Attachment 20.48

SA Power Networks: IT Field Force Mobility Business Case

Business Case

Field Force Mobility

Project Ref Number : BC16

SA Power Networks

www.sapowernetworks.com.au

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1. Executive Summary

Field resources at SA Power Networks have experienced escalating challenges associated with building and maintaining network assets over the last five years. Various factors have resulted in a need to adapt and improve the current field works management processes and practices. These include:

- Increased focus on asset management given the ageing network infrastructure
- Increasing customer expectations around accurate and timely information on outages and service request status
- Continued geographic dispersion of SA Power Networks' network infrastructure and the requirement for field workers to operate in remote workplaces
- Extreme weather conditions – for instance, 25% (220,000) of SA Power Networks' customers live in, or are supplied by, a line which is within a high bushfire risk area
- Emerging customer technologies such as solar panels, electric vehicles etc. require field force to be better equipped to access customer information

Additionally, there are numerous constraints in SA Power Networks' field-based work:

- Current mobility solutions do not support all field functions and processes. There are a significant number of manual and paper-based processes which result in duplication of work
- Due to a lack of real-time access to asset, network and customer information field workers are forced to work with out of date information, which has productivity and safety implications
- Current mobility solutions are not user friendly and integrated, resulting in lower adoption rates by field workers

In 2014, in response to these requirements, SA Power Networks developed an Enterprise Mobility Strategy with the following vision - '*To improve efficiency in our business processes and empower our people, customers and partners to capture, view and share accurate information when they need it, wherever they may be'.*

This business case focuses on the field force mobility component of the Enterprise Mobility Strategy and proposes a program of work to enhance the current mobility solution; an important step towards a completely mobile, efficient and effective field workforce. This business case aims to deliver the following outcomes:

- Increase overall field crew efficiency and enable SA Power Networks to respond to an increasing number of planned and unplanned asset maintenance tasks;
- Improve customer service by providing real-time job status updates to customers;
- Improve safety through improved communication, reporting and spatial technology;
- Reduce supply restoration time by efficiently allocating and dispatching field crews when network faults occur; and
- Enable field crews to access asset and job information from their mobility devices and enable more timely decision making.

The options considered in this business case aim to provide a roadmap of mobility solutions for SA Power Networks to deliver on its commitment to provide safe and reliable electricity supply, to minimise power outage times and to ensure the safety of its workforce. The options considered are:

- **Option 0 – Do nothing**
    - Maintain the current state of field mobility operations, i.e. basic field force mobility functionality that supports only the Power Line crews

- **Option 1 – Enhance with partial roll-out**
  - Significantly enhance existing field mobility capabilities by implementing new mobility solutions and rolling out to field force staff that currently use mobility devices and additional priority field force staff.
- **Option 2 – Enhance with full roll-out**
  - Significantly enhance existing field mobility capabilities by implementing new mobility solutions (same solutions as Option 1) and rolling out to all field force staff.

It is recommended that SA Power Networks adopts **Option 1 – Enhance with partial roll-out.** Whilst this option does not provide SA Power Networks with the highest Net Present Value (NPV), it has the least risk and requires a lower upfront investment than Option 2. This option will cost **$12,051k** in total during the 2014/15-2024/25 period, of which **$9,614k** is in the 2015/16-2019/20 Regulatory Control Period. This includes an opex uplift of **$334k** in 2016/17 and increasing to **$430k pa** from 2020/21 onwards.

Table 1 Overall appraisal breakdown[1]

Option	Total Cost of Ownership	Project and Recurrent Cost Impacts	NPV	Overall Risk Rating	Benefits	Overall Rating
0 - Do Nothing	$8,979,000	$8,979,000	-$6,457,000	Medium	N.A	3
1 - Enhance with partial roll-out	$21,030,000	$12,051,000	$10,950,000	Low to Medium	$30,699,000*	1
2 - Enhance with full roll-out	$23,322,404	$14,343,404	$14,509,000	Low to Medium	$37,755,000*	2

*Benefits realised over the 2015/16-2024/25 period

The main benefits expected from Option 1 are increased value to customers by maximising field workforce efforts on network risk reduction based tasks, increased customer satisfaction, efficient and improved Regulatory and Legislative compliance and a safer working environment. Option 1 supports SA Power Networks in meeting its corporate strategic and compliance goals and realising maximum benefits from major business initiatives such as Smarter Network program and Asset Recording and Monitoring.

Due to the current constraints of the existing mobility solutions used at SA Power Networks, and the key trends and factors impacting the distribution network, it is imperative that a step change in mobility capabilities is achieved to support the field force. In continuing with business as usual, current inefficiencies in field processes will continue to exist. This poses significant operational risks impacting both responsiveness and quality of service. Without continued investments in new mobility functionalities, SA Power Networks will not be able to deliver on its corporate goals of improved asset maintenance through real-time asset data and condition data capture as well as improved customer service through real-time status updates.

Considering the other programmes of work within the 2015-20 RCP that impact the field force, it is recommended that SA Power Networks focuses on the priority users mentioned in Option 1. Additionally, the higher costs associated with change management and rolling out devices to the additional users makes it prudent to not pursue Option 2. It is recommended that the roll-out of mobility to the rest of the field force is taken up as a priority item in the 2020-25 RCP.

[1] For comparison purposes the costs and benefits of the other Options are relative to Option 0 i.e.as if the baseline on "Do Nothing" is set to 0.

2. Reasons

2.1 Background

SA Power Networks' (SAPN) field force plays a key role in maintaining the electricity distribution network across South Australia. SAPN's field force represents 45% of the total staff and is responsible for servicing power lines, substations and telecommunications (for operational technology systems such as SCADA) as well as performing customer connection jobs.

Internal and external factors have resulted in increased pressure on improving the efficiency and responsiveness of SAPN's field force:

- Increased focus on asset management given the ageing network infrastructure
- Increasing customer expectations around accurate and timely information on outages and service request status
- Continued geographic dispersion of SAPN's network infrastructure and the requirement for field workers to operate in remote workplaces
- Extreme weather conditions – for instance, 25% (220,000) of SAPN's customers live in, or are supplied by, a line which is within a high bushfire risk area
- Emerging customer technologies such as solar panels, electric vehicles etc. require field force to be better equipped to access customer information

Field force mobility solutions support SAPN in overcoming these challenges by enabling field crews to operate more efficiently and effectively in building and maintaining the distribution network. Field force mobility provides the ability to manage, execute, monitor and analyse work in the field by leveraging technology such as mobile devices, tablets, wireless networks and related services. Additionally, over the past few years, field force mobility solutions and technologies have become more pervasive, understood and cost-effective (according to Gartner, the Field Services Management solutions market grew by 12.7% in 2012-2013).

In 2014, in response to these requirements and to take advantage of emerging mobility trends, SAPN developed a 2015-2020 Enterprise Mobility Strategy. The purpose of the strategy is to provide a single, whole of business view to guide and coordinate mobility investments over the 2015-2020 period in order to achieve the mobility vision – '*To improve efficiency in our business processes and empower our people, customers and partners to capture, view and share accurate information when they need it, wherever they may be'*.

This business case focuses on the field force mobility component of the Enterprise Mobility Strategy.

2.2 Current State of Mobility

Currently, mobility solutions only exist within the Power Line crews of Field Services (Figure 1) with Panasonic Toughbooks deployed to crews. There is basic field force mobility functionality available with a scheduling system (ClickMobile), an outage management system (iMobile TC) and a navigation system (Sygic). The current mobility deployment only supports limited field force mobility functions and processes:

- Scheduling of planned and unplanned jobs
- Navigation to the job sites
- Reference documentation including instructional videos on switching equipment
- Basic electronic timesheeting
- Notifying relevant personnel during man-down/duress situations

The primary network communication method for the mobility solution is Telstra's NextG network. For remote country areas with no NextG coverage, the solution utilises the Iridium Satellite service as a fall back option (88 vehicles have been fitted out with the Satellite equipment).

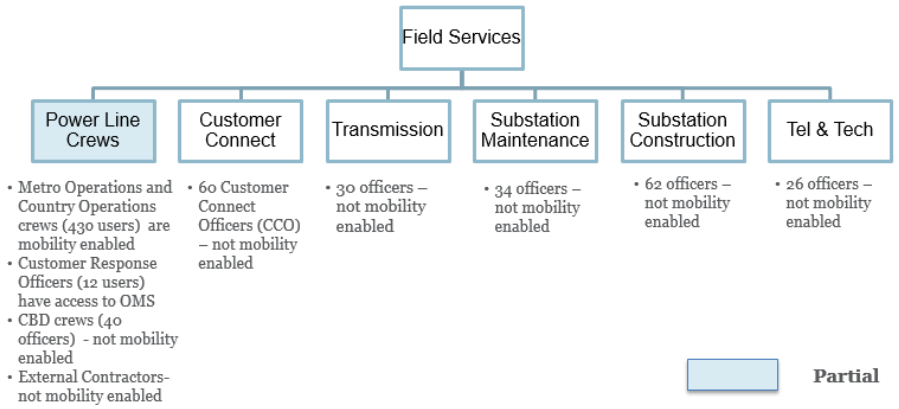


Figure 1 Mobility User Coverage - Current state

2.3 Reasons for Change

Currently, about half of the field force is not mobility enabled and there are numerous constraints in SAPN's field-based work:

- Current mobility solutions do not support all field functions and processes. There are a significant number of manual and paper-based processes which result in duplication of work
- Due to a lack of real-time access to asset, network and customer information field workers are forced to work with out of date information, which has productivity and safety implications
- Current mobility solutions are not user friendly and integrated, resulting in lower adoption rates by field workers
- Current mobility solutions do not completely leverage location-based capabilities – for instance, to automatically update customers on the status of their service requests.

In addition, other SAPN initiatives are dependent on mobility functionalities and the full benefits of these initiatives cannot be realised if current mobility capabilities are not expanded. Some of the projects are highlighted below:

- **Asset Condition Recording and Maintenance** – In order to empower field maintenance workers to make informed decisions on condition-based asset maintenance, they require the ability to view up to date information on assets. In addition, asset information is not currently updated in near-real time as there is no mobility functionalities available for field workers to view and update asset information.
- **Smarter Network program** – With Intelligent Network devices such as Smart Meters planned to be rolled out within the 2015-2020 period, SAPN will have more visibility and control over its network. If mobility components are not rolled out in support of the Intelligent Network initiatives, SAPN will not be able to control its Intelligent Network devices remotely.

