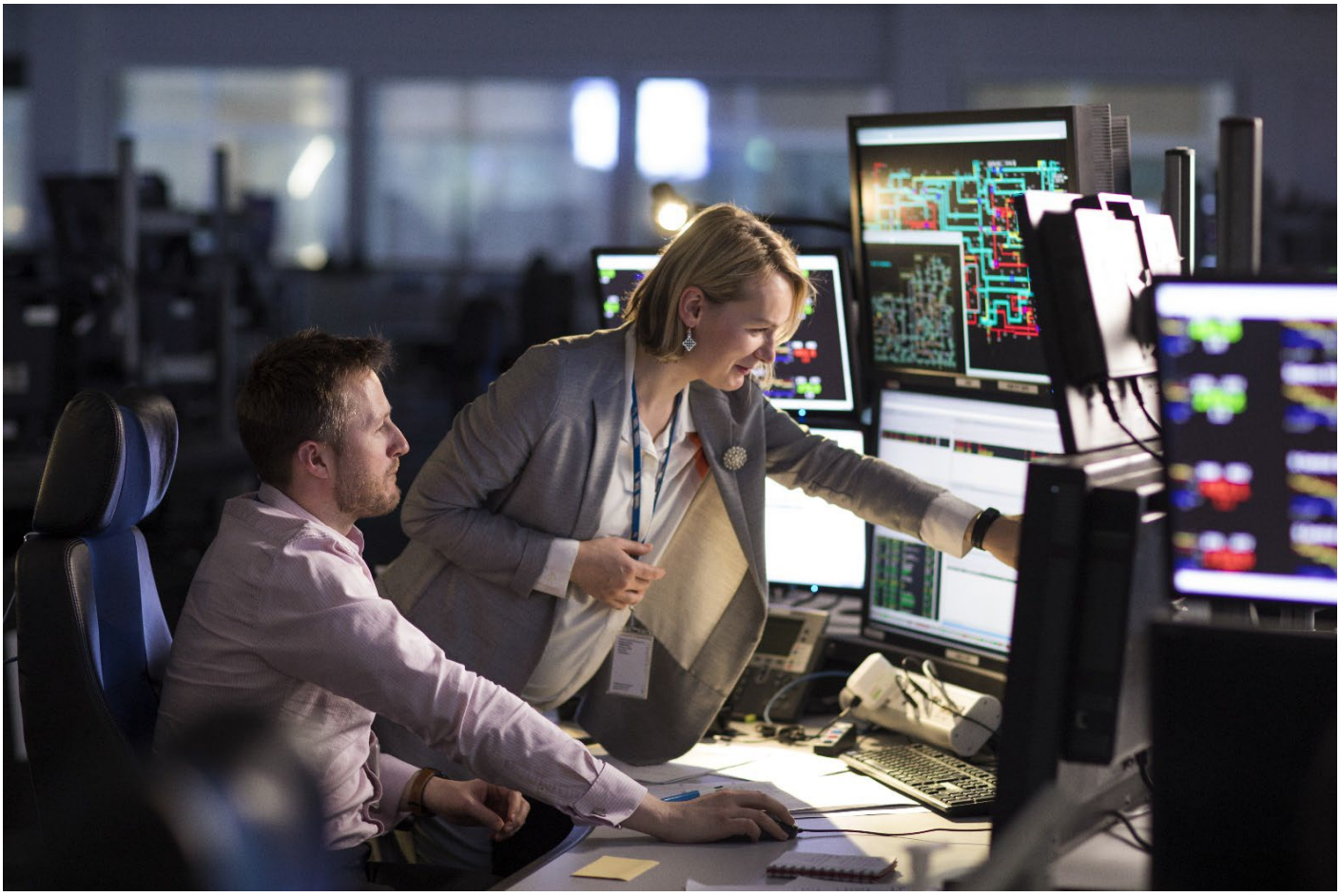
nationalgrid

Annex 13

RIIO-T3

IT and Telecoms Strategy



National Grid Electricity Transmission's Business Plan

December 2024

Overview of this document

Purpose of this Annex

Our Information Technology & Telecommunications (IT&T) Annex focuses on IT Business as Usual (BAU) and Telecommunications aspects of our business plan. The IT BAU Engineering Justification Papers (EJPs) are referenced throughout, with detailed coverage in the "Our Proposed IT&T Investments" section. We have also set out our core BAU IT investments and telecoms advancements, using historic funding to support our RIIO-T3 commitments and deliver value for the consumer.

Investments in IT&T also support our wider data and digitalisation portfolio outlined in our Digitalisation Strategy & Action Plan (refer to Annex A05: Digitalisation Strategy and Action Plan), providing the underpinning platforms, solutions and services that are essential for their successful delivery.

How to navigate this annex

The table below provides a short summary of each section and where information requested in the Business Plan Guidance has been provided.

Section	Detail	BPG reference[1]
1	**Executive Summary**	
2	**Introduction** – introducing the scope of our IT&T strategy.	
3	**Business alignment and strategic context** – demonstrating how our IT&T objectives are formed to deliver our business plan ambitions.	5.47, 5.49
4	**Investment overview** – summarising our IT&T investments proposed for the RIIO-T3 period.	5.47, 5.48, 5.49
5	**How our investments will be delivered** – how our policies, processes and operating model will support delivery of our investments; including robust governance arrangements.	5.48

Our RIIO-T3 Objectives and Commitments

Our plan is anchored around three ambitions, each underpinned by clear objectives, commitments and success measures for the RIIO-T3 period. These allow us to target stretching levels of performance and track progress. The specific ambitions, objectives and commitments that are most relevant to this annex are shown below:

[1] These are the Business plan guidance (BPG) requirements relevant to this Annex. These requirements may also be addressed in other business plan submission documents.

Introduction to our key documents

This document index serves as a guide to each of the documents that form our RIIO-T3 IT & Digital (IT&D) submission. Many of these are referenced in this annex with document numbers below.

Document	Overview	Read this if you want to know about	No.
RIIO-T3 Core Business Plan: 5.3 Our digitalisation and data strategy	Strategic narrative that explains the context and drivers for our IT&D plans and how they support our overall business plan.	• Context and drivers behind IT&D plans • Key themes, including digital underpinning the wider investment plan • Operating context • RIIO-T3 ambitions & delivery needs • Stakeholder priorities • Costs and cross-cutting themes	MBP
Business Plan Data Tables	Master of financial submission for our RIIO-T3 business plan. Includes proposed IT&D spend.	• All financial data tables & models • Proposed IT&D investment spend	BPDT
Digitalisation Strategy and Action Plan (DSAP)	Consolidated view of our digital transformation strategy that informs our Digitalisation Action Plan. Explores our key objectives, digital ambition, stakeholder engagement and core digital initiatives.	• Current operating context • Stakeholder engagement & methodology • Digital vision & ambition • How we are building on our RIIO-T2 investments • Digitalisation risks & mitigations	A05
IT and Telecoms Annex This document	IT policies, business strategy, assessment methodologies, and key considerations for sustainability and deliverability, to achieve the proposals set out in the Business Plan.	• Information Technology and Telecoms (IT&T) strategy • Operational IT&T risk reduction • IT&T network maintenance • IT&T operational efficiency and telecommunications network resilience.	A13
Data Best Practice Compliance	This appendix to our DSAP outlines our competency at complying with Ofgem's Data Best Practice (DBP) Guidance and our RIIO-T3 ambitions.	• DBP guidance and compliance • Commitment to data management and digitalisation • Alignment between all proposed investments with regulatory standards	A05 App. B
Engineering Justification Papers	Detailed investment papers outlining the specific needs case and drivers behind proposed digital initiatives. These include optioneering, costs, and overall benefits.	• 18 Engineering Justification Papers (8 digitalisation and 10 BAU IT) • Specific needs case and drivers behind proposed investments • Enhancements from RIIO-T2 investment • Investment optioneering • Anticipated benefits & overall costs. • Evidence of stakeholder scrutiny • Alignment with key customer, stakeholder and staff priorities	IDPs
Cost Benefit Analysis (CBA)	Analysis documents to explain proposals. CBAs provide optioneering and an understanding of assumptions that support proposals.	• Demonstrates value for money for consumers • Additional investment decision-making justification.	IDPs

