legal & Governance

Property Services

Strategic Planning

- Finance
- ICT Strategy Project Kick-Off
- **ICT Strategy Executive Meeting**
- Current State Workshop IT
- Smart City & ICT Strategy Workshop
- 5. Current State Workshop -Corporate Services & Executive Management
- 6. Current State Workshop -Infrastructure
- 7. Current State Workshop Regulatory & Planning
- 8. IT Operating Model Maturity Assessment Workshop
- 9. Future State Architecture **Principles Review Meeting**
- 10. ICT Initiatives Review IT
- 11. ICT Initiatives Review Business
- 12. ICT Initiatives Prioritisation Workshop
- 13. NCC Budget Walkthrough Meeting

in over workshops and meetings conducted over 11 weeks.