These constraints and the challenges facing SAPN make it crucial to implement field force mobility solutions to improve business operations and increase the quality of customer service. This business case proposes a program of work to enhance the current mobility solution; an important step towards a completely mobile, efficient and effective field workforce.

2.4 Objectives

The objectives for delivering this programme of work are as follows:

- To improve the efficiency and effectiveness of field operations through:
  - Simplification of operations and business processes and a reduction in manual and paper-based processes
  - Reduction in dispatch times as well as time taken to analyse faults and arrive at location
  - Increased effectiveness in fault management through increased visibility and control over the distribution network
  - Increased effectiveness and accuracy in capturing and updating asset and customer data
  - Optimised workforce productivity, utilisation, and collaboration
  - Improved decision making in the field
- To improve safety and compliance of field crews completing their work
- To improve customer service through real-time status updates and faster response times
- To reduce costs across current operations in labour and services
- To comply with regulatory and market obligations through better data capture and reporting
- To align business operations to industry best practices whilst aiming for operational excellence
- To improve use of mobile technologies through user friendly interfaces

2.5 Relationship to Business Strategies and Programs

The field force mobility programme of work contributes to achieving SAPN's strategic objectives as described below.

Table 2 Contribution to corporate strategic objectives

Corporate Strategic Objective	Contribution
Delivering on the needs of our shareholders, by achieving our target returns, maintaining the business' risk profile, and protecting the long term value of the business	• Field force mobility helps maintain the business' risk profile through increased safety and compliance in the field
Providing customers with safe, reliable, value for money electricity distribution services, and information that meets their needs	• Provides customers with more detailed and up to date information on status, progress, cause and estimated restoration of outages through outbound SMS services as well as making the data available to Interactive Voice Response (IVR) messaging and Contact Centre Call Takers
Ensuring that our workforce is safe, skilled and committed, and that our resourcing arrangements can meet our work program needs	• Easier access to safety, environmental and hazard information • Auto-location of hazards and its proximity to field staff • Secure access to training materials, qualifications, certifications and experience information • Field crews have access to core enterprise systems • Optimised resource utilisation through an efficient dispatch function • Visibility of available field labour
Maintenance and development of key capabilities that will help sustain our success into the future	• Mobility solution enabled for all job types and most field crews • Mobility solutions support future priority SAPN projects such as Regulatory Information Notification (RIN) compliance

Refer Appendix D for a benefit dependency map depicting the alignment between Field force mobility and SAPN's strategic plan.

Table 3 Contribution to corporate core areas of focus

Corporate Strategic Objective	Contribution
Energised and responsive customer service	Field force mobility enables improved customer service by connecting our field workforce directly with our customers through: • Availability of detailed up-to-date information on status, progress, cause and estimated restoration time of connections and outages • Reduced supply restoration times for faults and outages
Excellence in asset management and delivery of service	Field force mobility results in improved asset management through: • Real-time access to asset performance history • Faster field crew response and higher first-time fix rates through availability and access to better information
Growing through leveraging our capabilities	• By implementing the initiatives outlined in this business case, SAPN will be able to leverage existing field force capabilities and further enhance existing systems and processes as well as provide the staff with the necessary tools and information to be able to accommodate growth as the network expands and the amount of the field work increases.
Investing in our people, assets and systems	Field force mobility contributes to SAPN's aspiration of a united, energetic and highly skilled organisation through : • Improved communications and access to timely information • Improved accuracy and quality of asset and customer information • Reduced risk of safety incidents through timely updates and improved access to safety and hazard information based on crew location • Automated alerts on employee fatigue and heavy vehicle driving hours • Real-time access to training and reference material while in the field

Table 4 Contribution to IT strategic objectives

IT Strategic Objective	Contribution
Ensure technology, systems and processes support SA Power Networks long-term business direction	Field force mobility is an enabler to achieving the 2026 Future Operating Model and is aligned to SAPN's 2014-2018 Strategic Plan
Partner with other business departments to deliver value through technology	Field force mobility allows field based staff across the organisation (especially within Field Services division) to improve the way they work while ensuring safety and compliance
Ensure our people are informed and engaged, and have the right skills aligned with business objectives	Field force mobility allows field staff to be informed and engaged by allowing: • field staff to access training material and reference material in real time • real-time collaboration with other crews and the depot • staff to access the corporate systems for customer, asset information etc. while in the field
Improve efficiency of our processes in line with good industry practices	One of the key outcomes of field force mobility is the replacement of paper-based and manual processes, thereby improving the efficiency of current work processes. Field force mobility further drives efficiency by improving access to information in the field and hence improving decision making in the field as well as expediting the return of information from the field to enable more informed asset management decisions.

2.6 Relationship to National Electricity Rules Expenditure Objectives

The National Electricity Rules sections 6.5.6 and 6.5.7 describe the objectives of economic regulatory assessments on operating and capital expenditures for electricity distribution services. The key expenditure objectives are outlined in the table below.

Table 5 Contribution to the National Electricity Rules expenditure objectives

National Expenditure Objectives	Contribution
Comply with regulatory obligations	• The safety enhancements identified in this business case ensures compliance to legislative and regulatory obligations through enhanced quality and timeliness of information to support reporting • The mobile capabilities delivered with underpin SAPN's capability to collect all the data required to achieve and maintain RIN compliance
Maintain the quality, reliability and security of supply of services provided by SA Power Networks	• Field services are delivered efficiently and in an optimised manner to ensure availability of network assets to meet demand through effective resource allocation and timely access to information • Improved asset reliability and faster response and restoration times to faults through more efficient and effective field operations • Uplift in capability and efficiency of field workers to safely maintain network assets

2.7 Meeting the National Electricity Rules Expenditure Criteria

Adherence to the National Electricity Rules expenditure criteria is demonstrated throughout this business case and is summarised below.

Table 6 Activities to Meet the National Electricity Rules expenditure objectives

National Expenditure Criteria	Activity
Efficient cost of achieving the objective(s)	• As part of the Business Case we have included an option of 'Do Nothing' which forms a baseline for all other options. • The approach taken in gathering cost for each option has been sought through both external sources and historical costs of similar projects.
Cost of a prudent operator	• For each option, the cost modelling comparisons (where required) were sought by either quotes, benchmarking or estimates from within SAPN. • SAPN has engaged an external consultant (Litmus Group) to assist in preparing this business case. Litmus Group's experience in Field force mobility implementations at other electricity distributors in Australia was used to ascertain and compare different approaches to Field force Mobility. • Options included in this business case are what one would reasonably expect to be incurred by a prudent service provider acting efficiently.
Realistic expectation of forecast and cost impact	• Costs for the initiatives were arrived at based on a bottom-up costing approach for the initiatives and used past experience of delivering Mobility solutions. • Each option solicits the risks, benefits and dis-benefits involved in its implementation. Detailed project roadmaps and strategies have also been developed in conjunction with the options to ensure all reasonable anticipated costs and benefits are captured.

3. Scope

3.1 Document Scope

The following attributes will be evaluated for each option in this business case:

- Description;
- Detailed costs;
- Benefits;
- Dis-benefits;
- Timescale;
- Risk; and
- Investment appraisal.

3.2 Functional Scope

The functional scope of this business case can be grouped into five initiatives:

- **Scheduling and Dispatch Optimisation:** Leveraging mobility capabilities to improve the scheduling and dispatch process and resourcing planning;
- **Crew/Employee Management:** Improving the current processes around time sheeting, fatigue management and heavy vehicle driving management ;
- **Works Management:** Improving work delivery and responsiveness of the field based staff;
- **Safety Enhancements:** Leveraging mobility to improve safety and compliance through improved safety monitoring, hazard identification, incident management and crew proximity alerts; and
- **Enterprise Extension:** Allowing the field force to access more information in real-time wherever they are.

The table below details the requirements that fall under each initiative.

Table 7 Functional scope

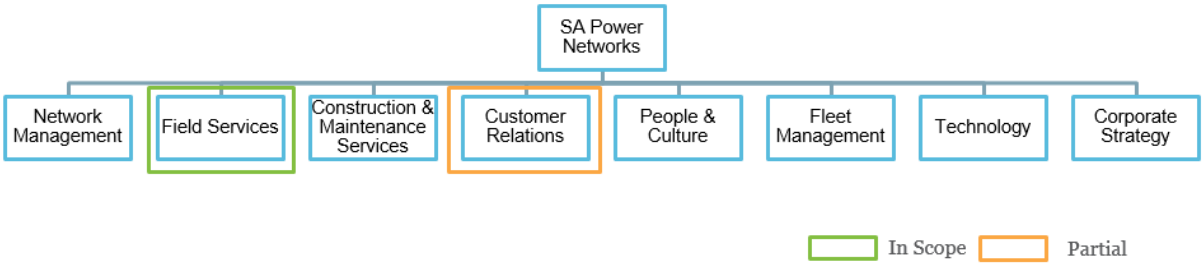
Initiative	Requirement
Scheduling and Dispatch Optimisation	• A single dynamic (near real-time) view of planned and un-planned work • Spatial view of work schedules, crew availability and their location • Ability for field crews to 'pull' additional work in the field • Street level routing during scheduling • Automatic work status updates for planned work using vehicle location
Crew / Employee Management	• Electronic Time-sheeting and job data (effort) capture • Fatigue Management of field workers • Heavy Vehicle Driving Management: electronic mechanism to capture driving hours
Works Management	• Making inventory stock visible in the field • Capturing inventory planned and actuals in the field • Ability to view spatial asset and drawing information • Ability to view and update customer information in the field • Making relevant and up-to-date job information (electronic job folder) available in the field • Intelligent Network enhancements - mobility components to support intelligent network enhancements such as viewing customer devices that are controlled by SAPN • Expanding the ability to update corporate systems in near real-time (e.g. closing out tasks in the field, closing out customer connect jobs in the field) • Enable messaging from depot to crew and vice-versa

Initiative	Requirement
Safety Enhancements	• Ability to receive and provide relevant and up-to-date hazard and safety information in the field (e.g. safety, weather and bushfire alerts, site specific hazard / environmental information, asset / work order historical information, road condition advice) • Ability to capture safety audit and observations information in the field on a mobility device • Ability to raise safety incidents and perform hazard assessments using a mobility device • Ability to enable dynamic geo-fencing (e.g. identifying and communicating an area as a restricted zone due to bush fires)
Enterprise Extension	• Extending desktop tools to be available on mobility devices (e.g. online approvals, emails available in the field) • Ability to access corporate information on mobility devices (e.g. intranet) • Ability to access learning materials on mobility devices (e.g. animated pdfs, work instructions, e-Learning)

The scope of the business case also includes deploying mobility solutions to field crews who aren't currently mobility enabled. In addition, the scope of the business case includes Business Process Management (BPM) and Organisational Change Management (OCM) that is required for the five initiatives.