Overview of our Engineering Justification Papers (EJPs) & interdependency mapping

Our IT&T Annex focuses on IT Business as Usual (BAU) and Telecommunications aspects of our business plan, an investment of £470m across RIIO-T3. The IT&T BAU EJPs are referenced throughout, with detailed coverage in the "Our Proposed IT&T Investments" section. We set out our core BAU IT investments and telecoms advancements, leveraging historic funding to support our RIIO-T3 commitments and deliver value for the consumer.

Investments in IT&T also support our wider data and digitalisation portfolio outlined in Annex A05: Digitalisation Strategy and Action Plan, providing the underpinning platforms, solutions and services that are essential for their successful delivery. Below, we have outlined the key dependencies recognised across our proposed investment portfolio.

Figure 1: Our investment portfolio dependency mapping[2]

Table of Contents

1. Executive Summary

Our aim is to develop an Intelligent, Connected Digital Utility to support net zero and a clean, fair, and affordable energy future for the UK. This means we will deploy the IT&T solutions that are needed to operate a resilient electricity transmission network, upgrade the IT systems that support business operational functions, and improve the IT applications that are essential to deliver our wider business plan commitments.

This strategy has been developed based on feedback from stakeholders who told us to "step up to the challenge as the scale of work ahead is enormous". We will transform our asset management, network development, network operation and telecoms capabilities to deliver the step-up in work required, and manage a larger, more complex, decarbonised network. We will deliver a new Electricity Transmission Control Centre [redacted] for a secure and efficient network operation (independent of NESO), and to modernise and secure essential network connectivity, communications systems, and operational control technologies to maintain resilience in our 24/7 operational telecoms network.

This annex outlines our IT&T strategy to achieve these commitments through:

- Setting out how we plan to use IT&T to achieve our business plan in RIIO-T3
- Outlining our policies, business strategy, assessment processes, and considerations of sustainability and deliverability
- Demonstrating how through our RIIO-T3 investments we will reduce operational IT & telecoms risk, improve our resilience, and maintain a 24/7 operational telecoms network
- Showcasing plans for improving operational efficiency and telecommunications network resiliency
- Adjusting how we deliver IT&T to remain efficient following the divestment of our Gas business and the move of the National Energy System Operator (NESO) to government ownership.

We have identified investments across technology and telecommunications to deliver against our commitments. We have categorised these investments as either Business as Usual (BAU) IT, to maintain and improve our level of service, [redacted] so we can manage the capabilities to the standards we have committed to our users and stakeholders. We will also support our digital substation plans, moving towards the concept of the intelligent connected utility and enable core areas of our Digitalisation Strategy and Action Plan (DSAP) including Data Best Practice (DBP) alignment and Data Sharing Infrastructure (DSI) upgrades.

A cornerstone of our strategy is maintaining an efficient IT function. We are focusing on optimising operational expenditures (OPEX) and enhancing our "Run the Business" (RTB) capabilities through automation, cost management, and process improvements. These initiatives aim to continue to deliver a consumer-centric IT environment that is reliable, scalable and cost-effective.

1.1. Our RIIO-T3 IT&T investments

[redacted]

Finance Systems: We will optimise processes and reduce technical debt with continuous improvement of the core ERP system, ultimately delivering cost savings for customers.

People Services (Joiners-to-Leavers): Maintains core HR platforms while implementing AI-enhanced recruitment tools and personalised development systems. Optimising operations through advanced technologies and employee engagement solutions.

General Counsel: Investments focused on AI-enhanced platforms for crisis management & resiliency, risk management, and legal capabilities. We will improve worker safety through the deployment of a centralised tool. An accessible reporting platform will enable improved ethics and compliance efforts, and immersive technologies will progress our technical training.

Procurement (Source-to-Pay): Optimising spend and supplier engagement for procurement operations with AI-powered tools and system upgrades. The platform integrates purchasing with accounts payable to support strategic infrastructure investments.

Corporate Strategy & External Affairs: Implementation of a centralised web content management platform with cloud migration to reduce technical debt. ESG reporting and how we coordinate and manage work across our portfolio will be improved, and stakeholder engagement will be streamlined.

IT Delivery Services: Ensures enterprise-wide IT operations across Operations, Development, and Support functions. The platform leverages DevOps tools and AI automation to enhance service delivery, security compliance, and end-user satisfaction.

IT Digital Workplace Services: Client computing and collaboration infrastructure with AI integration. Customer-centric service delivery while improving security, efficiency, and platform performance.

IT Infrastructure: Manages cloud computing and enterprise data networks critical to operations. Focusing on asset health, security, and sustainability while reducing hardware redundancies and improving operational responsiveness.

IT Platforms: Enhancing our core application services with expanded ServiceNow capabilities and AI integration. The platform implements automated DevOps processes and unified enterprise architecture tools to drive operational efficiency.

1.2. How our investments will be delivered

Our approach to deliver consists of the following:

1. **Deliverability:** In 2023, we implemented the Scaled Agile Framework (SAFe) including training from executives to delivery teams. This shift enhanced speed and efficiency, evident in our planning and solution development. In RIIO-T3, we will continue agile delivery for digital capabilities [redacted]
2. **Business strategy & policies:** We have implemented a comprehensive business strategy and suite of policies to ensure efficient delivery of our IT investments, encompassing operational model changes, technology and process innovation, cyber security resilience, third-party service provider management, and management of Run-the-Business costs.
3. **Assessment processes and techniques:** We have a robust governance framework for managing IT&T and digital portfolios. Digital and data investments follow a structured approach and robust financial controls. Technology and telecommunications items are overseen by programme management boards created after financial approval. The solution design authority coordinates overarching architecture, ensuring investments are justified, efficient, coordinated, and build on RIIO-T2 investments to deliver consumer value.
4. **Sustainability:** Our sustainability approach aligns with our Responsible Business Charter. Key focus areas include maturing IT operational data for sustainable delivery, collaborating with vendors for sustainable practices, embedding sustainability in IT culture, reducing waste through architectural assurance, and leveraging cloud services for energy efficiency.

