

FY24 Annual Service Improvement Plan



Access



Connect



Use



Reliability



Repair

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Disclaimer

This Annual Service Improvement Plan (ASIP) is published pursuant to nbn's Special Access Undertaking, which is a regulatory undertaking given to the ACCC. This ASIP represents nbn's genuine and reasonable belief, as at the date of publication, of the matters detailed in the ASIP. These matters are subject to change and may be dependent on stakeholder feedback and consideration of nbn acting in a commercially reasonable manner for the long-term interests of end users.

References to speeds or bandwidth profiles in this document are not to end customer speeds; they are wholesale layer 2 peak information rate (PIR) or potential maximum information rate bandwidth provided to retail providers unless stated otherwise. An end customer's experience, including the speeds actually achieved over the nbn* network, depends on the nbn* network technology and configuration over which services are delivered to their premises, whether they are using the internet during the busy period, and some factors outside of nbn's control (like their equipment quality, software, chosen broadband plan, signal reception, or how their provider designs its network). Refer to nbn's website and the Wholesale Broadband Agreement for further information.

Environment

nbn asks that you consider the environment before printing this document.

About the Annual Service Improvement Plan

Background

Under Module 4, clause 4A.4 of nbn's Special Access Undertaking (SAU), nbn is required to publish:

1. an Annual Service Improvement Plan (ASIP) detailing initiatives which have the purpose of enhancing the retail service provider (RSP) and/or end user experience that are planned to commence or continue in Financial Year 2024 (FY24) and which nbn expects will incur material capital or operating expenditure. nbn's SAU Variation requires nbn to publish the first ASIP within 20 Business Days of the SAU Variation being accepted by the ACCC. nbn is then required to consult with access seekers to develop updated ASIPs, for publication within 20 Business Days after the start of FY25 and FY26. Consultation on the FY25 ASIP plans to commence shortly in order for RSP feedback to be effectively considered in the development of nbn's Integrated Operating Plan (IOP) for FY25.
2. an Annual Service Performance Review (ASPR) by 30 June each year. In formulating the report nbn will consult with RSPs to obtain their input on nbn's performance for each of the Wholesale Broadband Agreement (WBA) service levels and performance objectives (WBA Service Standards) over the previous 12 months and their views on the relevance and effectiveness of these to the access seeker products supplied to end users and/or impacts on end user experience. The report will also include an assessment of the impacts on WBA Service Standards from related ASIP initiatives and detail any proposed changes to service standards or operational processes.



Purpose and scope

This ASIP summarises:

- those initiatives focused on enhancing the RSP/end user experience commencing or continuing in FY24 for which **nbn** has forecast material capital or operating expenditure in its IOP for this financial year;
- the intended benefits that **nbn** expects the initiative to deliver for end users and/or RSPs;
- planned timeframes for **nbn** implementing these initiatives;
- the category of capital expenditure or operating expenditure used in the forecasts for the Regulatory Cycle to which the initiative relates; and
- whether **nbn** intends to submit a Cost Pass-Through Application in accordance with clause 2D.5 of the SAU.

Future ASIPs for FY25 and FY26 will also include a progress update on the milestones included in the previous ASIP, and a summary of how **nbn** has considered feedback from access seekers in the development of the ASIP.

The ASIP is intended to capture and provide transparency on the key initiatives that underpin our forecast expenditure for uplifting customer experience and service performance for the Regulatory Cycle and complements existing engagements that **nbn** has with RSPs on a range of product and service-related matters.

As a wholesale only provider, **nbn** seeks to identify and respond to RSP concerns through a number of existing channels including:

- **Dedicated account management and operational engagement teams:** Account management and operational engagement teams are a key interface for RSPs in order to manage operational priorities and WBA matters more broadly. **nbn** ensures that all RSPs have continuing access to account managers in order to, among other matters, raise service and operational concerns in order for **nbn** to work with RSPs on appropriate and timely solutions; and
- **Product Development Forum (PDF):** The PDF provides RSPs (and other PDF members) with the opportunity to submit Product Ideas (including in relation to quality as an important feature/attribute of a product) for consideration through the forum, as well as enable consultation on **nbn**-proposed Product Ideas.

These channels will continue to be critical for **nbn** and RSPs to identify areas of concern (whether related to service quality or otherwise) and potential solutions to address issues as soon as reasonably possible.

The ASIP complements these engagements through providing a consolidated view of the key service improvement programs planned for the coming financial year. Unlike future ASIPs, that will be published closer to the commencement of the financial year and that will follow a dedicated stakeholder consultation, it is important to note that this ASIP 24 is being published well after the commencement of the current financial year and is reflective of the plans underpinning IOP24 which underpins **nbn**'s Corporate Plan (released on 31 August 2023).

Executive Summary

nbn's ASIP for FY24 sets out eight key initiatives which have the purpose of directly and indirectly improving service outcomes for RSPs and their end users. Service improvements are expected to eventuate through focusing on the range of attributes along the service experience journey. While improving each attribute will, in their own right, make a positive contribution, it is the combination of improvements across all attributes which is expected to result in incremental, sustainably improved service outcomes.

nbn's initiatives included in the program (as described in this ASIP) focus on:

- Building network capability** through investments which expand, modernise and augment the footprint of **nbn**'s FTTP, HFC and Fixed Wireless networks.
- System enhancements** which simplify and automate key network management and operational activities in the end-to-end ecosystem.
- Continuous improvement** and redesign of processes.
- Workforce capacity capability improvements** for both our internal and delivery partner workforces.

Each year **nbn** plans to use the ASPR¹ framework to evaluate how the service improvement program initiatives have materialised into qualitative and quantitative service outcomes and consult with industry to consider refinements and opportunities for improvements to WBA Service Standards and/or Benchmark Service Standards in the SAU.

nbn's capital expenditure in FY24 is dominated by two key programs, with the initiatives related to the FTTN/C to FTTP and the Fixed Wireless upgrade programs accounting for approximately 60% of **nbn**'s forecast capital expenditure in FY24. These two programs not only bring with them significant technical capability improvements but are expected to enable a material change in the quality of service experienced by RSPs and their customers. Under the FTTN/C to FTTP program, end users will have access to higher speeds along with greater consistency of service experience and enhanced network reliability. The Fixed Wireless upgrade program plans to not only expand the footprint of end users that have access to this technology but is intended to uplift the typical wholesale busy period download speed of these services and cater for the introduction of additional high-speed tiers.