3.3 Organisational Scope

The scope of the business case is depicted below - Field Services is the main organisation business unit that is in scope of this business case. Customer Relations is partially in scope as some enhancements are related to the 'Customer Connections' process. The scope also includes external contractors that work for Field Services.



3.4 Scope Exclusions

Mobility requirements for Asset Inspectors and Customer Solutions group within Network Management division as well as mobility requirements for the Constructions & Maintenance Services division are out of scope of this business case. Fleet Management requirements for vehicle status and vehicle performance tracking are also out of scope of this business case.

The following field force mobility requirements are covered in SAPN's other business cases and are therefore out of scope.

Table 8: Scope Exclusions

Requirement	Initiative/Business Case
Capability for leaders to run reports and analyse work / crew related information (dashboards, performance indicators) in near real-time in the field.	**Business Intelligence business case**
Capability to mark-up or red-line asset or drawing information using a mobility device in the field.	**Integrated Design Management Systems business case**
Ability for leaders to view certifications and license information of the crew members in the field.	**HR Systems business case**
Capability for the field force to capture and update asset data.	**Enterprise Asset Management business case**
Ability for field staff to support the demand side participation program for instance support remote energisation and de-energisation of customer connections	**Demand Side Participation business case**
Ability to view electronic switching sheets on a mobility device	**Advanced Distribution Management System (ADMS) project**

3.5 Dependency on other initiatives

The Field force Mobility business case has key dependencies to other initiatives and business cases that are currently being developed or in various stages of implementation. These initiatives provide the foundational components that support field force mobility.

Table 9 Dependency with other business cases and initiatives

Initiative/Business Case	Dependency
Mobility Technology Foundation business case	This business case puts forward the key foundational technology components required to support field force mobility such as: • Device and Application Management • Mobile Application Platform • Network Management • Security Management • Integration Management Without the foundational technology components, it would be not be possible to meet the field force mobility goals.
Integration business case	The integration layer is a key technology component that supports the field force in accessing and updating corporate systems.
SAP Roadmap	As SAP is the Enterprise Resource Planning (ERP) system that contains the asset and work order information, there is a dependency on the SAP roadmap to provide the back-end functionalities (e.g. maintenance orders) that is required by field force workers.

Initiative/Business Case	Dependency
Borderless Network Program	The Borderless Network Program provides the technology components that enable field based staff to connect to SAPN's corporate system irrespective of their location and device that they are using.
Information Security Roadmap	This initiative will deliver the capability to mitigate security risks / threats arising from Mobility solutions to comply with corporate standards. The Information Security implementation's scope also includes compliance to any regulation/legislative requirements such as customer privacy requirements.
Enterprise Content Management business case	This business case covers the tools and strategies required for the management of SAPN's unstructured information such as photos and videos. This capability is required to meet the requirement of electronic job folders.
Project / Program Management and long-term planning business case	This business case covers the integrated resource and job scheduling for field workers. This is a necessary capability to deliver benefits from the 'Get Fill-in work' functionality proposed in this business case.

4. Business Options

The options considered in this business case aim to provide a roadmap of mobility solutions for SAPN to deliver on its commitment to provide safe and reliable electricity supply, to minimise power outage times and to ensure the safety of its workforce. These options are:

- **Option 0 – Do Nothing**
  - Aims to maintain the current state of field mobility operations.
- **Option 1 – Enhance with Partial Roll-out**
  - Aims to significantly enhance existing field mobility capabilities by implementing new mobility solutions and rolling out to field force staff that currently use mobility devices and additional priority field force staff.
- **Option 2 – Enhance with Full Roll-out**
  - Aims to significantly enhance existing field mobility capabilities by implementing new mobility solutions (same solutions as Option 1) and rolling out to all field force staff.

4.1 Option 0 – Do Nothing

The evaluation of "Option 0 – Do Nothing" forms the baseline for decision making for all options mentioned in this business case. It is being evaluated to understand the risks and impacts associated with simply continuing with maintaining the current state, refer Section 2.2 for a description of the current state of mobility at SA Power Networks.

As part of "Option 0 – Do Nothing", it is expected that business as usual operations and current projects will continue. This includes:

- Costs to maintain the current applications[2] - Click Software upgrades and vendor services packs, Outage Management System upgrades as well as licensing costs for Click and Sygic[3]
- IT and Field services personnel required to support current users, hardware and applications
- Costs to replace Satellite equipment and conduct annual vehicle maintenance checks

Whilst continuing with business as usual ensures that the benefits from existing mobility solutions continue to be realised, there are many dis-benefits (Section 4.1.3) and risks (Section 4.1.5) associated with choosing this option. In addition, many groups within Field Services (Customer Connection officers, Customer Connection crews, the CBD projects & civil group and the Substation Construction & Maintenance groups) will continue to not have access to a field force mobility solution.

In continuing with business as usual, manual paper-based field processes will continue to exist and supply restoration times may be impacted due to the lack of real-time information available to crew members in the field. As customer demands continue to increase with minimal efficiency gains in SAPN's field force, this may lead to longer time frames for power restoration, in particular during extreme weather conditions.

Without continued investments in new mobility functionalities, SAPN will not be able to deliver on its corporate goals of improved customer service through real-time status updates as well as improved asset maintenance through real-time asset data and condition data capture. The efficiency of asset maintenance programs will remain constant as field workers are not empowered with more information on SAPN's network assets.

[2] These costs have been sourced from the 'IT Applications' business case
[3] License costs for iMobileTC have been excluded as it is bundled with the Outage Management System (OMS) costs.

4.1.1. Option 0 Costs

The tables below provide an overview of the IT and Non-IT capital and operating costs associated with Option 0. Refer Appendix C.1 for notes and details of assumptions used in the preparation of these costs. The baseline Option 0 combined capital and operating costs total **$4.65m** for the 2015-2020 RCP and **$8.98m** for the 10 year investment period 2015/16 to 2024/25.

Table 10 Option 0 Capital Costs Overview ($M Real 2013/14)

Business Unit	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
IT Recurrent Capex	0.390	0.418	0.252	0.226	0.396	**1.683**	0.301	0.088	0.132	0.439	0.397	**3.039**
Non-IT Recurrent Capex	0.058	0.058	0.058	0.058	0.058	**0.288**	0.058	0.058	0.058	0.058	0.058	**0.576**
TOTAL CAPITAL	**0.448**	**0.476**	**0.310**	**0.284**	**0.453**	**1.971**	**0.359**	**0.146**	**0.189**	**0.496**	**0.454**	**3.615**

Table 11 Option 0 Opex Costs Overview ($M Real 2013/14)

Business Unit	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
IT Opex	0.344	0.344	0.343	0.347	0.347	**1.726**	0.347	0.347	0.347	0.347	0.347	**3.463**
Non-IT Opex	0.190	0.190	0.190	0.190	0.190	**0.950**	0.190	0.190	0.190	0.190	0.190	**1.901**
TOTAL OPEX	**0.534**	**0.534**	**0.533**	**0.537**	**0.538**	**2.676**	**0.538**	**0.538**	**0.538**	**0.538**	**0.538**	**5.364**

Table 12 below outlines the Option 0 IT recurrent capex costs consisting of the following RESET Project IDs:

1. 50% of ResetProjID027 – Click Vendor Service Packs
2. 50% of ResetProjID028 – Click Upgrades
3. 20% of ResetProjID071a - OMS Upgrades

Table 12 Option 0 – IT Recurrent Capex Overview ($M Real 2013/14)

Project Name	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Click Software Upgrade (ResetProjID028) - 50%	0.209	0.331	0.120	0.000	0.212	**0.873**	0.213	0.000	0.000	0.212	0.213	**1.510**
Click Vendor Service Packs (ResetProjID027) - 50%	0.087	0.088	0.088	0.088	0.088	**0.438**	0.088	0.088	0.088	0.088	0.088	**0.878**
OMS Upgrade (ResetProjID071a) - 20%	0.094	0.000	0.044	0.139	0.096	**0.372**	0.000	0.000	0.044	0.139	0.096	**0.650**
TOTAL IT CAPITAL	**0.390**	**0.418**	**0.252**	**0.226**	**0.396**	**1.683**	**0.301**	**0.088**	**0.132**	**0.439**	**0.397**	**3.039**

Table 13 below outlines the Option 0 IT recurrent opex costs including:

- License costs for Click Mobile and Sygic
- 50% of Click Maintenance costs
- IT Support costs for desktop (0.5 FTE) and mobility (1.0 FTE)

Table 13 Option 0 – IT Recurrent Costs – Opex Overview ($M Real 2013/14)

Project Name	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Click Maintenance (labour + services - ex Licensing) - 50%	0.130	0.130	0.129	0.133	0.134	**0.656**	0.134	0.134	0.134	0.134	0.134	**1.324**
License Costs - Click Mobile and Sygic	0.045	0.045	0.045	0.045	0.045	**0.224**	0.045	0.045	0.045	0.045	0.045	**0.447**
IT Support Costs (Desktop + Mobility Support)	0.169	0.169	0.169	0.169	0.169	**0.846**	0.169	0.169	0.169	0.169	0.169	**1.692**
TOTAL IT OPEX	**0.344**	**0.344**	**0.343**	**0.347**	**0.347**	**1.726**	**0.347**	**0.347**	**0.347**	**0.347**	**0.347**	**3.463**

Table 14 below outlines the Option 0 Non-IT recurrent capex costs for the on-going refresh of satellite equipment.