Our IT&T strategy for RIIO-T3 has been developed alongside our Digital Strategy and Action Plan to enable our wider business plan commitments that will maintain a resilient electricity transmission network, deliver the capacity needed, and transform the way we work to delivery efficiently.

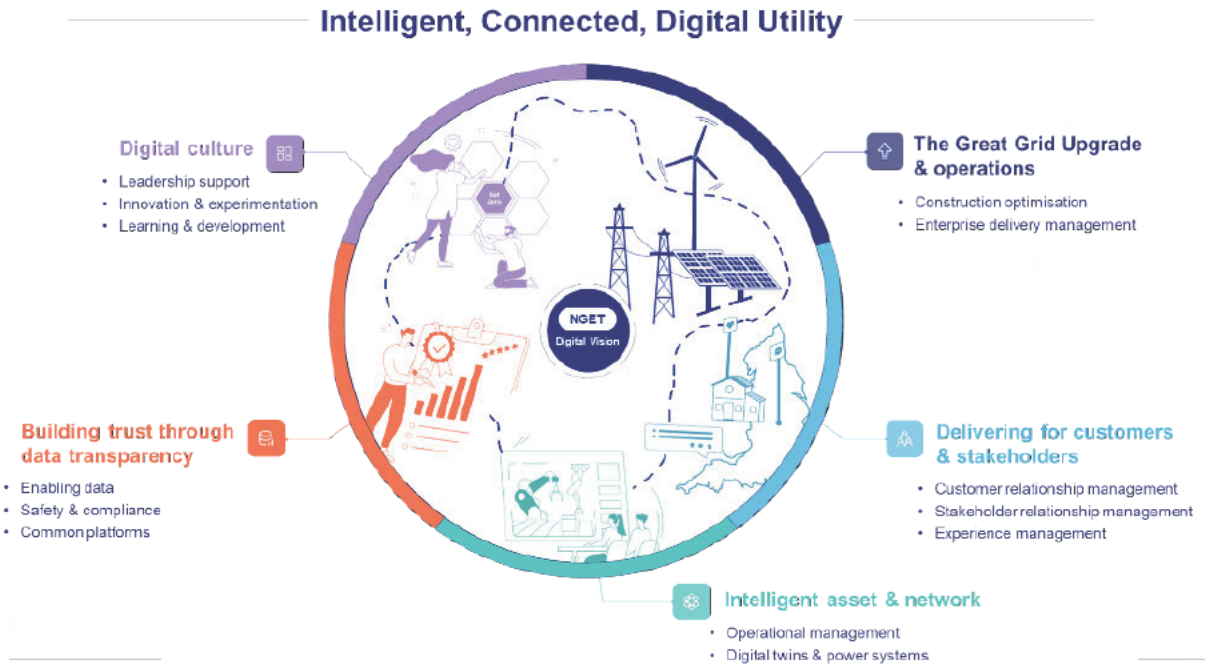
2. Strategic Context and Business Alignment

Our RIIO-T3 business plan is anchored around three core ambitions:

1. Deliver the grid of tomorrow
2. Do the right thing for our consumers, communities, and the environment
3. Transform the way we work

Central to these ambitions is our transformation into an Intelligent, Connected, Digital Utility (refer to Annex A05: Digitalisation Strategy and Action Plan). To achieve this transformation, we will continue to invest in Information Technology and Telecommunications (IT&T) to support our operations [redacted] and fundamentally transform the way we work.

Figure 2: Intelligent, connected, digital utility (more detail in Annex A05: Digitalisation Strategy and Action Plan)



Working closely with our Digital Guild (see section 5.4) and internal stakeholders, we have developed a comprehensive strategy that aligns our business plan commitments with our digital, data, technology, and telecommunications investments. This includes both expanding existing capabilities and developing new infrastructure to meet future needs. Our IT&T strategy focuses on five strategic areas:

1. **Maintaining a 24/7 operational telecoms network:** Our 24/7 operational telecoms network equipment refresh, and satellite telephony contingency investments will ensure the availability of our communications capability between our substations and control rooms for reliable operation of the electricity transmission network
2. **Operational efficiency:** [redacted] deployed to our field force and strategic site communications will enable improved asset health and performance monitoring. Productivity solutions at the work site will allow us to optimise resource usage, reduce site visits, and minimise our environmental impact while maintaining high service standards for our communities.
3. **Strengthening telecommunications network resiliency:** Enhancing communications network resiliency through investments in [redacted] to ensure that our growing infrastructure remains protected and reliable as we expand to meet increasing electricity demand.
4. **Robust, reliable, secure ET network control:** Our network control systems, [redacted] will provide real-time visibility and control of our assets, allowing us to respond quickly to changing network conditions and customer needs.
5. **Enabling our digital strategy:** By maintaining robust and reliable core IT capabilities, [redacted]

Our five IT&T strategic areas directly enable all our business plan ambitions, objectives, and associated commitments with a direct mapping to our third ambition to *'Transform the way we work'*. Our IT&T investments are interlinked, enabling the success of our business plan ambitions as we transform our capabilities to deliver for consumers.

Figure 3: IT&T strategy key objectives mapped against RIIO-T3 Business Plan commitment, 'Transform the way we work'

Our business plan recognises the need to drive cost efficiency and consumer value while providing essential digital, data, and IT&T enablement for the electricity transmission network of tomorrow. Our proposed investments reflect this balance, and we will maintain this focus throughout the RIIO-T3 period.

We will deliver most of our technology and telecommunications capabilities through two channels: the scaled services provided by the National Grid Group IT&D function and our [redacted] These teams have incorporated the necessary performance, expansion and resilience factors to meet our commitments and obligations.

3. Investment Overview

We have identified investments across technology and telecommunications to deliver against our five IT&T strategy areas. Our investments will provide for and maintain a level of viable service, required to efficiently and effectively operate an enterprise of our scale such that operational services can continue to be delivered, vendor support remains available, security and patching can be maintained, and we can manage capabilities to the standards we have committed to our users and stakeholders.

These investments encompass various levels of solution or technology refresh, expansion and enhancement. The responsible teams base their assessments on multiple factors, including equipment end-of-life, vendor roadmaps, advances in technology, value for money, and strategic architectural direction. They must also account for our evolving requirements as we aim to increase our workload within the regulatory period. Core considerations for selecting IT&T solution options include:

- New regulations or directives we must comply with.
- How we can improve value delivery and sustainability.
- How we need to support business change driven by internal and external factors
- The business capabilities we plan to digitise that are driving consumer value

A proportion of our investment proposals are focused on exploring new opportunities either through new technology or capability entering the market that show potential or identifying new use cases for existing technology. To further understand a use case, we validate how it could be incorporated into our operations in a way that delivers tangible value for our IT&T infrastructure.

The investments discussed in our IT&T strategy do not include our Data & Digitalisation investments, which are covered in our DSAP (See Annex A05: Digitalisation Strategy & Action Plan). The drivers and benefits of digital investments are described in detail in their respective justification papers (refer to Engineering Justification Papers – EJPs). The investments presented in this document provide a foundation for those presented in the DSAP.

3.1. Summary of our proposed investments

The following tables lists the proposed IT&T investments, which are described in detail in their respective proposals (references in the table).