As part of our simplification and continuous improvement program there are a range of other initiatives that the **nbn** team is working on, which over the course of the year are expected to result in improved service experience outcomes for RSPs and/or their customers. These improvement initiatives are generally centred around simplifying the platforms and operational environment, improving the reliability of services and products, enabling light-touch and faster service provisioning and fault rectification, and building platforms which enable RSPs to reduce costs and improve consistency of service.

¹ The first Annual Review of Service Performance process will commence early in 2024, with the report being produced in June 2024.

Improving the nbn service experience journey



Access



Connect



Use



Reliability



Repair

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Program Description Key

- | | | | |
|--|---|---|--|
| 1 FTTP Network Build | 2 FTTN to FTTP Connection Upgrades | 3 FTTP Simplification & Continuous Improvement | 4 Fixed Wireless Capacity Upgrades |
| 5 Satellite to FW Flip | 6 FW Simplification & Continuous Improvement | 7 Business Operation NES | 8 Simplify our network for customers |
| 9 Enhance Customer Service Delivery | 10 Improve RSP Experience | 11 Service Evolution | 12 Internal Field Workforce Expansion |

FY24 Annual Service Improvement Plan – Expenditure Categories for initiatives & Cost Pass-Through Applications

The table below provides an overview of the service improvement initiatives captured in ASIP 24 and the relevant category of forecast capital expenditure or forecast operating expenditure for the First Regulatory Cycle (FY24 to FY26) to which the initiative relates (consistent with section 4A.4.2(b) (v) of the SAU). While the priority and scope of initiatives, and associated planned expenditure, may evolve between the operating plans for each financial year, the identification of the applicable category is intended to help identify where proposed initiatives sit within **nbn**'s capital envelope relevant to the forecasts for the Regulatory Cycle.

The table sets out: (1) where applicable the broader program which particular initiatives form part of; (2) the specific initiative; and (3) the applicable capital or operating expenditure category. A description of the relevant expenditure categories is also provided below. It is important to note that **nbn** has included some initiatives in the ASIP 24 that may not be forecast to require material capital or operating expenditure (and therefore not required by the SAU to be captured in the ASIP) but which may still lead to an RSP and/or end user benefit.

Program / initiative	Description	SAU Regulatory Cycle capex or opex category
FTTN/C to FTTP	FTTN to FTTP Network Build	Capability: Network Upgrade Initiative - FTTN to FTTP Build
	FTTN/C to FTTP Connection Upgrades	Capability: Network Upgrade Initiative - Connect (on-demand, and selected proactive migration) - FTTC/FTTN - FTTP
	FTTP Simplification & Continuous Improvement	Other: IT (Systems Engineering)
Fixed Wireless	Capacity Upgrades	Capability: Fixed Wireless Upgrade
	Satellite to Fixed Wireless Flip	Capability: Regional Co-Investment
	Fixed Wireless Simplification & Continuous Improvement	Other: IT (Systems Engineering)
Simplification & Continuous Improvement	Simplify our network for our customers	Other: IT (Systems Engineering)
	Enhance Customer Service Delivery	
	Improve RSP Experience	
	Service Evolution	
Operational Improvements	Internal Field Workforce Expansion	Labour Costs Direct Operating Costs

Capital expenditure categories

The capital and operating expenditure categories are based on the descriptions provided by **nbn** in the explanatory material accompanying the FY23 expenditure forecasts, as summarised below.²

1. CAPABILITY: NETWORK UPGRADE INITIATIVE - FTTN-FTTP BUILD

Upfront build capex allocated to building fibre deeper into parts of the FTTN footprint – designed to enable up to 3.5 million premises to access wholesale download speeds of 500 Mbps to close to 1 Gbps (**nbn*** Home Ultrafast) on demand. This capex is applicable to the fibre-deepening program which re-uses the Distribution Fibre Network (DFN) that was deployed as part of the original FTTN build to build the Local Fibre Network (LFN) to enable migrations to FTTP within the selected footprint.³

2. CAPABILITY: NETWORK UPGRADE INITIATIVE - CONNECT (ON-DEMAND, AND SELECTED PROACTIVE MIGRATION) - FTTC/FTTN - FTTP

Capex allocated to the construction of FTTP lead ins to upgrade premises from either FTTC or FTTN to the FTTP access technology.⁴

3. CAPABILITY: FIXED WIRELESS UPGRADES

This covers capital allocated to:

- a) **nbn**'s ongoing program of Fixed Wireless capacity upgrades that are required to keep up with forecast traffic growth for each cell and provide for a monthly busy hour cell performance of 6 Mbps or more;⁵
- b) a major upgrade of the Fixed Wireless network (co-funded via a \$480 million grant from the Australian Government and \$270 million from **nbn**) that is designed, by the end of 2024, to:
 - i. allow **nbn** to deliver 'typical wholesale busy period download speeds' of at least 50 Mbps across the Fixed Wireless network;⁶

² Detail of the capital and operating expenditure categories for IOP23 was provided in [Part F: Efficiency of Expenditure and Demand Forecasts of nbn's supporting submission to the SAU variation lodged in November 2022](#). As described in **nbn**'s supporting submission to the Amended SAU Variation (p.30), the Forecast Nominal ABBRR for the First Regulatory Cycle has been updated in several respects (e.g., for WACC and inflation expectations), but is still based on the IOP23 expenditure forecasts. Part F of the submission accompanying the November 2022 variation therefore provides the appropriate descriptions of the relevant capital and operating expenditure categories for the purposes of ASIP24.

³ See [Part F: Efficiency of Expenditure and Demand Forecasts of nbn's supporting submission to the SAU variation lodged in November 2022](#), pp.44-48

⁴ *ibid*, pp.44-48

⁵ This metric is publicly reported at [nbn.com.au/updates](#). **nbn** prioritises cells for its capacity upgrade program which fall under its design threshold of 6Mbps monthly busy hour cell performance (or that **nbn** forecasts to fall under this threshold). The calculation of busy hour cell performance accounts for throughput at the radio interface, which is one segment of the Fixed Wireless access network. Actual end user speeds will differ to the monthly busy hour cell performance, and are affected by a number of factors including: the particular application being used and how each application manages packet loss, Fixed Wireless signal levels, demand from end users, end user equipment, **nbn** Fixed Wireless network design and management, and performance elsewhere on the **nbn** network.

⁶ This measure will be an estimate based on a sample of **nbn*** Fixed Wireless wholesale services and will measure the average speed at certain points in each hour of the busy period between 7-11pm to identify a 'typical busy period speed', in line with the methodology outlined in the ACCC's Broadband Speed Claims Industry Guidance Paper (October 2022). For each sample measured it will take into account factors outside of NBN Co's control such as environmental impact on radio signal strength, but will not take into account retail level, in-premises or user factors that could impact the end user service. Actual end user speeds will differ as a number of factors influence this, including the particular end user applications in use at the time, end user equipment and software, and the number of concurrent users on the **nbn*** Fixed Wireless service.