Table 14 Option 0 - Non-IT Recurrent Capex Overview ($M Real 2013/14)

Project Name	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Satellite Equipment Replacement	0.058	0.058	0.058	0.058	0.058	**0.288**	0.058	0.058	0.058	0.058	0.058	**0.576**
TOTAL NON-IT CAPITAL	**0.058**	**0.058**	**0.058**	**0.058**	**0.058**	**0.288**	**0.058**	**0.058**	**0.058**	**0.058**	**0.058**	**0.576**

Table 15 below outlines the Option 0 Non-IT recurrent opex costs including:

- Network connectivity costs (Telstra and Satellite)
- Costs related to performing annual vehicle maintenance checks for the device fit outs
- Business mobility support costs

Table 15 Option 0- Non-IT Recurrent Costs – Opex Overview ($M Real 2013/14)

Project Name	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Vehicle Maintenance Checks	0.035	0.035	0.035	0.035	0.035	**0.176**	0.035	0.035	0.035	0.035	0.035	**0.353**
Network Connectivity Charges	0.020	0.020	0.020	0.020	0.020	**0.099**	0.020	0.020	0.020	0.020	0.020	**0.198**
Mobility Support	0.135	0.135	0.135	0.135	0.135	**0.675**	0.135	0.135	0.135	0.135	0.135	**1.350**
TOTAL NON-IT OPEX	**0.190**	**0.190**	**0.190**	**0.190**	**0.190**	**0.950**	**0.190**	**0.190**	**0.190**	**0.190**	**0.190**	**1.901**

4.1.2. Option 0 Expected Benefits

As part of maintaining current state, no new benefits have been identified. Any existing benefits associated with the current mobility solutions and user coverage

has not been quantified as these are baseline benefits that are applicable to all options.

4.1.3. Option 0 Expected Dis-benefits

Table 16 Option 0 - Expected dis-benefits

ID	Dis-benefits	Consequence outcome
DB1	Field crews will not be able to access required information in a timely manner to complete work in the field.	Field crews will be unable to make informed decisions in the field which can result to delays in restoring electricity disruptions.
DB2	Paper-based processes will continue to exist	Duplication of work as paper-based forms will need to be manually entered into systems.
DB3	Usability of mobility solutions and devices remains complex	Field personnel will be disengaged as a result of current mobility usability issues and mobility will continue to be used ineffectively
DB4	Outdated information and the inability to access business systems in the field	Increased travel time, fuel costs and loss of productivity as field crews must return to depots to obtain required asset or job information. Increased restoration times due to the inability to access required information in the field.
DB5	Job folders continue to be paper-based and must be manually prepared in advance	Additional time spent on printing and preparing job folders. Crews will be unable to obtain up-to-date information in the field.
DB6	Field worker processes will continue to be carried out manually	Additional time and effort spent on manual, low value-add activities.
DB7	Manual process to meet regulatory and legislative obligations	Additional time and effort spent on meeting regulatory and legislative obligations could lead to delays in meeting these obligations.
DB8	Field crews will be unable to pull additional work when an existing job is cancelled or removed	Productivity losses as field crews are unable to pull additional work if an existing job is cancelled.
DB9	Manual process to amend rejected timesheets	Additional time spent in amending timesheets.
DB10	Lack of visibility in crew and job statuses	Inaccurate job status information sent to customers.
DB11	Higher possibility of data errors	The ‘double handling’ of data (paper-based forms and entry into system) combined with the challenges of reading handwritten forms could result in a significant error rate in data.
DB12	Inability to meet SAPN’s Strategic goals	Without enhanced functionality, the field force will not be able to deliver on SAPN’s key areas of focus and strategic goals.

4.1.4. Option 0 Timescale

The below diagram shows the indicative timeframes for Click upgrades and OMS upgrades

Table 17 Option 0 Timescale

Activity	2015	2016	2017	2018	2019	2020
Click Software Upgrade						
OMS Upgrade						

4.1.5. Option 0 Major Business Risks

The major business risks of Option 0 are outlined below. The overall risk rating for Option 0 is **Medium**.

Table 18 Major business risks of not proceeding with the project

Risk ID	Risk Description (Risk Line Item)	Consequence Description	Inherent Likelihood	Inherent Consequences	Risk Rating
R1	Safety (actual and near-miss) incidents are not captured and appropriately addressed	Unable to report on and manage safety incidents efficiently and effectively due to manual and paper-based process	Possible (3)	Moderate (3)	Medium
R2	Non-compliance with relevant legislations - Work and Health Safety Act , Occupational Health Safety and Welfare Act etc.	Because the responsibility for fatigue management is currently on the individual, SAPN could be non-compliant to legislative safety requirements. Additionally field force may not have access to the relevant workplace hazard information	Possible (3)	Moderate (3)	Medium
R3	Increase in regulatory fines and reduced customer satisfaction due to long outage restoration times	The lack of mobility devices for all field personnel as well as restricted functionality could lead to increased restoration times – especially if demand increases (e.g. during Major Event Days)	Possible (3)	Moderate (3)	Medium
R4	Lack of organisational commitment and mobility solution adoption	Field staff resists using mobility devices due to current usability issues.	Likely (4)	Moderate (3)	Medium

4.1.6. Do Nothing – Investment Appraisal

Maintaining current state will incur costs of $4.65m over 2015/16-2019/20 Regulatory Control Period with operating costs of $538K per year. The total costs over the 2014-2024 period is $8.98m.

Table 19 Option 0 - Investment Appraisal

Measure Type	Target	Value ($m)
NPV (Net Present Value)	N.A	-$6,457,000[4]

[4] The NPV has been calculated at a pre-tax real WACC of 5.44% and has been calculated for the 2014/15-2024/25 period.

4.2 Option 1 – Enhance with Partial Roll-out

Option 1 – Enhance with Partial Roll-out proposes the implementation of a program of work to enhance SAPN's mobility capability to the rest of the Power Line crews[5] as well as the Customer Connect and Transmission groups. Specifically, this option delivers the implementation of the following five initiatives (detailed in Section 3.2):

- Scheduling and Dispatch Optimisation: Leveraging mobility capabilities to improve the current scheduling and dispatch process and resourcing planning
- Crew/Employee Management: Improving the current processes around time sheeting, fatigue management and heavy vehicle driving management
- Works Management: Improving work delivery and responsiveness of the field based staff
- Safety Enhancements : Leveraging mobility to improve safety and compliance through improved safety monitoring, hazard identification, incident management and crew proximity alerts
- Enterprise Extension: Allowing the field force to access more information in real-time wherever they are

These initiatives chosen aligned to the Enterprise Mobility Strategy and provide the necessary capabilities to support the 2026 Future Operating model. It also allows SAPN to respond to the key trends and factors affecting the distribution network. Option 1 provides the foundation to further expand on SAPN mobility capabilities.

As part of Option 1, the proposal is to roll-out all the mobility initiatives mentioned above to the current mobility users and additional priority users (Figure 2). These groups have been identified as the priority groups as they deliver the maximum benefits from rolling out the enhanced mobility solutions.

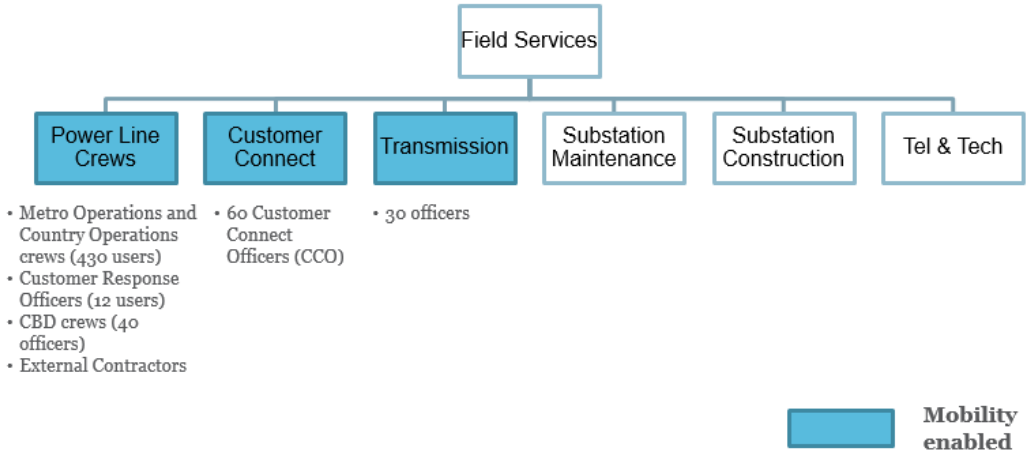


Figure 2 Mobility user coverage - Option 1

[5] Customer Response Officers (CRO) currently have Toughbooks however do not use the complete functionality, so there will be change management and training costs to ensure that they use mobility to the full extent

4.2.1. Option 1 Costs

The tables below show the capital and operating costs related to the enhancement mobility functionalities required as part of Option 1. Refer Appendix C.2 for more information on these costs.

Option 1 estimates also include costs related to organisational change management; IT costs for supporting the mobility enhancements; and an additional 0.5 Full Time Equivalent for mobility support services.

The Option 1 combined capital and operating costs total **$9.6m** for the 2015-2020 Regulatory Control Period and **$12.1m** for the 10 year investment period 2015/16 to 2024/25.

Table 20 Option 1 – Summary Capital costs by Business Unit ($M Real 2013/14)

Business Unit	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
IT Delivery and Change Mgmt	2.904	1.143	0.160	0.718	1.426	**6.351**	0.134	0.031	0.020	0.013	0.007	**6.556**
Non-IT Delivery and Change Mgmt	0.717	0.395	0.038	0.290	0.358	**1.797**	0.049	-	-	-	-	**1.845**
TOTAL CAPITAL	**3.621**	**1.538**	**0.197**	**1.008**	**1.784**	**8.148**	**0.183**	**0.031**	**0.020**	**0.013**	**0.007**	**8.402**

Table 21 Option 1 – Summary Opex costs by Business Unit ($M Real 2013/14)

Business Unit	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
IT Opex	-	0.334	0.372	0.372	0.388	**1.467**	0.430	0.438	0.438	0.438	0.438	**3.650**
Non-IT Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
TOTAL OPE	**-**	**0.334**	**0.372**	**0.372**	**0.388**	**1.467**	**0.430**	**0.438**	**0.438**	**0.438**	**0.438**	**3.650**

Table 22 outlines the capital project delivery and change management costs. For a detailed breakdown of these capital costs by IT and non-IT, refer to Appendix C.2.