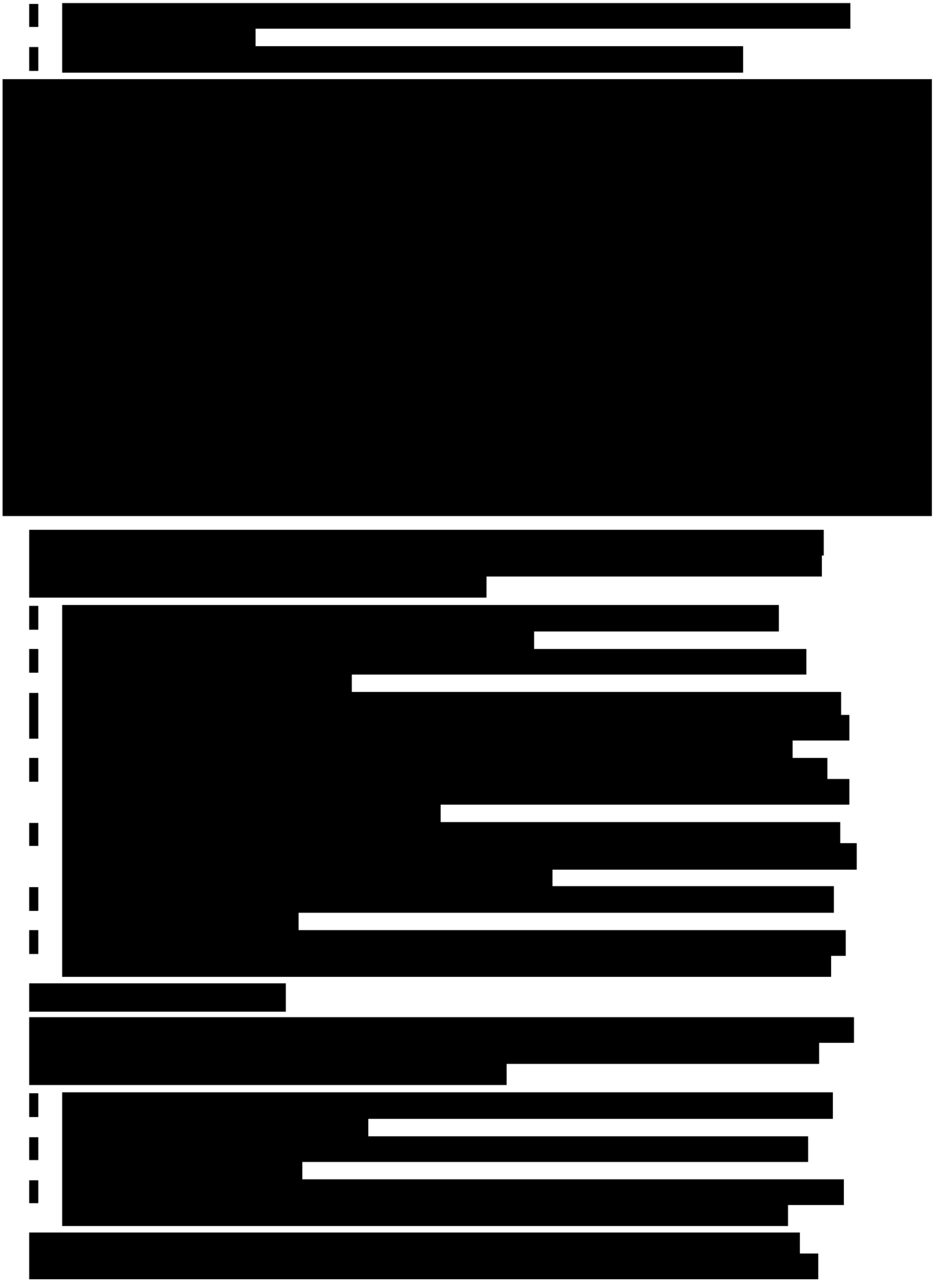
Investment area	RIIO-T2 progress	Future digital solution	What will we deliver?	RIIO-T3 strategic area
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Investment area	RIIO-T2 progress	Future digital solution	What will we deliver?	RIIO-T3 strategic area
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Finance Systems: UK Finance **Value:** [redacted] **EJP(s):** "Group Functions - UK Finance (ERP)" **BPDT Table 9.1 Ref(s):** PRJ-6963, PRJ-6981	• Migration of majority of functions from [redacted] • Delivering foundation integration between [redacted] and Enterprise Asset Management (EAM) system	• ERP maintenance & development • Digital service enablement • Strategic solution for Managed Service Provider time sheeting • Digital service for time recording integrated with HR's solution • Finance data platform	• Maintain the viability of the [redacted] in RIIO-T3, reducing risks of operational failure by adopting an evergreen approach. • Ensure the end of lie issues with the [redacted] are managed out	• Operational efficiency • Enabling our digital strategy
People Services: HR (Joiners to Leavers) **Value:** [redacted] **EJP(s):** "Group Functions - HR (J2L)" **BPDT Table 9.1 Ref(s):** PRJ-6983, PRJ-6985 PRJ-6986, PRJ-6988 PRJ-6991, PRJ-6993 PRJ-6994, PRJ-6995	• Enhancement of core People systems, with standardised core platform • Migration to [redacted] • Implementation of [redacted] • Migration to [redacted]	• People function product enhancement • People services platform & enhancements • Time, attendance & payroll	• Maintain the viability of the current people and payroll platforms and services • Continue investment in the People Digital Transformation programme with the implementation of the [redacted] • New time entry and pay solutions • Enable improvements in data availability • Remain at the forefront of people management technologies • Increased automation & ease of use	• Operational efficiency • Enabling our digital strategy

Investment area	RIIO-T2 progress	Future digital solution	What will we deliver?	RIIO-T3 strategic area
General Counsel: Legal technology investments **Value:** [redacted] **EJP(s):** "Group Functions - General Counsel" **BPDT Table 9.1 Ref(s):** PRJ-6964 – PRJ-6970, PRJ-7359	• Climate change risk tool • Agile product operating model • Crisis Management Dashboard version 1 • [redacted]	• Resiliency & crisis management system capability development [redacted] • SHE - leveraging health and safety data	• Advance the use of artificial intelligence and machine learning to reduce risk and improve compliance • Evolve the platform technologies to move capability maturity level from descriptive analysis to diagnostic and prescriptive • Ensure continued provision of resilient services for a safe working environment • Adapt to the faster pace and expanded work volumes • Improved assessment of safety risk and subsequent incident reduction	• Operational efficiency • Enabling our digital strategy
BAU IT: Procurement (Source-to-Pay) **Value:** [redacted] **EJP(s):** "Group Functions - Procurement (S2P)" **BPDT Table 9.1 Ref(s):** PRJ-6897 – PRJ-6900	• Implementation of [redacted] • Procurement digital transformation [redacted] • Tool for procurement organisation • Solution for improved planning capabilities	• Procurement digital transformation (scaling Supplier Partnership programme) • Procurement insights • Leveraging AI • Supply chain transparency (dynamic demand aggregation) • [redacted]	• Improve source to pay activities to navigate complex supply chain challenges, as the volumes increase to meet the demands of the grid expansion plans by upgrading systems to integrate the purchasing function with accounts payable solutions. • Increase automation technologies and apply artificial intelligence, building on the RIIO-T2 investments • Secure supply of critical materials • Enhance capital efficiency • Streamlined supplier engagement • More competitive supply market	• Operational efficiency • Enabling our digital strategy
Corporate Affairs, Strategy & External affairs: **Value:** [redacted] **EJP(s):** "Group Functions - Strategy and External Affairs" **BPDT Table 9.1 Ref(s):** PRJ-6957 – PRJ-6961	• Established evolution strategy for websites • Investment in stakeholder relationship tooling • Enterprise Hub delivered	• Web digital evolution	• Implement and evolve from previous investments: • Group website improvement • Social media tooling • Stakeholder and brand management tooling • Strategic investment planning and management systems • Environmental, social and corporate governance tooling	• Operational efficiency • Enabling our digital strategy