- ii. enable the launch of two new high speed tiers on Fixed Wireless, which are currently planned to allow approximately 85% of Fixed Wireless premises to order Fixed Wireless Superfast (200-325 Mbps (download Peak Information Rate range)/8-20 Mbps (upload Peak Information Rate range)) and all Fixed Wireless premises to order Fixed Wireless Home Fast (100-130 Mbps (download Peak Information Rate range)/8-20 Mbps (upload Peak Information Rate range)).⁷ **nbn** proposes to consult with RSPs on further possible speed increases prior to the launch of the speed tiers above, which may also impact the percentage of homes and businesses in the expanded Fixed Wireless footprint that are able to obtain those higher speeds; and
- iii. expand the coverage of the Fixed Wireless footprint to enable approximately 120,000 formerly satellite-only premises to access **nbn**'s Fixed Wireless network.⁸

4. CAPABILITY: REGIONAL CO-INVESTMENT INITIATIVE

nbn's Regional Co-Investment Initiative complements other network upgrade initiatives through co-investment with federal, state, territory and local governments in programs designed to shift regional premises to more capable technologies. These investments will help meet the growing and diverse needs of Australian homes and businesses.⁹

5. OTHER: IT (SYSTEMS ENGINEERING)

This relates to business-as-usual IT capex necessary to maintain and adapt IT systems over time and support the achievement of **nbn**'s strategic objectives. A component of this capex relates to **nbn**'s Enterprise Simplicity

Initiative designed to: reduce the number of IT applications required by **nbn** to build and operate the **nbn**[®] network; simplify architecture to make future changes more cost-effective and easier for both **nbn** and RSPs; and drive savings in opex with respect to **nbn**'s systems and processes.¹⁰

Operating expenditure categories

6. LABOUR COSTS:

Labour Costs relate to the opex required for **nbn**'s internal workforce, which is comprised of a mixture of Full Time Equivalents (FTEs) and Temporary Staff Arrangements (TSAs) across the following business units: Operations (including the internal field workforce); Network Engineering & Security; Regional Development & Engagement; Systems Engineering & Operations (including IT); Customer Products & Marketing; and Corporate (including Finance, People & Culture, and other corporate teams).¹¹

7. DIRECT OPERATING COSTS: ASSURANCE, RESTORATION AND MAINTENANCE

Direct Operating Costs relate to the opex required to physically operate and maintain the **nbn**[®] network. In broad terms, the level of opex in this category is a product of the **nbn**[®] network's overall size and composition (with different technologies having different cost characteristics, e.g., FTTN is more maintenance intensive than FTTP). In addition, higher take-up, and usage lead to higher amounts of electricity required to power the **nbn**[®] network and higher volumes of service assurance and network assurance incidents, all else the same.¹²

Cost Pass-Through Applications

nbn does not intend to submit a Cost Pass-Through Application for any of the initiatives included in the 2024 Annual Service Improvement Plan.

⁷ NBN Co is a wholesaler and end customers should contact their preferred RSP to ask about availability. Subject to consultation with RSPs, the planned wholesale download speed ranges, which are Peak Information Rates, are 100-130 Mbps for Fixed Wireless **nbn**[®] Home Fast and 200-325 Mbps for Fixed Wireless **nbn**[®] Superfast.

⁸ See [Part F: Efficiency of Expenditure and Demand Forecasts of **nbn**'s supporting submission to the SAU variation lodged in November 2022](#), pp.44-45, 48-49

⁹ *ibid*, pp.50-51

¹⁰ *ibid*, pp.51-52

¹¹ *ibid*, pp.59-60

¹² *ibid*, pp.55-57

FTTN/FTTC to FTTP Program



Program Summary

The FTTN/C to FTTP upgrade program is a multi-year initiative announced on 23 September 2020 and subsequently expanded in October 2022.¹³ It is designed to expand **nbn**'s FTTP footprint to an additional 3.5 million originally FTTN premises by the end of 2025 and 1.5 million originally FTTC premises. With approximately 1.2 million FTTP Brownfield premises and 1.5 million FTTP greenfield premises, this would increase **nbn**'s FTTP-accessible footprint to over 7.7 million premises. Together with upgrades to up to 2.5 million HFC premises, **nbn** is on target to enable close to 10.2 million premises, or up to 90% of Australian premises within the fixed-line network, to access the **nbn** Home Ultrafast wholesale speed tier, which is capable of achieving wholesale download speeds of 500 Mbps to close to 1Gbps. Key focus areas for this program are the build, the fibre connect program with RSPs and simplification of the associated processes.

¹³ A substantial portion of the upgrade program was undertaken prior to 1 July 2023, under Module 1 of the SAU.

Planned service benefits

An FTTP-enabled network has many advantages over traditional copper-based networks:

- Speed performance:** Copper networks face inherent speed limitations when compared to fibre-based networks. The fibre upgrade program plans to significantly increase the number of premises that have access to the **nbn** Home Ultrafast wholesale download speed tier, which is capable of achieving wholesale download speeds of 500 Mbps to close to 1 Gbps. In addition to expanding the footprint for higher speed tiers, the FTTP upgrade program will play a role in addressing the small cohort of underperforming copper lines that are not currently capable of achieving speeds of 25 Mbps.
- Consistency of experience:** An FTTP network also enables end users to encounter a higher consistency of service and user experience. That is, subject to the appropriate capacity being made available by **nbn** and RSPs, the speeds experienced by an end user should experience less fluctuation than that experienced over copper lines.

- Network reliability:** Copper lines, particularly those that are aged, can experience reduced speed, instability or cease working completely as a result of external factors such as water ingress. An FTTP network brings significantly improved network reliability due to the inherent technical capabilities and properties of fibre resulting in lower fault rates, less dropouts and greater speed predictability.

As end users progressively take up services on the FTTP network, these benefits should be demonstrated over time through a reduction across the fixed line network in:

- reported access network faults;
- speed related fault enquiries;
- drop out frequency; and
- network remediation activities.

The rate at which these reductions occur is dependent on the rate that end users migrate onto the FTTP network.



FY24 Planned Timeframes

Network Upgrade Initiative - FTTN to FTTP Build (network enablement and capability)

The FTTN to FTTP build program was announced in September 2020, with work commencing in November 2020 and the current scope of works planned to conclude in December 2025. The Build program is focused on the deployment of a fibre local area network, and will ensure **nbn**'s service qualification system is progressively updated so that RSPs and end users are able to place an FTTP order at the associated premises. The key milestone targets for the FTTN to FTTP build anticipated for FY24 are set out in the table below.