Table 22 Option 1 - Capital Delivery and Change Management Costs by Project ($M Real 2013/14)

Project Name	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Heavy Vehicle Driving Hours Capture	0.042	0.129	0.007	0.007	0.007	**0.191**	0.007	0.005	-	-	-	**0.203**
Automate the processing of job data for close out	-	0.270	0.095	0.007	0.007	**0.379**	0.007	0.007	-	-	-	**0.392**
WP03 - Get Fill-In Jobs	-	-	0.066	0.068	0.007	**0.141**	0.007	0.007	0.007	-	-	**0.160**
WP04 - Notes, News, Emails and Messages	-	-	-	-	0.175	**0.175**	-	-	-	-	-	**0.175**
WP06 - Supporting Info Attachments and SAPN systems	-	0.510	-	-	-	**0.510**	-	-	-	-	-	**0.510**
WP09 - Job Completion for all lines of business	0.106	0.216	0.007	0.007	0.005	**0.340**	-	-	-	-	-	**0.340**
Field Mobility Safety Enhancements	-	-	-	0.211	0.152	**0.363**	-	-	-	-	-	**0.363**
Rollout of Mobile Computing	2.046	0.007	0.007	0.007	0.611	**2.677**	0.007	-	-	-	-	**2.684**
Single End User Interface	0.315	-	-	-	-	**0.315**	-	-	-	-	-	**0.315**
Street Level Routing	-	-	-	0.136	0.137	**0.273**	-	-	-	-	-	**0.273**
Auto vehicle location	-	-	-	0.312	0.035	**0.346**	0.007	0.007	0.007	0.007	0.007	**0.379**
Online Safety Audits	-	-	-	-	0.144	**0.144**	0.033	0.007	0.007	0.007	-	**0.197**
Field Services Mobile Inventory Mgt	-	-	-	-	0.316	**0.316**	0.102	-	-	-	-	**0.418**
Location based safety information	-	-	-	0.238	0.171	**0.409**	-	-	-	-	-	**0.409**
Spatial view of jobs and crew	0.063	0.192	-	-	-	**0.255**	-	-	-	-	-	**0.255**
WP10 Mobile Timesheeting	0.983	0.016	0.016	0.016	0.016	**1.048**	0.016	-	-	-	-	**1.064**
Field Services Fatigue Management	0.065	0.199	-	-	-	**0.264**	-	-	-	-	-	**0.264**
TOTAL CAPITAL	**3.621**	**1.538**	**0.197**	**1.008**	**1.784**	**8.148**	**0.183**	**0.031**	**0.020**	**0.013**	**0.007**	**8.402**

Table 23 outlines the opex uplift required to support the new systems and processes. For a detailed breakdown of these capital costs by IT and non-IT, refer to Appendix C.2.

Table 23 Option 1 – Opex Uplift by Project ($M Real 2013/14)

Project Name	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Heavy Vehicle Driving Hours Capture	-	0.001	0.003	0.003	0.003	0.010	0.003	0.003	0.003	0.003	0.003	0.024
Automate the processing of job data for close out	-	-	0.004	0.006	0.006	0.016	0.006	0.006	0.006	0.006	0.006	0.045
WP03 - Get Fill-In Jobs	-	-	-	0.001	0.003	0.004	0.003	0.003	0.003	0.003	0.003	0.019
WP04 - Notes, News, Emails and Messages	-	-	-	-	-	-	-	-	-	-	-	-
WP06 - Supporting Info Attachments and SAPN systems	-	-	0.011	0.012	-	0.023	-	-	-	-	-	0.023
WP09 - Job Completion for all lines of business	-	0.002	0.006	0.006	0.004	0.018	-	-	-	-	-	0.018
Field Mobility Safety Enhancements	-	-	-	-	0.004	0.004	0.006	0.006	0.006	0.006	0.006	0.036
Rollout of Mobile Computing	-	0.231	0.232	0.230	0.230	0.922	0.232	0.232	0.232	0.232	0.232	2.084
Single End User Interface	-	0.006	0.006	0.006	0.006	0.024	0.006	0.006	0.006	0.006	0.006	0.052
Street Level Routing	-	-	-	-	0.011	0.011	0.023	0.023	0.023	0.023	0.023	0.126
Auto vehicle location	-	-	-	-	0.009	0.009	0.010	0.010	0.010	0.010	0.010	0.059
Online Safety Audits	-	-	-	-	-	-	0.002	0.003	0.003	0.003	0.003	0.014
Field Services Mobile Inventory Mgt	-	-	-	-	-	-	0.025	0.033	0.033	0.033	0.033	0.157
Location based safety information	-	-	-	-	0.003	0.003	0.006	0.006	0.006	0.006	0.006	0.032
Spatial view of jobs and crew	-	0.001	0.006	0.006	0.006	0.019	0.006	0.006	0.006	0.006	0.006	0.049
WP10 Mobile Timesheeting	-	0.089	0.088	0.091	0.091	0.358	0.091	0.091	0.091	0.091	0.091	0.815
Field Services Fatigue Management	-	0.005	0.017	0.011	0.011	0.044	0.011	0.011	0.011	0.011	0.011	0.100
TOTAL OPEX	**-**	**0.334**	**0.372**	**0.372**	**0.388**	**1.467**	**0.430**	**0.438**	**0.438**	**0.438**	**0.438**	**3.650**

4.2.2. Option 1 Expected Benefits

Option 1 delivers benefits of primarily through Trade Skill Worker hours saved by removing time spent on manual and paper-based processes as well as reducing non-productive time by improving access to corporate systems. It is expected that these efficiency gains will be realised through a higher throughput of tasks performed as well as reduction in the underutilised time (white space) of the field force.

The table below describes the benefits that are expected to be realised by choosing Option 1.

Table 24 Option 1 - Expected benefits

ID	Benefit Type	Benefit Effect	Benefit	Measure	Benefit Start Date	Value[6]
B1	Tangible (Avoidance)	Direct	Trade Skilled Worker (TSW) - Timesheeting Enhancements	• Time taken for timesheeting compared to previous method • Electronic time sheeting utilisation (%)	2017	$4,926,411
B2	Tangible (Avoidance)	Direct	Business Support Officer (BSO) - Timesheeting Enhancements	• Number of timesheets submitted by BSO • Number of leave requests submitted by BSO	2017	$1,402,815
B3	Tangible (Avoidance)	Direct	Employee/Crew Management Enhancements	• Percentage of manual driver logs • Percentage of manual fatigue management calculations	2017	$7,051,828
B4	Tangible (Avoidance)	Direct	Scheduling and dispatch optimisation	• Percentage of automatic status updates • Number of jobs filled in the field	2017	$3,671,135
B5	Tangible	Direct	Works management processes	Time and effort saved by replacing manual process	2020	$6,898,414
B6	Tangible	Direct	Safety enhancements	Time and effort saved by replacing manual process	2018	$4,322,559
B7	Tangible	Direct	Customer Connections Efficiency Gain	Time and effort saved by replacing manual process	2018	$1,000,176
B8	Tangible	Direct	Rolling out mobility devices to more crews	Time and effort saved by replacing manual process	2017	$1,426.207
B9	Intangible	Direct	Reduced outage restoration times	Reduced System Average Interruption Duration Index (SAIDI)	2018	N.A
B10	Tangible	Indirect	Reduced Guaranteed Service Level (GSL) Payments	Annual GSL Payments	2018	Not determined

[6] Benefits have been calculated for a period of 10 year period from 2015/16 to 2024/25. The benefits start accruing 1 year after the date of implementation of the applicable project

ID	Benefit Type	Benefit Effect	Benefit	Measure	Benefit Start Date	Value[6]
B11	Tangible	Indirect	Reduced Service Performance Scheme (SPS) Penalty (or increased SPS Reward)	Annual SPS Penalties/Rewards	2018	Not determined
B12	Tangible	Direct	Reduced paper and printing costs due to process automation and elimination of manual processes	• Paper consumption • Printing costs	2017	Not determined
B13	Intangible	Direct	Reduced overpayment/underpayment of wages through consistent application of Enterprise Bargaining Agreement	Actual wages paid compared to expected wages	2017	Not determined
B14	Intangible	Direct	Reduced environmental footprint	Annual Paper consumption	2018	N.A
B15	Intangible	Direct	Improved customer satisfaction	Customer Satisfaction Rating	2017	N.A
B16	Intangible	Direct	On-time performance for customer connection work	On-time performance rate	2018	N.A
B17	Intangible	Direct	Reduced risk of safety incidents	• Switching incidents frequency rate • Number of vehicle incidents • Number of near miss incidents • Number of Medical treatment injuries	2018	N.A.
B18	Intangible	Direct	Improved efficiency of field force	• Number of work orders/jobs completed in a given month • First-time visit fix rates • Overtime hours	2018	N.A.
B19	Intangible	Direct	Improved employee collaboration	Employee engagement / satisfaction levels	2019	N.A.
B20	Intangible	Indirect	Improved decision making while in the field	• Time taken to complete jobs	2018	N.A.
B21	Tangible	Direct	Reduced travel costs	• Number of trips between depot and field • Annual Fuel expenses by total number of job • Travel time per job	2018	Not determined

ID	Benefit Type	Benefit Effect	Benefit	Measure	Benefit Start Date	Value[6]
B22	Intangible	Direct	Improved project and workforce visibility	• Project status tracking • Workforce status update statistics (en-route to arrive, arrive to complete etc.)	2017	N.A.
B23	Intangible	Indirect	Improved data quality and capture while in the field	• Office support required for data entry • Percentage of data entry errors	2018	N.A

4.2.3. Option 1 Expected Dis-benefits

The following dis-benefits are associated with this option.

Table 25 Option 1 - Expected dis-benefits

ID	Dis-benefits	Consequence outcome
DB1	Additional time spent to gather customer and asset related information	As it is expected that field staff will be required to capture more information than is currently done, it will take additional time of the field staff. However it is expected to be minimal.
DB2	Additional support for enhanced functionalities and more field staff who are mobility enabled	This will take additional effort and resources to sufficiently support and train SAPN staff.