Investment area	RIIO-T2 progress	Future digital solution	What will we deliver?	RIIO-T3 strategic area
Digital Platforms and Infrastructure Technology: IT Delivery Services **Value:** [redacted] **EJP(s):** "DPIT – Delivery" **BPDT Table 9.1 Ref(s):** PRJ-7578, PRJ-7582, PRJ-7583	• Delivered the key foundations of automated modern IT tools and services within the Delivery Solution and begun a process of insourcing several capabilities, including: • Unified Technology Operation Centre • Artificial Intelligence Operations platform • Transformation of Support Function	• Operations (support technology services throughout life cycle) • Development (DevOps tools) • Support (centralised services supporting end-user community)	• Enhance the support and deployment of IT services and digital platforms • Maintain currency of estate including tooling, operating systems, and associated platforms. • Deliver end-to-end observability over the Enterprise IT estate • Leverage Artificial Intelligence (AI) • Maintain the viability of the operations and support services • Improved service management and faster problem resolution • Reduce cost and friction in user experience of service delivery and increase self-service options.	• Operational efficiency • Enabling our digital strategy
Digital Platforms and Infrastructure Technology: IT Digital Workplace Services **Value:** [redacted] **EJP(s):** "DPIT- Digital Workplace" **BPDT Table 9.1 Ref(s):** PRJ-7579, PRJ-7580	• Established our Digital Workplace Services (DWS) function within our Digital Platforms and Information Technology (DPIT) organisation, which centralised functions previously carried out within each of our business units.	• Client computing (physical desktops, laptops, thin client machines, peripherals use by individuals to perform work) • Communications & collaboration (cloud tools to communicate via email or chat, collaborate through shared workspaces)	• Provide and refresh end user devices and operating systems (PC and Mobile) • Maintain and enhance content creation and collaboration services • Maintain and enhance directory services • [redacted] • Reduce risk of security issues from out-of-date user devices, content creation, identity & access management, and collaboration services • Improved user experience of their devices and associated services	• Operational efficiency • Enabling our digital strategy

Investment area	RIIO-T2 progress	Future digital solution	What will we deliver?	RIIO-T3 strategic area
Digital Platforms and Infrastructure Technology: IT Infrastructure **Value:** [redacted] **EJP(s):** "DPIT-Infrastructure" **BPDT Table 9.1 Ref(s):** PRJ-7570, PRJ-7581	• Undertook a substantial modernisation programme in both our Cloud infrastructure services and our Enterprise data network • Data centre transformation programme for cloud infrastructure	• Cloud computing • Networks (interconnected systems of devices, equipment, and infrastructure)	• Maintain existing asset base and service levels • Enhance the capacity and services as needs evolve • Reduce security risks associated with out of data infrastructure • Meet capacity and service needs driven by increased digitalisation and business plan work volumes • Reduce costs and improve carbon efficiency	• Operational efficiency • Enabling our digital strategy
Digital Platforms and Infrastructure Technology: IT Platforms **Value:** [redacted] **EJP(s):** "DPIT – Platform" **BPDT Table 9.1 Ref(s):** PRJ-7575	• Delivered foundations of automated, modern application platform tools and services that offered "Self- Service" options: [redacted]	• People function product enhancement	• Maintain viability of existing platform technologies • Mature the platforms in line with technological advances, including artificial intelligence and automation • Increase user self-service through guided automation • Reduce costs associated with service delivery • Reduce friction and delivery risk • Gain increased data to drive future efficiencies	• Operational efficiency • Enabling our digital strategy



safe alternative. In these scenarios, the number of individual connection points required could pose a

5. How our investments will be delivered

To deliver our proposed investments we have updated our business strategies including changes to our operating model, assessment processes, and delivery and sustainability frameworks.

5.1. How we deliver: considerations for deliverability

All IT&T initiatives begin with clear business objectives to ensure technology investments directly support strategic goals and deliver measurable value to consumers. The process starts by establishing the business case and direction for each investment, followed by determining the most effective delivery approach to achieve these outcomes.

Our business value streams from a digital, technology, and telecommunications perspective were documented in RIIO-T2 providing a framework for understanding delivery of consumer value.

Additionally, a business capability model was developed, aligned with our operational approach. This model frames the programme of changes to our business capabilities.

In RIIO-T3, the evolution of the value streams and business capability model will be used for identifying, articulating, and prioritising change based on its value proposition. Value proposition will link our high-level strategy to specific proposed changes. This approach ensures informed decision-making about activities and methods, enhancing consumer value and increasing organisational agility.

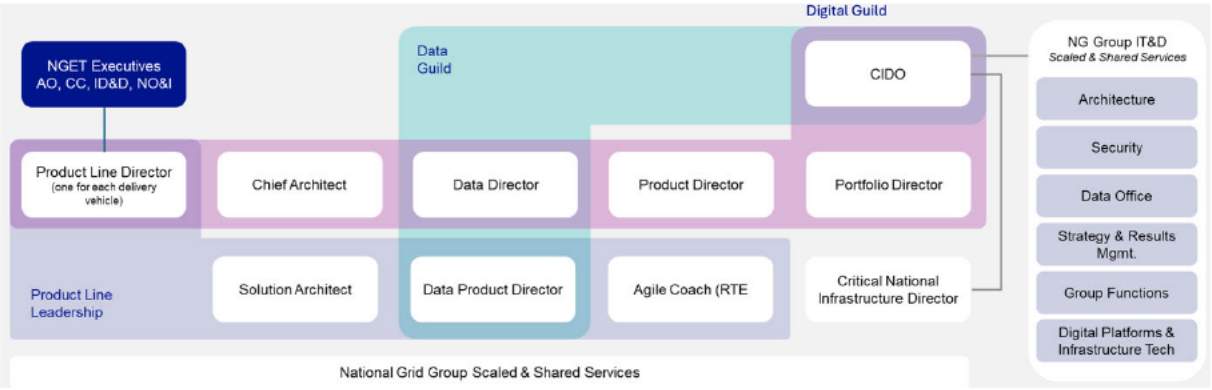
5.2. Business strategy & policies

To successfully deliver our IT investments, we have established a comprehensive business strategy and suite of policies that encompass operating model changes, technology and process innovation, cybersecurity resilience, third-party service providers, and management of Run-the-Business cost.