Addressing underperforming lines is a key factor in **nbn**'s FTTP upgrade program. **nbn** plans to overbuild the access network for an estimated 53,000 underperforming copper lines by the end of FY24, making fibre speeds available to end users at these premises.

Target ¹⁴	Number of premises
Targeted FTTN & FTTC premises added to fibre upgrade footprint in FY24	1.6m
Targeted cumulative upgradable FTTN & FTTC premises by end FY24	3.7m
Targeted underperforming lines overbuilt in FY24	53k

Fibre Connect Program (migration and experience realisation)

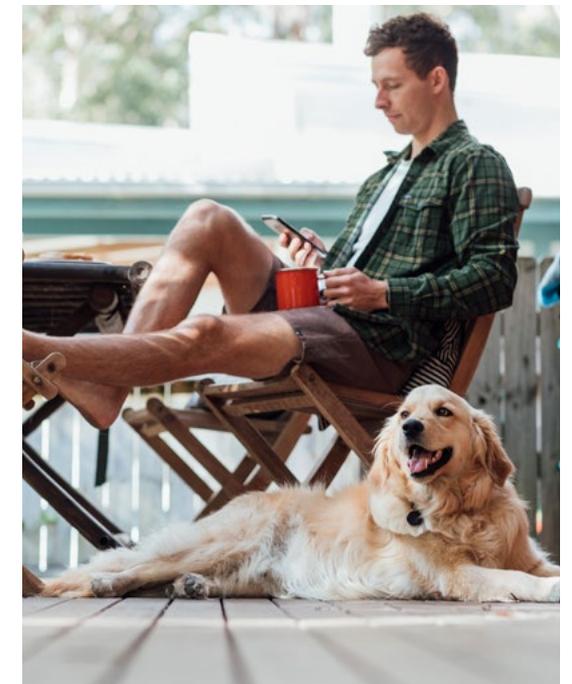
Fundamental to realising the service experience benefits of the FTTP upgrade program is the migration of end users from the existing copper network onto the upgraded FTTP network.

While **nbn** is responsible for the construction of lead-ins to upgrade premises from either FTTC or FTTN to the FTTP access technology, RSPs play a critical role in actively promoting and facilitating this migration. Only when end users have placed an order to connect to FTTP and been migrated will they be able to take advantage of the significant capability enhancements offered by the upgraded network.

To help support the rate at which end users migrate onto the upgraded network, **nbn** is working closely with RSPs to actively promote and facilitate a faster and positive service experience in migrating to FTTP technology. Activities in this space that **nbn** plans to continue through FY24 include:

- **Promotional marketing and advertising campaigns** from **nbn** to raise awareness of upgrades and the benefits of moving to FTTP and higher speed services.

- **Providing marketing support for RSPs** to raise awareness and action from end customers through **nbn**'s Marketing Development Funds, where **nbn** and RSPs co-fund marketing activity.
- **Rebate programs for RSPs to support promotional offers** and activity by RSPs to encourage customer migrations to FTTP.



14 Targets prepared in FY 2023 and actual numbers may be different.

FTTP Simplification & Continuous Improvement

In addition to helping support the volume of migrations to the FTTP network, **nbn** has committed time and resources to improve the migration experience. Examples of improvements that **nbn** has delivered or intends to deliver in FY24 to facilitate a faster migration, and improve the service experience associated to the migration, include:

- **Proactively changing the service class of FTTN underperforming lines:** The service class for single dwelling FTTN services in the FTTP upgrade footprint that cannot attain 25/5 Mbps will be addressed proactively. This means that **nbn** plans to progressively change the service class of these lines so that end users are not required to order a higher speed tier at these premises in order to connect to the FTTP network. This will be applicable to premises with an underperforming line irrespective of whether the end user has an active service or is placing a new connection order. Connection to the network will still be subject to end users/RSPs placing an order for the relevant FTTP service or – where applicable – **nbn** determining in response to an assurance ticket that migration to the FTTP network is the appropriate solution for the premises.
- **Never Connected:** FTTN premises within the fibre upgrade footprint that have never been connected to the network will be converted to Service Class 1 so that when they first connect to the **nbn**[®] network, they are able to place an order for a fibre connection (similar to underperforming lines there is no minimum speed tier requirement for these cases to place an order on the FTTP network once the service class is amended).
- **Fibre delivery in a day (FDIAD):** **nbn** is currently updating its FTTN to FTTP upgrade process to enable a single appointment for the majority of orders through removal of the pre-activation work order.¹⁵ In addition to reducing the number of appointments required, this is also expected to reduce customer lead times for upgrades to occur. This has required updates to standard fibre installation practices. With implementation having commenced in July 2023, the benefits of this program are anticipated to begin being realised over the course of FY24 and extend over the life of the program.
- **Incomplete on first appointment:** Some FTTP connect orders are unable to be completed on the initial appointment using industry standard installation practices, and therefore require network remediation activity. These will now be actioned through a refined complex lead-in process designed to give customers, RSPs and technicians a better experience through the complex order completion path with appropriate visibility of the remediation work scope and completion date progress available throughout the process. Implemented in July 2023, the benefits of this program are anticipated to be realised over the course of FY24.
- **IT Enhancements** planned for FY24 include:
 - enable back-end changes to release eligible full fibre upgrade locations (ie. those locations where an FTTP upgrade can be ordered) to the public;
 - provide the IT support required to facilitate 'Go To Market' activities such as updating the **nbn** website;
 - change internal systems to improve RSP visibility of locations that have new technologies, enabling RSPs to market to these locations and increase take-up rate;
 - make changes to expedite the release of the FTTC/FTTN to FTTP footprint to support the download speeds of 500 Mbps to close to 1 Gbps; and
 - make changes to the Service Health Summary to improve visibility to RSPs of FTTP service performance.

15 Not available at all premises and subject to feasibility assessment.

Fixed Wireless Upgrade Program



Program Summary

nbn is undertaking a major upgrade of the Fixed Wireless (**FW**) network to increase both the capacity and coverage of the **nbn** Fixed Wireless network. The program of upgrades is planned to be undertaken between FY23 and FY25. As part of this initiative total cells in the network are planned to increase nearly 2.5 fold from 23k to circa 60k. The program plans to ultimately deliver an expanded coverage footprint and access to faster speeds across the **nbn** Fixed Wireless network as well as a significant uplift in available capacity and more data for **nbn**[®] Sky Muster[®] customers.