4.2.4. Option 1 Timescale

The following high level activities and timescales are associated with this option[7]:

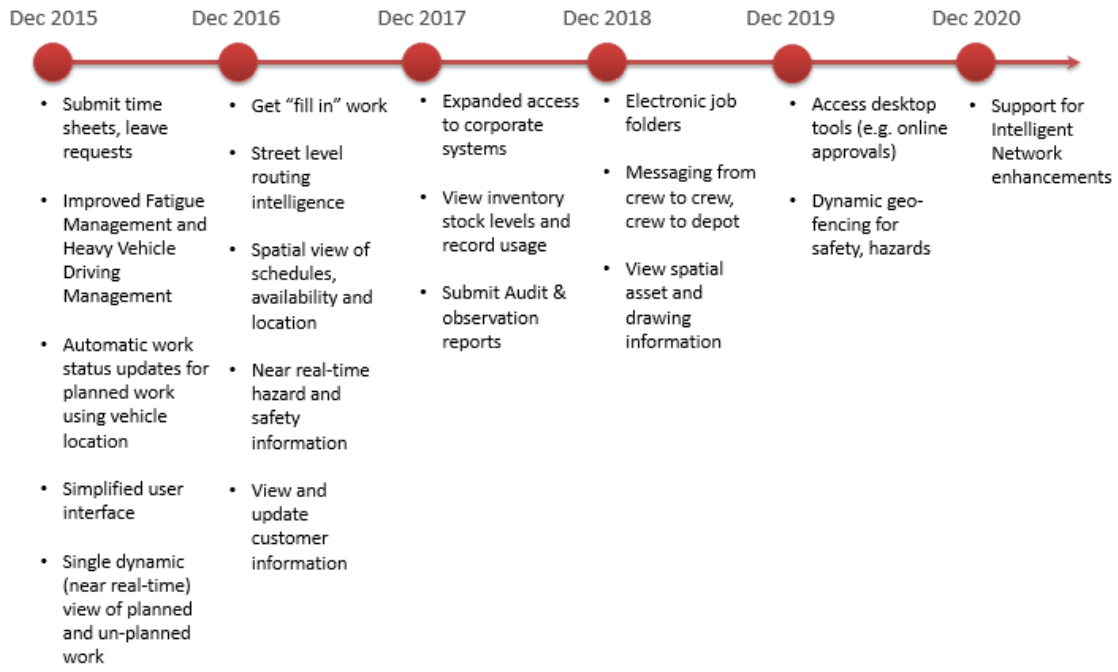


Figure 3 Option 1 Functionality Timescale

[7] Refer Appendix E for a project timescale along with key dependencies

The suggested device roll-out plan for the priority users is shown below[8]. The device roll out spans across 2015 – 2016 to ensure enough time for the change to get embedded and adopted.

Team	Crews	People	2015	2016	2017
Powerline-Customer Response Officer	12	12			
Powerline- CBD	17	40			
Powerline - External Contractors	25	50			
Customer Connect	60	60			
Transmission	10	30			

Figure 4 Option 1 Device rollout timescale

4.2.5. Option 1 - Major Business Risks[9]

The major business risks for this option are presented below. Overall the Enhance mobility with partial rollout option is considered to have a **Low to Medium** rating.

Table 26 Option 1 - Major business risks

Risk ID	Risk Description (Risk Line Item)	Consequence Description	Inherent Likelihood	Inherent Consequences	Risk Rating	Possible Mitigation
R1	Lack of commitment and solution adoption by the field force	The rate of benefits realisation will potentially take longer than expected.	Possible (3)	Moderate (3)	Medium	• A structured and proven approach to organisational change management • The engagement of Organisational Change professional services with prior experience in like implementations
R2	Possibility of security breaches	Access to view and update corporate systems in the field could lead to security breaches	Unlikely (4)	Major (4)	Medium	• Implement information security framework
R3	Lack of in-house resources and capabilities to deliver Mobility initiatives	Implementation of Mobility initiatives will result in delays in initiative timeframes and effectiveness of initiative outcomes.	Unlikely (2)	Moderate (3)	Low	Plan for required resources across the business to deliver the initiatives Partner with external vendors and experts as required.

[8] Customer Response Officers (CRO) currently have Toughbooks however do not use the complete functionality, so there will be change management and training costs to ensure that they use mobility to the full extent

[9] It is important to note the following in relation to the risks identified:

- The risk assessment tools provided by SA Power Networks for the purposes of this Business Case are aligned to corporate level risks, rather than IT level risks. This effectively means that risk levels identified below may equate to a lower level of rating than is expected and may not represent the true level of risk.
- A quantitative risk assessment has not been completed for risks identified. Therefore, the true cost impacts associated with the risks have not been identified.

Risk ID	Risk Description (Risk Line Item)	Consequence Description	Inherent Likelihood	Inherent Consequences	Risk Rating	Possible Mitigation
R4	Resistance to capturing the live location of field crews (Industrial Relations)	Full functionality that is expected may not be delivered	Possible (3)	Minor (2)	Low	Early engagement with relevant stakeholders
R5	Project schedule complexity and dependencies cause project delays	Delays in implementation will impact successful implementation of dependant initiatives	Possible (3)	Minor (2)	Low	Implement Mobility Governance and Project Management Office to oversee mobility related initiatives
R6	Rapid change in mobility technology	Resulting in SAPN becoming islanded.	Possible (3)	Minor (2)	Low	Implement modular mobility solutions, leveraging off-the-shelf solutions, enabled by enterprise integrated information systems and managed by mobility architecture.
R7	New business processes undefined and/or misunderstood	Ambiguous business process objectives – take up of new solutions will be low	Possible (3)	Minor (2)	Low	• Business Process Mapping expertise will be included amongst the skill sets within the project • New business processes to be part of the Organisational Change Management communications
R8	Efficiency gains do not translate into better scheduling or better utilisation of field force	Benefits identified will not be realised	Possible (3)	Moderate (3)	Medium	• Determine relevant KPIs for each benefit identified. • Empower benefit owners to track benefits and determine root cause of benefit slippage.

4.2.6. Option 1 – Investment Appraisal

Implementing Option 1 will incur a combined capital and operating costs total **$9.6m** for the 2015-2020 Regulatory Control Period and **$12.1m** for the 10 year investment period 2015/16 to 2024/25. The operational cost component of this is **$438K** per annum by the end of the 2015/16 – 2019/20 period. Option 1 is expected to deliver benefits of **$30.7m** over the 2015/16-2024/25 period.

Table 27 Option 1 - Investment appraisal breakdown

Measure Type	Target	Recommended Option Values ($m)
NPV (Net Present Value)[10]	N.A	$10,950,297[11]

[10] The NPV calculation does not include Option 0 costs and is based on the incremental costs required for Option 1
[11] The NPV has been calculated at a pre-tax real WACC of 5.44% and has been calculated for the 2014/15-2024/25 period

4.3 Option 2 – Enhance Mobility with Full Roll-out

Option 2 – Enhance Mobility with Full Roll-out proposes the implementation of a program of work to enhance SAPN's mobility capability through the five initiatives mentioned in Option 1 (same capabilities and solutions) to all field force staff within the 2015-2020 period.

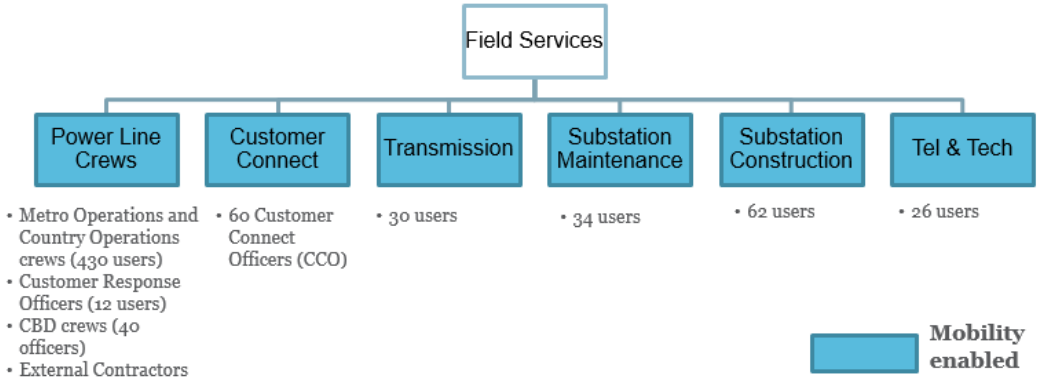


Figure 5 Mobility user coverage - Option 2

Similar to Option 1, Option 2 is in line with SAPN's strategic objectives and allows SAPN to respond to the key trends and factors affecting the distribution network (as highlighted in Section 2.2). Option 2 aims to empower all of SAPN's field force to utilise mobility to further enable productivity and efficiency in the field related work. This would entail costs related to rolling out the mobility device to all field staff as well as additional change management and training costs to ensure that all staff adopt the mobility solutions.

4.3.1. Option 2 Costs

The tables below show the capital and operating costs related to the enhancement mobility functionalities required as part of Option 2. Refer Appendix C.3 for more information on these costs.

Option 2 estimates also include costs related to organisational change management; IT costs for supporting the mobility enhancements; and an additional 0.5 Full Time Equivalent for mobility support services.

The Option 2 combined capital and operating costs total **$11.4m** for the 2015-2020 Regulatory Control Period and **$14.3m** for the 10 year investment period 2015/16 to 2024/25.

Table 28 Option 2 – Summary Capital costs by Business Unit ($M Real 2013/14)

Business Unit	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
IT Delivery and Change Mgmt	4.156	1.364	0.174	0.931	1.958	**8.585**	0.165	0.031	0.020	0.013	0.007	**8.820**
Non-IT Delivery and Change Mgmt	0.513	0.223	0.026	0.123	0.171	**1.056**	0.020	0.000	0.000	0.000	0.000	**1.076**
TOTAL CAPITAL	**4.669**	**1.587**	**0.200**	**1.055**	**2.130**	**9.641**	**0.185**	**0.031**	**0.020**	**0.013**	**0.007**	**9.897**

Table 29 Option 2 – Summary Opex costs by Business Unit ($M Real 2013/14)

Business Unit	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
IT Opex	-	0.416	0.454	0.450	0.467	**1.788**	0.525	0.534	0.534	0.534	0.534	**4.447**
Non-IT Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
TOTAL OPE	**-**	**0.416**	**0.454**	**0.450**	**0.467**	**1.788**	**0.525**	**0.534**	**0.534**	**0.534**	**0.534**	**4.447**

Table 30 below outlines the capital project delivery and change management costs. For a detailed breakdown of these capital costs by IT and non-IT, refer to Appendix C.3.