5.2.1. Operating Model changes to efficiently deliver investments

Recognising the importance of operational agility, we implemented our revised operating model early in the RIIO-T2 period to translate IT&T policies and strategic commitments into tangible operational capabilities. Our operating model provides the framework that enables efficient service delivery, manages resources strategically, and maintains flexibility. We have conducted detailed engagement with each of our core business areas (we call these 'delivery vehicles') to determine priorities.

Figure 5: Digital operating model organisational chart; multi-matrix model and guild governance



The operating model is structured around five core delivery vehicles aligning to our organisational structure: Asset Operations (AO), Customer Connections (CC), Infrastructure Development and Design (ID&D), Network Operations and Intelligence (NO&I), and Strategic Infrastructure (SI).

[redacted]

Since RIIO-T1, we have evolved from a largely outsourced delivery model, where many technology capabilities were provided by offshore development groups, to a hybrid model comprising:

- Chief Information & Digital Officer (CIDO) team
- Business executive aligned Digital teams (product lines)
- National Grid Group IT&D Function
- Third party service providers

The CIDO teams deliver essential services and technology platforms across multiple domains including product development, portfolio management, architecture, and data, coordinated through Digital and Data Guilds and guided by our architectural vision and strategy. Through these capabilities and their internal consulting expertise, the team ensures business decisions align with organisational policies while delivering sustainable, consumer-focused value. This revised operating model enables us to achieve the proposals we have put forward in our business plan by:

- Ensuring there is a clear connection from the business capability owners to the digital teams, so they can maintain a more detailed understanding of business need and pivot to deliver value, whilst retaining the knowledge and expertise in house.
- Enterprise Architecture (EA) capabilities sitting within the CIDO team to develop the architecture vision and strategy and associated technology roadmaps that enable our business plan.

- A co-ordinating function provided by the CIDO team, so a whole organisational perspective can be considered, and appropriate governance is in place. This is coupled with a connection to the scaled and shared services provided by National Grid Group; the CIDO provides the business insight and advocacy for our digitalisation, technology and telecommunications needs.
- Providing scaled and shared services at the National Grid group level, where this enhances the value proposition and enabling resource elasticity in the delivery of services and solutions so we can dynamically respond to workload demands.

5.2.2. Exploiting our revised operating model

As part of the National Grid Group, we can leverage group-level solutions and services, such as:

- End-user device provisioning
- Collaboration & personal productivity suites
- Identity & access management
- Group level business applications (e.g., [redacted])

National Grid IT&D is structured in a federated model that allows IT services to be focussed on our specific needs. In this model operationally focussed IT&D requirements are developed in close cooperation with the operational business capabilities they support through functionally focussed Delivery Vehicles (DVs). This model ensures that operationally focussed IT&D solutions are well tailored to the needs of the specific businesses they support.

In the business services space, where applications and services are more generic in nature, National Grid provides solutions and services shared across its operating entities. We can use Group services such as finance and human resources accessed via the common platforms for these functions for which we contribute [redacted] of the whole cost. In doing so we benefit from high quality enterprise level solutions while sharing the cost of implementation, operation and ongoing upgrades with other operating entities within the group and allowing us to seamlessly access professional services from National Grid Group functions such as Finance, Legal and HR.

Provision of core infrastructure in the form of networks, hosting and cloud services, and provision of digital workplace services to efficiently enable our colleagues is similarly provided as a core commodity service and our contribution to the Group costs is [redacted] of the whole. Not only is this cost efficient, again sharing the cost burden across our Group of operating entities but is operationally effective providing common platforms and experience across our teams ensuring all colleagues are able to communicate and operate together when required. By providing core infrastructure as a Group service, we also enable consistent and effective controls and cyber protection.

During the RIIO-T2 period, we made significant use of scaled and shared services from National Grid Group where it was practical and cost effective to do so. However, following a review of the most effective options to meet our strategic investment needs, there were instances where the CIDO team elected not to use certain Group-level solutions or services, as the overall value proposition did not align with the best interests of UK consumers (e.g. Great Grid Partnership collaboration environment).

During the RIIO-T3 period, the CIDO team will actively evaluate the scaled and shared services provided by the National Grid Group when considering how to deliver for a particular investment. Where possible, we will work collaboratively to architect and calibrate offerings to derive greater value for the consumers, however where necessary we will implement individual solutions to the same end.

5.2.3. Improving the delivery of business technology platforms

We have also made several changes to our line-of-business technology platforms during the RIIO-T2 period, including rationalisation decisions to improve value delivery. As part of our operating model changes, we ensured a balance of resources focused on service delivery to users and stakeholders. The goal is to ensure these platforms deliver required levels of reliability, availability, and performance to meet business needs, within a cost profile that represents the best value for consumers.

We have a multi-pronged approach for the delivery of our line-of-business platforms, with a preference for software-as-a-service (SaaS) solutions provided by the vendor. Where SaaS is not viable or cost-effective, we also have access to platform-as-a-service (PaaS) and managed data centre options, which are determined based on the appropriate contextual elements to ensure the best possible value proposition.

During the RIIO-T3 period, we will continuously improve the operations associated with the delivery of our line-of-business technology platforms and services, from both a cost and quality perspective. This will include managing the anticipated expansion in the use of these platforms as our business scales, as well as the implementation of replacement platforms where a clear value proposition exists.

5.2.4. Leveraging technology & process innovation

We will continue to seek opportunities to leverage innovative technology solutions and or process automation and innovation to deliver increased utilisation of assets and resources in both infrastructure and human resources.

Figure 6: CIDO Team Function

5.2.5. Architecture vision & strategy

To deliver a robust response to the business plan digitalisation, data and technology & telecommunications needs, we developed the following architecture vision and strategy to guide our approach in a way that delivers on our commitments to consumer value:

Vision principles:

- Focusing digital delivery using a few core platforms (e.g. [redacted], Enterprise Asset Management, Relationship Management, Portfolio, Work Management, Common Data Environment, Intelligent Planning) that have aligned information models, enabled by loosely coupled integration patterns.
- Recognising that there will always be a need for additional solutions aligned to each of the core platforms to support the efficient delivery of business outcomes.
- Architecting for the whole environment (operational technology and non-operational technology), such that the security and compliance levels essential for the operational technology environment are met and we provide appropriate delineated boundaries between both. This ensures non-operational technology environments can provide for enterprise business needs while we design appropriate levels of reliability, availability, security, and robustness in the designs for both.

Data & information management:

- Creating a consistent way of curating and managing the underlying data environment that will hold the information related to upgrading, expanding, enhancing, and connecting the electricity transmission network.
- Using the curated data environment to provide real-time, up-to-date, and accurate information available for all aspects of planning. Access will allow us to improve our long-term planning and make our operations more effective.
- Ensuring the different platforms and applications used can work together seamlessly with a common user experience, allowing colleagues to easily gather and share information.
- Enabling increased automation and integration in construction management (i.e. BIM repository).
- Continuing to align with Data Best Practice and support the implementation of DSI as it evolves.
- Making appropriate use of Geographical Information Systems to enhance the user and stakeholder experiences and provide the perspectives that add value.
- Increasing use of commodity solutions to manage the storage of content whilst maintaining the relationship with the transactions it relates to.