Planned service benefits

Upgrading the Fixed Wireless network is designed to give more homes and businesses access to faster download speeds. **nbn** is targeting that by the end of 2024, the upgraded **nbn** Fixed Wireless network reach over 750,000 homes and businesses, the majority existing in regional and rural communities of Australia.

In addition to the increased reach, the Fixed Wireless Upgrade Program is intended to:

- enable faster speeds across the Fixed Wireless network, including at the busiest times.¹⁶ **nbn** plans to implement a new measure to indicate the network’s capability to achieve ‘typical wholesale busy period speeds’ of at least 50 Mbps (download);¹⁷
- allow for two new higher speed wholesale plans to become available to order, via RSPs, from mid-2024. These new higher speed plans are currently planned to include:
 - **nbn** Fixed Wireless Home Fast with a wholesale Peak Information Rate range of 100-130 Mbps (download) and 8-20 Mbps (upload). We expect that all homes and businesses in the expanded Fixed Wireless footprint will be able to access this plan.¹⁸
 - **nbn** Fixed Wireless Superfast with a wholesale Peak Information Rate range of 200-325 Mbps (download) and 8-20 Mbps (upload). We expect around 85% of homes and businesses in the expanded Fixed Wireless footprint will be able to access this plan.

nbn proposes to consult with RSPs on further possible speed increases prior to launch of the speed tiers above, which may also impact the percentage of homes and businesses in the expanded Fixed Wireless footprint that are able to obtain those higher speeds;

- optimise the Fixed Wireless network, including through the installation of next generation 4G and 5G equipment. This new technology is designed to deliver more reach (by extending the range of some towers from 14 km to up to 29 kms) and access to more speed to regional and remote Australia; and
- improve network performance and service experience by modernising older Wireless Network Termination Devices (W-NTDs) to V3 and V4 models. These upgrades require a truck roll (at no cost to the customer) and require RSP involvement in order for appointments to be booked with end users. The V3 and V4 models will support the higher speed tiers once launched. **nbn** is working closely with RSPs to uplift the appointment-based migrations from V1 and V2s to V3 and V4s.

Expanding the reach of our Fixed Wireless network and migrating approximately 120,000 satellite-only premises to the Fixed Wireless network will enable more people currently in **nbn** satellite areas access to Fixed Wireless. In switching to **nbn**’s Fixed Wireless footprint, these end users will benefit from:

- access to higher speed options compared to the **nbn** Satellite network; and
- improvement in the quality of voice communications, due to lower latency.

16 Faster download speeds mean less buffering where it was caused by slower download speeds. Note that the amount of buffering you experience may be affected by other factors such as faulty in-home network connectivity. An end user’s experience, including the speeds actually achieved over the **nbn** network, depends on the **nbn** network technology and configuration over which services are delivered to the user’s premises, whether the user is using the internet during the busy period, and some factors outside **nbn**’s control (like the user’s equipment quality, software, broadband plans, signal reception and how the service provider designs its network). Speeds may be impacted by the number of concurrent users on **nbn**’s Fixed Wireless network, including during busy periods.

17 This measure will be an estimate based on a sample of **nbn** Fixed Wireless wholesale services and will measure the average speed at certain points in each hour of the busy period between 7-11pm to identify a ‘typical busy period speed’, in line with the methodology outlined in the ACCC’s Broadband Speed Claims Industry Guidance Paper (October 2022). For each sample measured it will take into account factors outside of **nbn**’s control such as environmental impact on radio signal strength, but will not take into account retail level, in-premises or user factors that could impact the end user service. Actual end user speeds will differ as a number of factors influence this, including the particular end user applications in use at the time, end user equipment and software, and the number of concurrent users on the **nbn**® Fixed Wireless service.

18 An end user’s experience, including the speeds actually achieved over the **nbn** network, depends on the **nbn** network technology and configuration over which services are delivered to the user’s premises, whether the user is using the internet during the busy period, and some factors outside **nbn**’s control (like the user’s equipment quality, software, broadband plans, signal reception and how the service provider designs its network). Speeds may be impacted by the number of concurrent users on **nbn**’s Fixed Wireless network, including during busy periods.

FY24 Planned Timeframes

Fixed Wireless site upgrade (enablement and capability)

The Fixed Wireless build program commenced on 22 June 2022, with the **nbn** Fixed Wireless High-Speed Tiers and Fixed Wireless Enhanced and Expanded Coverage Consultation Paper. The current scope of works is planned to conclude in December 2024. The build program is focused on the upgrade of the Fixed Wireless network, and the expansion of Fixed Wireless coverage, to uplift the ‘typical wholesale busy period speed’. **nbn** proposes to develop two new high-speed bandwidth profiles as a high priority project, and will ensure **nbn**’s service qualification system is updated, so that RSPs and end users are able to place a Fixed Wireless order at the associated premises.

The key milestones for the Fixed Wireless site upgrade program anticipated for December 2024 are set out in the table below:

Program Target ¹⁹	
Target number of planned Upgrade Areas ²⁰	84
Target number of Satellite addresses ²¹ converted to Fixed Wireless	120,000

Fixed Wireless Program (migration and experience realisation)

Recognising the evolving needs of the market and the vital role RSPs play in actively promoting and facilitating migration to the Fixed Wireless Network, **nbn** is working closely with RSPs to actively promote and facilitate a faster and positive migration and service experience.

Activities in this space that **nbn** plans to continue through FY24 include:

- **Promotional marketing and advertising campaigns** from **nbn** to raise awareness of upgrades and the benefits of moving to Fixed Wireless and higher speed services.
- **Upgrades to the latest generation technology:** **nbn** will be offering to replace older generation W-NTDs with the latest models. With substantial performance improvement over legacy equipment, we anticipate improved customer experience (**nbn** expects to commence upgrades in **Q1 CY24**).

Simplification & Continuous Improvement

In addition to helping support the volume of migrations to the Fixed Wireless network, **nbn** has dedicated significant time and resources to improve the migration experience. Examples of improvements that **nbn** has delivered or intends to deliver in FY24 to facilitate a faster migration, and improve the service experience associated to the migration, include:

- **Never Connected:** Certain satellite premises within the Fixed Wireless upgrade footprint that have never been connected to the **nbn** network will be converted to Service Class 5, so that when they first connect to the **nbn**® network they are able to place an order for a Fixed Wireless connection.
- **RSPs go-to-market planning:** **nbn** plans to share with RSPs planned upgrade areas and forecast LOCIDs (locations forecast to be included in the footprint) via operations bulletins, targeting a 12-week notification lead-time.