Table 30 Option 2 - Capital Delivery and Change Management Costs by Project ($M Real 2013/14)

Project Name	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Heavy Vehicle Driving Hours Capture	0.044	0.133	0.007	0.007	0.007	0.197	0.007	0.005	-	-	-	0.209
Automate the processing of job data for close out	-	0.272	0.096	0.007	0.007	0.382	0.007	0.007	-	-	-	0.395
WP03 - Get Fill-In Jobs	-	-	0.067	0.070	0.007	0.144	0.007	0.007	0.007	-	-	0.163
WP04 - Notes, News, Emails and Messages	-	-	-	-	0.178	0.178	-	-	-	-	-	0.178
WP06 - Supporting Info Attachments and SAPN systems	-	0.519	-	-	-	0.519	-	-	-	-	-	0.519
WP09 - Job Completion for all lines of business	0.114	0.230	0.007	0.007	0.005	0.362	-	-	-	-	-	0.362
Field Mobility Safety Enhancements	-	-	-	0.224	0.161	0.384	-	-	-	-	-	0.384
Rollout of Mobile Computing	3.004	0.007	0.007	0.007	0.924	3.949	0.007	-	-	-	-	3.955
Single End User Interface	0.338	-	-	-	-	0.338	-	-	-	-	-	0.338
Street Level Routing	-	-	-	0.139	0.139	0.278	-	-	-	-	-	0.278
Auto vehicle location	-	-	-	0.329	0.036	0.365	0.007	0.007	0.007	0.007	0.007	0.398
Online Safety Audits	-	-	-	-	0.147	0.147	0.033	0.007	0.007	0.007	-	0.200
Field Services Mobile Inventory Mgt	-	-	-	-	0.325	0.325	0.104	-	-	-	-	0.428
Location based safety information	-	-	-	0.249	0.178	0.427	-	-	-	-	-	0.427
Spatial view of jobs and crew	0.068	0.205	-	-	-	0.273	-	-	-	-	-	0.273
WP10 Mobile Timesheeting	1.033	0.017	0.017	0.017	0.017	1.100	0.016	-	-	-	-	1.115
Field Services Fatigue Management	0.068	0.205	-	-	-	0.273	-	-	-	-	-	0.273
TOTAL CAPITAL	**4.669**	**1.587**	**0.200**	**1.055**	**2.130**	**9.641**	**0.185**	**0.031**	**0.020**	**0.013**	**0.007**	**9.897**

Table 31 below outlines the net opex uplift required to support the new systems and processes. For a detailed breakdown of these capital costs by IT and non-IT, refer to Appendix C.3.

Table 31 – Option 2 Opex Uplift by Project($M Real 2013/14)

Project Name	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Heavy Vehicle Driving Hours Capture	-	0.001	0.003	0.003	0.003	0.009	0.003	0.003	0.003	0.003	0.003	0.023
Automate the processing of job data for close out	-	-	0.004	0.006	0.006	0.016	0.006	0.006	0.006	0.006	0.006	0.044
WP03 - Get Fill-In Jobs	-	-	-	0.001	0.003	0.004	0.003	0.003	0.003	0.003	0.003	0.018
WP04 - Notes, News, Emails and Messages	-	-	-	-	-	-	-	-	-	-	-	-
WP06 - Supporting Info Attachments and SAPN systems	-	-	0.011	0.011	-	0.023	0.011	0.011	0.011	0.011	0.011	0.079
WP09 - Job Completion for all lines of business	-	0.002	0.006	0.006	0.004	0.017	0.006	0.006	0.006	0.006	0.006	0.045
Field Mobility Safety Enhancements	-	-	-	-	0.004	0.004	0.006	0.006	0.006	0.006	0.006	0.035
Rollout of Mobile Computing	-	0.316	0.316	0.316	0.316	1.263	0.316	0.316	0.316	0.316	0.316	2.841
Single End User Interface	-	0.006	0.006	0.006	0.006	0.023	0.006	0.006	0.006	0.006	0.006	0.051
Street Level Routing	-	-	-	-	0.011	0.011	0.023	0.023	0.023	0.023	0.023	0.126
Auto vehicle location	-	-	-	-	0.010	0.010	0.011	0.011	0.011	0.011	0.011	0.066
Online Safety Audits	-	-	-	-	-	-	0.002	0.003	0.003	0.003	0.003	0.014
Field Services Mobile Inventory Mgt	-	-	-	-	-	-	0.025	0.033	0.033	0.033	0.033	0.157
Location based safety information	-	-	-	-	0.003	0.003	0.006	0.006	0.006	0.006	0.006	0.032
Spatial view of jobs and crew	-	0.001	0.006	0.006	0.006	0.018	0.006	0.006	0.006	0.006	0.006	0.047
WP10 Mobile Timesheeting	-	0.086	0.086	0.086	0.086	0.345	0.086	0.086	0.086	0.086	0.086	0.776
Field Services Fatigue Management	-	0.005	0.017	0.010	0.010	0.042	0.010	0.010	0.010	0.010	0.010	0.094
TOTAL OPEX	**-**	**0.416**	**0.454**	**0.450**	**0.467**	**1.788**	**0.525**	**0.534**	**0.534**	**0.534**	**0.534**	**4.447**

4.3.2. Option 2 Expected Benefits

The benefits for Option 2 are the same as Option 1 except that the tangible benefits are larger in some instances due to the larger user base that it impacts.

Option 2 delivers benefits primarily through Trade Skill Worker hours saved by removing time spent on manual and paper-based processes as well as reducing non-productive time by improving access to corporate systems. It is expected that these efficiency gains will be realised through a higher throughput of tasks performed as well as reduction in the unutilised time (white space) of the field force.

The table below describes the benefits that are expected to be realised by choosing Option 2.

Table 32 Option 2 - Expected benefits

ID	Benefit Type	Benefit Effect	Benefit	Measure	Benefit Start Date	Value[12]
B1	Tangible (Avoidance)	Direct	Trade Skilled Worker (TSW) - enhancing time sheeting solution	• Time taken for timesheeting compared to previous method • Electronic time sheeting utilisation (%)	2017	$6,447,803
B2	Tangible (Avoidance)	Direct	Business Support Officer (BSO) - enhancing time sheeting solution	• Number of timesheets submitted by BSO • Number of leave requests submitted by BSO	2017	$2,087,796
B3	Tangible (Avoidance)	Direct	Employee/Crew Management Enhanements	• Percentage of manual driver logs • Percentage of manual fatigue management calculations	2017	$8,288,239
B4	Tangible (Avoidance)	Direct	Scheduling and dispatch enhancemetns	• Percentage of automatic status updates • Number of jobs filled in the field	2017	$4,369,410
B5	Tangible	Direct	TSW efficiency gain by improved Works Management processes	Time and effort saved by replacing manual process	2020	$8,590,201
B6	Tangible	Direct	TSW efficiency gain by rolling out Safety Enhancements	Time and effort saved by replacing manual process	2018	$5,177,495
B7	Tangible	Direct	Customer Connections Efficiency Gain	Time and effort saved by replacing manual process	2018	$1,000,176
B8	Tangible	Direct	Efficiency gain by rolling out mobility devices to more crews	Time and effort saved by replacing manual process	2017	$1,793,131
B9	Intangible	Direct	Reduced outage restoration times	Reduced System Average Interruption Duration Index (SAIDI)	2018	N.A

[12] Benefits have been calculated for a period of 10 year period from 2015 to 2024. The benefits start accruing 1 year after the date of implementation of the applicable project

ID	Benefit Type	Benefit Effect	Benefit	Measure	Benefit Start Date	Value[12]
B10	Tangible	Indirect	Reduced Guaranteed Service Level (GSL) Payments	Annual GSL Payments	2018	Not determined
B11	Tangible	Indirect	Reduced Service Performance Scheme (SPS) Penalty (or increased SPS Reward)	Annual SPS Penalties/Rewards	2018	Not determined
B12	Tangible	Direct	Reduced paper and printing costs due to process automation and elimination of manual processes	• Paper consumption • Printing costs	2017	Not determined
B13	Intangible	Direct	Reduced overpayment/underpayment of wages through consistent application of Enterprise Bargaining Agreement	Actual wages paid compared to expected wages	2017	Not determined
B14	Intangible	Direct	Reduced environmental footprint	Annual Paper consumption	2018	N.A
B15	Intangible	Direct	Improved customer satisfaction	Customer Satisfaction Rating	2017	N.A
B16	Intangible	Direct	On-time performance for customer connection work	On-time performance rate	2018	N.A
B17	Intangible	Direct	Reduced risk of safety incidents	• Switching incidents frequency rate • Number of vehicle incidents • Number of near miss incidents • Number of Medical treatment injuries	2018	N.A.
B18	Intangible	Direct	Improved efficiency of field force	• Number of work orders/jobs completed in a given month • First-time visit fix rates • Overtime hours	2018	N.A.
B19	Intangible	Direct	Improved employee collaboration	Employee engagement / satisfaction levels	2019	N.A.
B20	Intangible	Indirect	Improved decision making while in the field	• Time taken to complete jobs	2018	N.A.
B21	Tangible	Direct	Reduced travel costs	• Number of trips between depot and field • Annual Fuel expenses by total number of job • Travel time per job	2018	Not determined

ID	Benefit Type	Benefit Effect	Benefit	Measure	Benefit Start Date	Value[12]
B22	Intangible	Direct	Improved project and workforce visibility	• Project status tracking • Workforce status update statistics (en-route to arrive, arrive to complete etc.)	2017	N.A.
B23	Intangible	Indirect	Improved data quality and capture while in the field	• Office support required for data entry • Percentage of data entry errors	2018	N.A

4.3.3. Option 2 Expected Dis-benefits

The dis-benefits associated with Option 2 are the same as Option 1 (Refer Option 1 Expected Dis-benefits)

4.3.4. Option 2 Timescale

The Option 2 timescale from a functional perspective remains the same as Option 1 (Refer Figure 3 Option 1 Functionality Timescale)

The suggested device roll-out plan for the priority users is shown below. Compared to Option 1, the device roll out extends to 2018 to cater for the additional users.

Team	Crews	People	2015	2016	2017	2018
Powerline-Customer Response Officer	12	12				
Powerline- CBD	17	40				
Powerline - External Contractors	25	50				
Customer Connect	60	60				
Transmission	10	30				
Substation Maintenance	20	62				
Substation Construction	10	34				
Tel & Tech	26	26				

Figure 6 Option 2 Device rollout timescale

4.3.5. Option 2 - Major Business Risks

The major business risks for this option are the same as Option 1. Overall the Enhance Mobility with full roll-out option is considered to have a **Low to Medium** rating.

4.3.6. Option 2 – Investment Appraisal

Implementing Option 2 will incur a combined capital and operating costs total **$11.4m** for the 2015-2020 Regulatory Control Period and **$14.3m** for the 10 year investment period 2015/16 to 2024/25. The operational cost component of this is **$534K** per annum by the end of the 2015/16 – 2019/20 period. Option 1 is expected to deliver benefits of **$37.8m** over the 2015/16-2024/25 period.