Solution Approach:

- Investing in an adaptable and modular suite of solutions that enable appropriately governed enhancements and configurations, aligning with the "out-of-the-box first" philosophy while maintaining the flexibility to evolve in delivering on business outcomes.
- Bringing together as many functions as possible under a unified user experience layer to reduce the number of interface experiences required to deliver business outcomes.
- Aligning to the National Grid Group solutions where possible but implementing solutions unique to NGET where there is sufficient business value justification.
- Working from the principle that to fulfil the vision and manage against the agreed operating cost profile, the digital team needs decision making rights in conjunction with the lines of business, on the solutions employed, the implementation costs and operations of those solutions.

Organisational alignment:

- Recognising that National Grid Group is a federated business with multiple business units that are strategy-setting entities, responding to both the ambitions set at a Group level and their unique business contexts.
- Enabling bi-directional information flows between NGET and other National Grid Group entities while maintaining system independence through loose coupling, flexible informational models, and distributed architectures.

5.2.6. Rightsizing the security and cyber resilience of our environment

We must continue to reduce risk within operational IT and telecoms and maintain a 24/7 operational telecoms network. As a key provider of Critical National Infrastructure services within the regulated UK sector, we will build a network that is resilient and secure by design delivering IT services that are resilient to cyber-attack. This will be grounded in the longer-term predictions of the environment our assets will be operating in, where assets need a solution proportionate to the life of the asset. We will adopt 'secure by design' principles across all our assets.

Our vision is to ensure that our essential services are maintained, specifically the delivery of safe and resilient electricity services across the regions in which we operate [redacted] In doing so, we will achieve recognition as a global cybersecurity leader in the sector and sustain trust in our services.

This vision is elaborated by the following aims:

- [redacted]
- [redacted]
- We will organise and continuously improve our operating model and resourcing for the delivery of cybersecurity and interconnected functions.

5.2.7. Third-party service provider policy

Our third-party service providers bring specific expertise and resource augmentation to our IT&T functions, through multiple frameworks which are regularly market tested to ensure quality of delivery and value for money.

[redacted]

- [redacted]
- [redacted]
- [redacted]

These frameworks, when combined, provide for the delivery of consumer value via access to the right expertise at the right price and the flexibility to increase or decrease resources as needed.

5.2.8. Managing the IT "Run the Business" cost

Across the IT & Digital business within National Grid, we constantly review and challenge ourselves on the "Run the Business" (RTB) costs to ensure we are and will continue to be efficient, benchmarking ourselves against external organisations. The efficiency of the IT&D investment proposals and the ongoing cost to serve are demonstrated in the benchmarking carried out to support this business plan submission. As part of the cost review [redacted] was commissioned to carry out a review of all investment proposals assuring both the scope and cost estimation.

Benchmarking of our ongoing cost of service often referred to as RTB was carried out by [redacted] establishing a target operating cost as a percentage of revenue. [redacted] A14 (Cost Assessment and Benchmarking Approach).

The IT cost base is continually reviewed to ensure that it is delivering value for money. With the divestment of NESO, we have carried out a more detailed review and assessed the cost base against an external benchmark, [redacted] to ensure delivery of consumer value. This has led to modifications in our organisational structure and addresses the inefficiencies from the divestments.

[redacted]

[redacted] We will work to eliminate further inefficiencies introduced by the transaction, aiming to create an effective IT&D organisation.

We know we will need to recover RTB costs and any cost-to-achieve as we mitigate these inefficiencies. However, while we know there will be cost-to-achieve, at this point in the process (before NESO has submitted its exit plan), we do not have sufficient certainty on the timing and quantum of these costs to be able to include them as part of the RIIO-T3 baseline submission.

[redacted]

In summary, we are continually looking to make sure we are delivering efficient services and are testing that against external benchmarks. Though this becomes harder with the sale of NESO, we are working to understand the changes that need to be made and planning how we accommodate these with minimal impact to the consumer.

5.3. Assessment processes and techniques

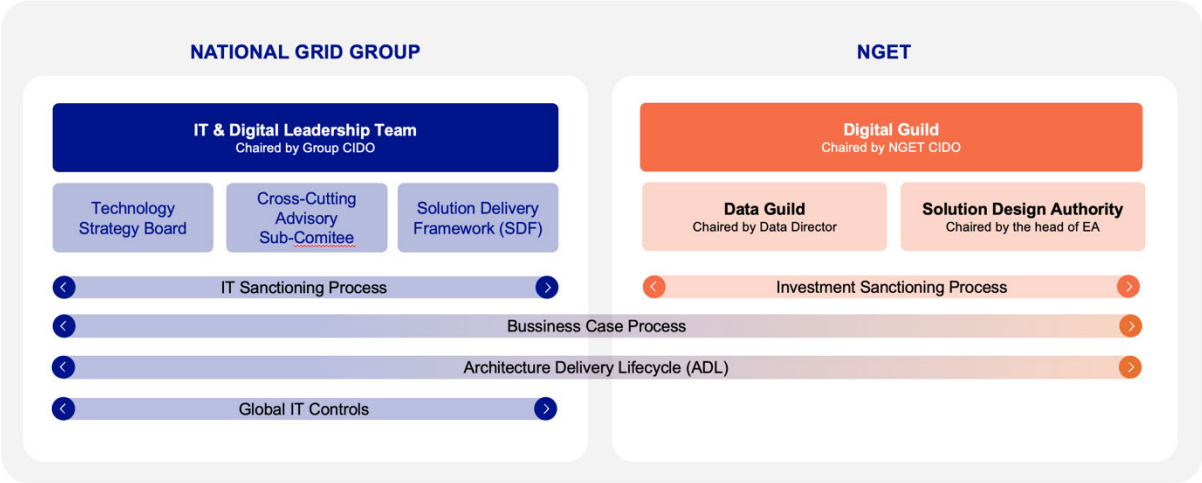
To ensure our IT&T investments are justified and co-ordinated for maximum efficiency, we have established a robust approach to governance of IT and Telecommunications.

Our governance approach ensures:

- Clear connection to business capability owners to make sure functional and non-functional needs are clearly identified
- Co-ordination from a whole organisational perspective
- Best use of scaled and shared services at NG Group level where appropriate
- Delivery via either the waterfall or agile methodologies and associated management systems
- Understanding and management of risks in our operations and delivery
- Compliance with our policies and standards

IT & Digital governance activities are performed at two levels: National Grid Electricity Transmission (NGET) and National Grid Group. This ensures delivery of local business needs, leveraging the scale of a larger group.

Figure 7: NGET and NG Group governance forums and processes



5.4. Governance: National Grid Electricity Transmission (NGET)

5.4.1. Digital Guild

The Digital Guild, chaired by the CIDO (Chief Information and Digital Officer), brings together the Product Line Directors (PLD) from each area of our business and strategic transformation representatives, with the CIDO leadership team. This ensures and enables balance between the whole organisation needs and that of the specific delivery vehicle. It functions as:

- A governance forum for technology and product leaders to collaborate on the alignment of their products, technologies and services with the business strategy.
- A communications forum to socialise the performance and benefits realisation.
- An escalation forum for issues that cannot be solved at a product line level.