19 Targets per IOP24.

20 An Upgrade Area is a group of Fixed Wireless network sites in a contiguous geographic area that **nbn** plans to upgrade as a group.

21 Address locations which can currently only access **nbn** by Satellite and will be converted to the Fixed Wireless footprint.



- **Service Qualification:** To better enable RSPs to manage their end customers, **nbn** proposes to introduce a maximum attainable wholesale speed calculation at the point of service qualification, allowing RSPs to assess the availability and potential for the customer premises to access one of the new Fixed Wireless higher speed tiers.
- **Additional Reporting:** A daily report is proposed to be made available to RSPs via the customer centre in relation to new higher speed tier services for the first 30 days from activation for monitoring of service performance. The daily report would include results from actual throughput tests conducted for the relevant service from the **nbn** Point of Interconnect to the W-NTD. The tests will use the (Layer 7) HTTP protocol as defined in TR-143 by the Broadband Forum and therefore provide throughput results that are reflective of Application Layer throughput, excluding retail service overheads, at the time the test is performed, for the wholesale service.
- **IT Enhancements** planned for FY24 include:
 - enabling back-end changes to release eligible Fixed Wireless upgrade locations to the public via Check Your Address;
 - changes to internal systems to improve RSP visibility of locations that have new technologies, enabling RSPs to market to these locations and understand take-up rate; and
 - enhancements to and new information available through the Service Portal, Service Health Summary, and introduction of new APIs to assist RSPs to manage new services.

Simplify our network for our customers

Program Summary

nbn's Network Simplification is a multi-year program which commenced in 2022. The program involves timely investment aiming to simplify and evolve the network over time, ensuring **nbn** continues to meet customer demand and efficiently navigate technology end-of-life events.

The FTTP network will be evolved via the delivery of a new platform (XGS-PON) to mitigate lifecycle risks, meet capacity growth, and enable future products such as multi-gigabit residential and business services.

The HFC network will be evolved via plant modernisation and transitioning to Distributed Access Architecture over time to meet increased customer usage.

The transport and aggregation networks will be evolved to address lifecycle risks and increase scale resulting in an evolved network that has addressed end of life events whilst meeting RSP and end user demands, specifically:

- Multi-gigabit capability; and
- Higher speed interconnect incrementally available for RSPs across POIs.

Each evolution step will be used to move towards standards-based network management platforms.

Planned service benefits

This is predominantly an investment which plans to ensure end users are not affected by technology end of life events and they will continue to obtain a quality service over these networks. Anticipated benefits include:

- minimising service disruptions; and
- supporting continued quality of service experience.

FY24 Planned Timeframes

While this program will not result in specific service-related outcomes in FY24, the FY24 program deliverables laydown an important foundation for the realisation of future improvements.

Q3 FY24

- **nbn** plans to commence the HFC Plant Modernisation activities, involving the replacement of active (powered) equipment (nodes and amplifiers) in the HFC network in targeted areas where additional capacity is required. Upon replacement **nbn** plans to enable additional upstream capacity for the customers in the targeted areas.

Q4 FY24

- Target for commencement of scale deployment of next generation FTTP platform involving the deployment of multi-Gig-capable next generation optical line termination (NgOLT) hardware (chassis) in the FTTP network within our exchange infrastructure in targeted areas where additional capacity is required.



Enhance Customer Service Delivery

Program Summary

Enhance Customer Service Delivery (ECSD) is a multi-year program, now in its second year of delivery. The ECSD initiative is specifically focused on driving improvements across activations, network, and service assurance with the primary goal of uplifting the service experience through reducing RSP and end user effort.

Planned service benefits

As the program progresses, **nbn** expects to observe a gradual improvement on the following service experience indicators:

- Reduction in service disruption and customer effort through proactive detection and repair of performance issues;
- Uplift in end user experience through improved **nbn** communications during activation and assurance episodes;
- Increasing right first-time resolution and reduced repeat appointments; and
- Faster customer onboarding and restoration of services.



FY24 Planned Timeframes

In FY24 ECSD is focused on continuing to deliver both new and ongoing capabilities that result in a quality customer service experience. Key focus areas in plan include:

Q3 FY24

- Deployment of key changes to **nbn's service health reporting** for our RSPs. This will provide RSPs with the ability to self-serve critical service health data and extend the current data set to facilitate upfront assurance investigation – including in relation to speed, stability, and other in-home elements. For example, the addition of stability (drop out) data to existing FTTP, B and C technology data sets within Service Health Summary plans to enable RSPs to match actual network performance information with the lived experience when discussing service issues with end users. This will enable more accurate decision making to resolve service related issues.
- In conjunction with the Fibre Upgrade Program, the **proactive identification of individual FTTP underperforming lines within the FTTP footprint**. The objective is to proactively and progressively change the service class of these customers to enable a simpler and quicker migration to FTTP, improving the end user experience and service performance.
- **Drive a proactive assurance focus on Satellite performance** through analysis of satellite signal performance to predict end user experience. This will inform the actions required to rectify issues before the end user experiences an interruption to their service, mitigating the risk of restoration delays whilst reducing the need for end users to raise an incident ticket with their RSP.
- Continue to **evolve the recently established dedicated remediation case management model** for end-to-end connection or fault resolution. This includes working closely with RSPs to further streamline RSP communications, improve clarity around restoration work and timeframes, and provide tailored services for complex sites.



- Partnering with industry to drive a **seamless connection process for new residential and small business developments**, ensuring upstream processes are optimised, and that necessary works are complete prior to homeowners or tenants transitioning into their new dwelling.
- **Minimise waste, elevate quality and reduce customer effort**. This includes multiple initiatives to reduce unnecessary and repeat truck rolls by improving the end-to-end workflow processes, and leveraging diagnostics to improve remote resolution of issues, reduce no fault found (NFF) and end user not in attendance (NIA).

H2 FY24

- Leverage existing and **new service diagnostic capabilities on the FTTP access technology**, with improved **pattern alarm profiling**, to proactively identify and restore individual service faults. The focus of the program is to improve the product and service experience by reducing the need for RSPs and end-users to reactively raise service faults.

- **FTTC Neighbourhood Watch - Strategic program**: Notifying RSPs through a network outage when **nbn** determines a FTTC DPU has gone down, and a network fix is in progress to resolve the issue. This will reduce wasted service assurance appointments being sent to multiple customers for a single faulty DPU.
- **Continuing to digitally transform nbn Field Services**: The Field Digital Transformation program compliments the expansion of **nbn's** internal workforce (outlined in Section 9) and is intended to enable:
 - changes to the way Field Services undertake the **FTTP/ C to FTTP upgrades** through workflow optimisation that will support Fibre Delivery in a Day;
 - changes to the **Fixed Wireless and Satellite workflow** to support the internal workforce expansion into these technologies;
 - **optimisation and consolidation** of the way work is managed and dispatched to the field via a simplified work operation centre; and
 - enhancement of the **digital toolset for technicians** through continued development and enhancement of applications and testing tools within the technician toolkit that enables enhanced information at a technician's fingertips, allowing for efficient resolution of customer connection orders and service assurance incidents.

Improve RSP Experience

Program Summary

nbn recognises that great end user experience will only come if **nbn** and RSPs work together to fulfil the needs of the customer, drive customer experience, and connect and retain even more Australians to fast, secure and reliable broadband. **nbn**'s products and roadmap must drive towards simple, frictionless interactions that enable our retail partners flexibility to prioritise, plan and innovate to deliver value to our customers.

This program is centred around improving communication processes with RSPs, continuing the development of **nbn**'s multi-year 'service health' program, delivering additional RSP requested enhancements to **nbn**'s application programming interface (API) catalogue, enhancing **nbn**'s ability to proactively monitor and support critical systems, and enhancing the Network-Network Interface (NNI) framework.

Planned service benefits

This program is expected to drive service experience improvements for RSPs and end users including:

- enabling RSPs to better understand, plan and deliver the associated benefits from **nbn** key initiatives to their customers;
- driving customer experience improvements with transparent, simpler tools enabling RSPs to correctly identify where service issues should be reported to **nbn** whilst reducing incorrect and repeat faults being raised that are not caused by **nbn**'s network;
- improved RSP integration with **nbn**, optimising end customer journeys and enabling RSPs to innovate and develop efficient, low touch digital experiences; and
- improved reliability of **nbn**'s core systems providing the foundation for RSPs to deliver a great end customer experience.



FY24 Planned Timeframes

The timeframes anticipated for FY24 are set out below:

Q2 FY24

nbn plans to implement:

- monthly scheduled RSP webinars;
- NPIS Address API Uplift & Fuzzy Search functionality development. This will add a 'fuzzy' search logic onto the existing NPIS Address API which will enable RSPs to better match geographical addresses to **nbn** LOCIDs; and
- Trouble Ticket Cancel Enhancement Delivery which plans to provide RSPs the ability to cancel an assurance trouble ticket all the way up to the point prior to a field technician accepting the ticket of work.

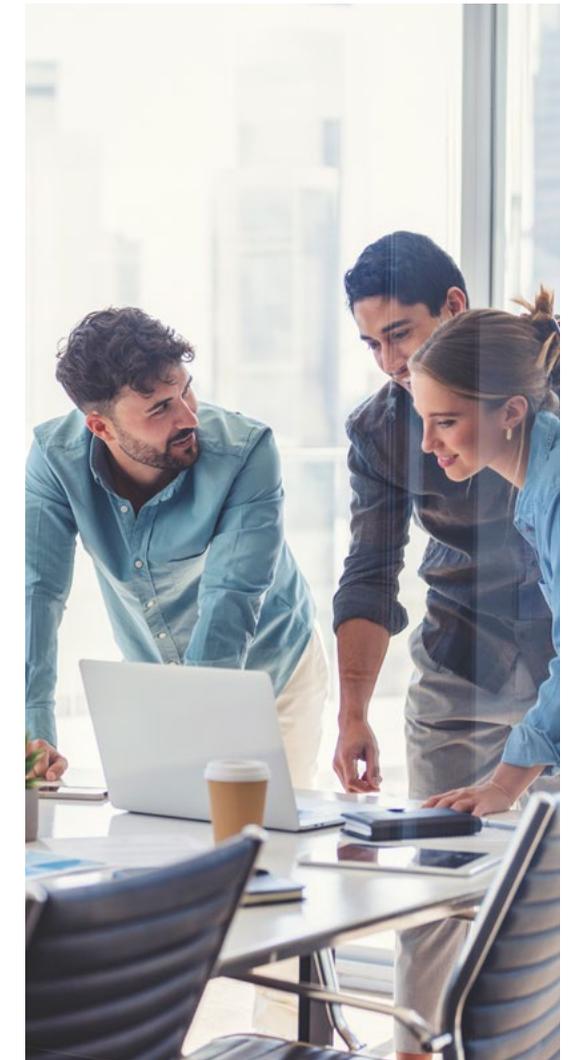
Q3 FY24

nbn plans to implement:

- NNI Enhancements to enable NNI changes to occur more efficiently through a simplified service migration process. For RSPs, this provides a simplified and more cost-effective process to scale and change the physical connectivity at **nbn** POIs.
- Non-Infrastructure Type Transfers (NITT) tool improvements to enable more efficient Change Of Ownership processing.
- Document API Parity. This involves updating the catalogue of available RSP-facing reports available to be retrieved via the NPIS Document Manager API, noting that this API was originally built to support two bulk reports and the catalogue plans to grow to over 10 reports being available.

Q4 FY24

nbn plans to implement additional RSP tools utilised for service health diagnosis - specifically the introduction of the 'FTTP Pulse' functionality. The FTTP Pulse functionality is intended to uplift the Service Health Summary to perform an advanced workflow of tests, where required, to determine the appropriate next steps. This is intended to remove the need for RSP agents to perform these complex activities themselves and provide customers with confidence on the next step in the lifecycle of a trouble ticket (e.g. truck roll, operator investigation or No Fault Found).



Service Evolution

Program Summary

While the mixed technology model has helped getting premises connected to high-speed broadband services faster, it has resulted in multiple systems and technology-specific bespoke processes for customer and network service teams. Under the multi-year Service Evolution program **nbn** plans to implement standardisation of our customer and network service processes across all network access technologies centred around the following primary service activities:

- Ordering (New/modify/disconnects);
- Service faults (proactive/reactive);
- Network management and faults;
- Customer communication; and
- Customer enquiries.

This aims to establish a single view of all customer service impacting events – irrespective of access technology – within **nbn** to enable greater consistency in the management of customer orders, service faults, network outages (planned/unplanned), and performance degradation.