5.4.2. Data Guild

The Data Guild reports to the Digital Guild, it is chaired by the Data Director from the CIDO team, with the Data Product Managers from each delivery vehicle represented, alongside the relevant architecture and platform team members. It has the focus on ensuring compliance with data best practices and is leading on the data sharing infrastructure from a technology perspective.

5.4.3. Solution Design Authority

Chaired by our Head of Enterprise Architecture, the Solution Design Authority (SDA) is accountable for reviewing all proposed solution architectures prior to development and at various stages throughout the development in line with its delivery methodology and release into production. The SDA also engages early in solution conceptualisation, to assess business need, optionality, and value proposition as well consult on how this could be met, considering our wider strategy and capability options, technology re-use and standards, sustainability and delivery viability.

5.4.4. Investment Sanctioning

The investment sanctioning process is the formal business process of reviewing and approving investments of any kind, which depending on the amount being sanctioned involves all levels from our executives up to and including the National Grid Group executives. However, since a large proportion of IT&T spend is in the form of investments, it is appropriate to acknowledge this aspect of governance. From a technology and telecommunications investment perspective, all submissions are reviewed and approved by the Digital Guild prior to being proposed for formal financial sanction.

5.4.5. Delivery Methodology Governance

We use two delivery methodologies, Scaled Agile Framework (SAFe) and Waterfall. Prior to sanction development a delivery methodology is determined for a portfolio item; post sanction governance aligns to the methodology selected. There is an additional aspect of governance that on occasion needs to be followed, which is the our BP500 process, which accounts for digital, technology and telecoms projects that must interact closely with our construction accountabilities.

5.5. Governance: National Grid Group

The following governing bodies and procedures are in place within IT & Digital at the National Grid group level:

5.5.1. IT & Digital Leadership Team (DTLT)

The DTLT, led by the Group Chief Information Digital Officer (CIDO), provides the strategic vision and sets the goals for National Grid IT, identifies focus areas for initiatives and programs, defines the IT budget and distribution across IT portfolios, and promotes clear communication and direction across all National Grid IT functions.

5.5.2. Technology Strategy Board (TSB)

The TSB reviews fundamental Business Unit (BU) Activities ("as-is", Roadmaps), fosters innovative ideas & technologies, determines cross-BU common business processes to drive common technical strategies, undertakes strategic technology partner engagements, drives re-usability across BUs to reduce costs and expedites time-to-deployment.

5.5.3. Cross-Cutting Advisory Sub-Committee

The advisory team prioritises large initiatives that impact multiple business units, including large technology programs, and promotes cross-BU alignment on strategic portfolio decisions. These initiatives can be sponsored within a Business Unit, Group Function, or IT&D. It is comprised of appointed representatives from each Group Exec member, including the CFOs of each Business Unit.

5.5.4. Global IT Controls

The Global IT Control set provides one risk framework for IT. This framework is a data structure that organises and categorises Global IT controls, established to create business value, and minimise risk. The control set brings together industry frameworks and regulations applicable to IT&T. Controls are owned by first line process owners and are mapped to IT&T risks owned by a member of the DTLT.

5.5.5. Solution Delivery Framework (SDF)

The Solution Delivery Framework provides the structure and standardisation for IT programme and project delivery and execution. Defined and managed by IT Strategy & Results Management, the SDF enables CIDOs, Portfolio Managers, Project Managers, and IT Delivery Centre stakeholders to ensure IT projects & programs are following IT standards and consistently being delivered efficiently.

5.5.6. Business Case Process

Provide National Grid executive leadership, stakeholders, and our regulators with a management tool for evidence-based and transparent decision making and prioritisation. It is a framework for delivery and performance monitoring of the project to follow thereafter.

5.5.7. IT Sanctioning Processes

The IT sanctioning processes, defined and managed by IT Strategy & Results Management, are the processes by which funding is requested and approved for all National Grid IT solutions.

5.5.8. Architecture Delivery Lifecycle (ADL)

The ADL, defined and managed by Enterprise Architecture, is a four-phase lifecycle that provides structure and standardisation of the development, delivery, and retirement of architecture definitions for all National Grid IT solutions.

5.6. Addressing sustainability

National Grid IT seeks to align to our wider business commitments under our Responsible Business Charter (RBC) committing to being a responsible business in everything we do.

National Grid continues to be a signatory to the UN Global Compact because it provides a valuable framework as we work towards our ambition to achieve net zero by 2050. The Sustainable Development Goals (SDGs) are a universal call to action to end poverty, protect the planet and ensure all people enjoy peace and prosperity. National Grid's RBC aligns with four of the 17 SDGs, outlining our commitments and contributions towards them through our activities and programmes. National Grid IT seeks to align to our wider business commitments by aligning initiatives and outcomes to these goals as our sustainable IT delivery matures.

In our engagement sessions, stakeholders emphasised the need for sustainable practices and increased use of virtual tools to balance affordability, reliability, and net zero goals. Our IT&T investments will enable and accelerate the delivery of our RIIO-T3 ambitions and commitments.

Operating our business with a strong focus on social and environmental responsibility is fundamental to the way we work. This approach is vital for creating sustainable and long-term value for our investors, meeting the needs of our stakeholders and making a positive impact on society. It also ensures that we maintain our social licence to operate. It means that sustainability is part of our business strategy and is embedded in our strategic priorities, as well as demonstrated through our actions.

Strategic sustainability priorities:

- Mature our IT operational data to support the sustainable delivery of technology across our enterprise.
- Collaborate with our vendor partners to influence sustainable behaviours & drive innovation throughout our supply chains.
- Embed sustainability into internal NG IT culture to drive sustainability outcomes in alignment to our RBC and the UN SDGs.
- Leverage our architectural assurance processes to drive reductions in waste and duplication of solutions and services.
- Balance the need to maintain secure and reliable capabilities with extracting the maximum amount of use from our IT&T assets.
- Use by default and migrate to cloud based services, where we can leverage the scale and expertise of the vendors to deliver their services with the lowest carbon profile in the energy they consume, and the most energy efficient compute, storage and cooling capabilities and operational processes available.

National Grid IT has chosen to take inspiration from SustainableIT.ORG when assessing the elements of sustainability that should be considered during investment planning and selection of products and services.

5.7. Considerations for Artificial Intelligence and Machine Learning

We referenced this in our RIIO-T2 IT&T strategy, as we could see use cases evolving. Throughout RIIO-T2, these technologies have matured to the point where many more use cases have been identified and there are references to Artificial Intelligence (AI) and Machine Learning (ML) in several of our investment proposals.

We see great potential in AI/ML across our business, from the delivery of our core operations to improving the efficiency of the everyday tasks people undertake. However, the application of these technologies in our business context requires caution and we will follow the following principles:

- **Use case driven** – Beyond investigating technologies and solutions for potential, all investments in AI/ML will be driven by business use case.
- **Trust** – We will start from a position of low trust, utilising explainability, bias mitigation and feedback loops to improve trust in the outcomes, keeping human in the loop for the foreseeable future.
- **Transparency** – We will not implement things we cannot understand or explain.
- **Diversity** – We will not apply a one size fits all approach, many of our potential use cases require specialised AI/ML capabilities and we will select the right tool for the required outcome.
- **Expertise driven** – We acknowledge that many aspects of AI/ML are specialised and will engage the appropriate expertise as part of any delivery.

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