Planned service benefits

Standardisation of our customer and network service processes is expected to have direct benefits for **nbn**'s operational efficiency. These operational benefits are also expected to result in improved RSP experience including through the following changes:

- **Improved RSP communication:** RSPs will receive consistent communication irrespective of access technology.
- **Proactive assurance:** As a result of proactive service performance monitoring being standardised across all access technologies, **nbn** plans to use predictive tools to enable targeted proactive service assurance tasks to be performed on network elements without customers having lodged a service incident. This differs from proactive assurance initiatives being considered in the ECSD space as proactive assurance here applies to the entire network (e.g. transit and local area network) and is not focused solely on the individual service of an end user.
- **Improved fulfilment and assurance timeframes:** Delivery of a centralised **nbn** fulfillment system, supported by standardised processes to improve overall order cycle-times and to enable early identification and efficient resolution of order fallout and service issues.

FY24 Planned Timeframes

Over the next few years, we plan to transition our customer and network services business to the new solution through a staggered approach while minimising any risks to the business, customers, our people, our delivery partners and RSPs.

In FY24, the program is focused on building the technology foundation and defining the requirements. This needs to happen before we start deploying capability into the business which includes integration with interfacing systems. Building the business capability is planned to occur throughout FY25 to FY27 with the planned service benefits progressively being realised as the program is implemented.

Business Operations



Program Summary

This program of work plans to run throughout the FY24 year and is centred around the delivery of high priority customer impacting capabilities to improve operational efficiency and customer experience across some targeted areas of the network and operating environment.

Planned service benefits

Key proposed benefits from this program include:

- **FTTC Optimisation:** The planned outcomes from this program include speed and stability improvements for FTTC end users.
- **Uplifting the sandpit environment:** The anticipated benefits of this program include:
 - reduction in lead times for RSPs to take up new products (reducing user acceptance testing timeframes, allowing RSPs to sell and bring in revenue from new products up to six months earlier than would otherwise be the case);
 - simplification of the onboarding process for RSPs for new products, product changes and migration/network grooming;
 - sandpit testing to be in alignment with **nbn** production network removing re-work and eliminating defects in pre-production environment; and
- adding in **nbn** capability to execute regression testing on new firmware, software, customer premises equipment (CPE), hardware in a controlled environment across all technologies.
- **Introducing a higher transmit power into the FTTP network:** A controlled trial undertaken in relation to higher transmit power on FTTP Optical Line Terminal (OLT) devices has demonstrated a greater receive sensitivity for Optical Network Termination (ONT) devices allowing these to work at greater distances from a Fibre Aggregation Node (FAN) site. The introduction of higher transmit power on OLT devices is anticipated to help resolve performance issues on ONT devices where signal levels are below the optimum threshold. The introduction of 60V provides a longer reach, increased power headroom (~25%) and operates more efficiently (~4.5%) than 48V operation, with associated customer experience gains (ie. improved speed and stability).
- **Increasing the power in the HFC network:** This will support service stability in areas where **nbn** sees performance issues, resulting in a better experience for HFC end users.
- **Introduction of silent failure detection:** This plans to enable **nbn**'s network operations team to work on a potential service impacting issue proactively, without RSPs/customers raising an issue.



FY24 Planned Timeframes

The timeframes anticipated for FY24, according to each of the separate program elements, are set out below:

- **FTTC Optimisation:** nbn is aiming to deliver FTTC Optimisation by December 2024. nbn completed a trial in July 2023 which demonstrated an average speed improvement of 5 Mbps and an average of 8% improvement in stability.
- **Uplifting the sandpit environment:** For any new product or interface launches from October 2023, new products and interfaces will, in the ordinary course, be available within one month of production deployment in the sandpit environment. As a result RSPs will:
 - encounter an improved speed to market, significantly improved product experience, service delivery and network changes;
 - be able to test once and be confident of the outcome due to removal of manual data entry/errors - reducing costs, and improving reliability and certainty;
 - be able to quickly resolve production customer anomalies, as they will have a true production like environment for simulation purposes; and
 - have the ability to test their new CPE actively against the nbn production environment, improving end user satisfaction and removing fallout into nbn.
- **Introducing a higher transmit power into the FTTP network:** nbn introduced capability for higher transmit power devices in July 2023 when progressive deployments started through the network footprint to reach ~7K installation within the first two months. Current planning foresees the installation of another ~25K devices in FY24.
- **Increasing the network power of HFC to 60V via phased rollout:** nbn introduced and trialed devices for increasing HFC Network power to 60V in early 2021, which followed capability development and regulatory endorsements being received to uplift voltage to 60V in July 2023. Based on current forecasts nbn plans to complete ~100 upgrades to 60V in FY24 out of ~13.5K power devices in the network.
- **Introduction of silent failure detection on HFC and OLT network:** Following an earlier trial nbn has deployed anomaly detection functionality into production and is now running a pilot program to determine the feasibility and benefits of silent detection. The pilot program currently covers two use cases - proactive monitoring of OLT line cards and Cable Modem Terminal System (CMTS). If the pilot is successful, it may be extended to other use cases.

Internal Field Workforce Expansion

Program Summary

The expansion of nbn's internal field workforce is a multi-year program centred around developing a sustainable internal field services workforce with a focus on regional Australia and diversity of the workforce in line with best practice from global leaders in the industry.

This program plans to see nbn's ability to meet demand for services and products become more diverse and flexible which in turn will improve our ability to manage seasonal and workload variability. Once established we anticipate that approximately 23% of all service activities will be completed internally by the end of FY24. As we realise the benefits from our truck roll reduction programs, and FTTP/FW upgrade programs reach maturity, it is expected that the volume of service activities completed internally will be approximately 33% by FY27.

This program also includes the establishment of a new Quality Centre of Excellence function. This will introduce a Quality Framework and Management system. Through improved definition of prescribed standards for service activities and investigating the potential application of contemporary technologies such as AI to review and monitor work practices, nbn is anticipating an improvement in network and service resiliency to meet customer expectations.

Planned service benefits

As a result of the increase in the internal workforce in regional areas, our plan is to increase the local nbn workforce from 80 roles servicing regional locations in 2022 to 417 in 2024. This aims to result in greater community engagement, reduced lead times and a higher quality of service (and associated reduction in repeat truck rolls).

nbn will be monitoring this program closely and in the regions where the expansion occurs nbn is expecting to see the following service outcomes for RSPs and end users:

- Faster service provisioning and restoration times;
- Reduced repeat visits;
- Reduction in failed installations; and
- Greater reliability of services provided.

FY24 Planned Timeframes

In FY24 nbn plans to:

- expand its internal workforce by 264 roles, made up of 114 Trainees enrolled to complete their Certificate 3 in Telecommunications, 122 Customer and Senior Field Technicians and 18 Quality Specialists and 10 Field Area Managers. This increase plans to see a re-balancing exercise of the external workforce through close consultation with our Service Delivery Partners; and
- commence the establishment of the Quality Centre of Excellence.



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