Table 33 Option 1 - Investment appraisal breakdown

Measure Type	Target	Recommended Option Values ($m)
NPV (Net Present Value)[13]	N.A	$14,509,471[14]

[13] The NPV calculation does not include Option 0 costs and is based on the incremental costs required for Option 2
[14] The NPV has been calculated at a pre-tax real WACC of 5.44% and has been calculated for the 2014/15-2024/25 period

5. Recommendation

It is recommended that SAPN pursue **Option 1: Enhance with Partial Roll-out**.

Due to the current constraints of the mobility solutions used at SAPN, and the key trends and factors impacting the distribution network, it is imperative that a step change in mobility capabilities is achieved.

Option 1 proposes a program of work that facilitates the realisation of business benefits through an enhanced mobility solution delivered to Power Line, Customer Connect and Transmission crews. The main benefits expected from Option 1 are increased value to customers by maximising field workforce efforts on network risk reduction based tasks, increased customer satisfaction, efficient and improved Regulatory and Legislative compliance and a safer working environment. Option 1 supports SA Power Networks in meeting its corporate strategic goals and realising maximum benefits from major business initiatives such as Smarter Network program and Asset Conditioning Recording and Monitoring.

The below table illustrates the key components of the options analysis. Option 1 has been ranked first overall and is the recommended option as whilst it does not have the highest NPV, it carries the least risk and requires a lower upfront investment than Option 2.

Table 34 Overall appraisal breakdown[15]

Option	Total Cost of Ownership[16]	Project and Recurrent Cost Impacts[17]	NPV[18]	Overall Risk Rating	Benefits[19]	Overall Rating
0 - Do Nothing	$8,979,000	$8,979,000	-$6,457,000	Medium	N.A	3
1 - Enhance with partial roll-out	$21,030,000	$12,051,000	$10,950,000	Low to Medium	$30,699,000	1
2 - Enhance with full roll-out	$23,322,404	$14,343,404	$14,509,000	Low to Medium	$37,755,000	2

There are many dis-benefits and risks associated with Option 0 - Do Nothing. In continuing with business as usual, current inefficiencies in field processes will continue to exist. This poses significant operational risks impacting both responsiveness and quality of service. Without continued investments in new mobility functionalities, SAPN will not be able to deliver on its corporate goals of improved customer service through real-time status updates as well as improved asset maintenance through real-time asset data and condition data capture.

Considering the other programmes of work within the 2015-2020 period that impacts the field force, it is recommended that SAPN focuses on the priority users mentioned in Option 1. Additionally, the higher initial costs associated with change management and rolling out devices to the additional users (as suggested in Option 2) makes it prudent to not pursue Option 2. It is recommended that the roll-out of mobility to the rest of the field force is taken up as a priority item in the 2020-2025 period.

[15] For comparison purposes the costs and benefits of the other Options are relative to Option 0 i.e.as if the baseline on "Do Nothing" is set to $0. For completeness the costs of Option 0 are included. All figures have been rounded to the nearest thousand
[16] Total Cost of Ownership is the total of all Opex and Capex for the period 2015/16 to 2024/25
[17] The period is from FY 2015/16 to 2024/25. Costs are in 2013/14 real dollars.
[18] NPV (Net Present Value) is for the period identified in footnote 1 above, calculated on a discount rate of 5.44%. The NPV calculation does not include Option 0 costs and is based on the incremental costs required for Options 1 and 2.
[19] Benefits cover the period FY2015/16 to 2024/25 and are in 2013/14 real dollars.

6. Document Authorisation and History

6.1 References

The following documents were referenced in completion of this document:

Ref	Document Name	Date	Ver	Author
1.	SA Power Networks Information Technology Strategy 2013 – 2017	18/04/2013	v1.1	SA Power Networks
2.	SA Power Networks Enterprise Mobility Strategy	March 2014	V4.0	Litmus Group
3.	SA Power Networks Strategic Plan 2013-2017	Nov 2012	-	SA Power Networks
4.	Future Operating Model 2026	2011	-	SA Power Networks
5.	Field Force Mobility Requirements	30/09/2013	1.3	SA Power Networks
6.	WP03 - Get Fill-in Jobs	5/07/2010	0.3	Pam Ingham
7.	WP04 - Notes News Emails and Messages	5/07/2010	0.2	Pam Ingham
8.	WP06 - Supporting Information Attachments and ETSA systems	5/07/2010	0.3	Pam Ingham
9.	WP07 - HAZARD ASSESSMENT	5/07/2010	0.2	Pam Ingham

6.2 Acronyms and Abbreviations

Acronym / Abbreviation	Definition
FTE	Full Time Equivalent
GSL	Guaranteed Service Level
IT	Information Technology
IVR	Interactive Voice Response
NECF	National Energy Customer Framework
NER	National Electricity Rules
NOC	Network Operation Centre
NPV	Net Present Value
OMS	Outage Management System
PV	Present Value
RFI	Request for Information
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index

Acronym / Abbreviation	Definition
SPS	Service Performance Scheme
WACC	Weighted average cost of capital

A.1 Net Present Value Calculation

The NPV calculation for all three options is available.

B.1 General Assumptions relating to all options

1. Funding to implement all options will not be available until July 2015.
2. Estimated costs are quoted in Australian Dollars and where applicable based on the current exchange rate of $0.8884c AUD to $1 US (January 2013).
3. All costs are based on information received by Litmus Group on or before 11 March 2014.
4. All costs are in 2014 dollars.
5. All resource costs have been calculated based of a 224 day working year. (i.e. 1 FTE equates to 224 days)
6. Program Management and Project Manager costs have been included for planning and implementation purposes where relevant.
7. All resource costs for Capital expenditure projects are based off external rates provided by SAPN.
8. Benefit calculations are based off internal Field Services labour rates provided by SAPN.
9. All cost estimates are high level estimates only and no detailed planning has been carried out during the development of timeframes or costs.
10. The overhead and contingency percentages have been applied based on relative overhead costs to total expenditure and the appropriate level of risk assigned to each option respectively.
11. Cash flows have been discounted for purposes of providing a Net Present Value to year 0 ending 30 June 2014.
12. The discount rate adopted was 5.44% which represents the policy rate for investment in unregulated business assets.
13. For the purpose of calculating benefits and costs, it has been assumed that mobility devices will be rolled out to all crews in scope of the option by the end of 2015.
14. The benefits have been calculated for a period from 2015/16 to 2024/25 as benefits have been calculated with a 1 year lag from the date of implementation.
15. NPV and costs have been calculated for the same period as the benefits mentioned in Point 17 above.
16. Useful life of the mobility hardware is assumed to be 4 years
17. Panasonic Toughbooks costs were used to provide cost estimates for the new mobility hardware to be rolled out to crew members.
18. The benefit calculations related to the Timesheeting enhancements does not include Eyes & Hands retirement benefits. It has been assumed that the Eyes & Hands system cannot be retired.

C.1 Option 0 Financial Information

C.1.1 Option 0 Cost Assumptions and Notes

1. Click Software upgrade is required every 4 years.
2. Satellite equipment replacement is required for 18 devices every year.
3. Costs to refresh the existing Panasonic Toughbooks (scheduled for 2015 and 2019) have been excluded as they are assumed to be part of the Business as Usual Technical Operations spend.
4. The cost associated with service costs are based off actual ongoing licence costs provided by the business and comprise the following software:
    a. Click Mobile
    b. Sygic
5. iMobileTC license costs have been excluded as it is bundled with the Outage Management System (OMS) license costs.
6. This option also includes the following IT Support costs – 1 FTE for Mobile Desktop Analyst and 0.5 FTE for Service Desk Officer.
7. The service costs also include network connectivity costs for the Telstra NextG network and Satellite network.
8. Resources costs associated with maintaining the software with respect to upgrades and vendor services packs are mentioned in the detailed cost model spreadsheets
9. Vehicle maintenance checks is required on an annual basis and costs $180 per vehicle per year
10. Field Services mobility support is currently 1 FTE at $135,000 per annum
11. The 'Do Nothing' option costs include 50% of the Click Upgrade, Click Vendor Patches and Click Maintenance project costs – assuming that 50% of the overall project costs (includes Click Mobile and Click Schedule) can be attributed to Click Mobile.
12. The costs associated with Click Minor Enhancements (as scoped in the Applications business case) have been excluded from this business case.
13. The 'Do Nothing' option costs include 20% of the OMS Upgrade project costs – assuming that 20% of the overall project costs can be attributed to iMobile TC (mobility component of OMS).
14. The existing technology included in the service costs are all Mobility related software currently deployed at SAPN.
15. The estimated costs associated with resourcing have been validated with SA Power Network key stakeholders.
16. For the purpose of this option sunk costs associated with Mobility, including device costs and one off costs have been excluded.

C.2 Option 1 Financial Information

C.2.1 Option 1 Cost Assumptions and Notes

1. The cost estimates are based off of the functional scope mentioned in Section 3.2
2. The project timelines are based on the timescale mentioned in Section 4.2.3
3. The new mobility device roll-out costs includes a 0.5 FTE uplift in Mobility Support Services
4. The new mobility device costs include license costs for the following software:
    - Mobility XE
    - iMobileTC
    - Click Mobile
    - Sygic
    - Windows
5. Existing Telstra NextG pricing has been used to determine network connectivity costs for the new devices
6. 112 new mobility devices will need to be purchased as part of this option
7. Relevant Field Services SME, Change Management and Training costs have been included in the cost estimates. Training estimates for each project vary depending on whether it is assumed to be in-person/classroom training or through updated training material
8. The 'Get Fill-in' project costs are based on the assumption that the current 'Get SLO' functionality can be extended
9. IT resource costs associated with developing and maintaining the software with respect to the enhancements and business requirements are mentioned in the detailed cost model spreadsheets
10. Option 1 costs include mobility support uplift of 0.5 FTE
11. The 'Do Nothing' option (Option 0) costs have been not included in this Option as it is assumed that the Option 0 costs are included in the baseline budgets
12. The estimated costs associated with resourcing have been validated with SA Power Network key stakeholders.
13. The application enhancement cost estimates have been developed based on the current mobile application landscape at SAPN. For instance, for scheduling related enhancements the costs assume that the enhancements will leverage Click Schedule, time sheeting will leverage SAP and job displays on the mobile device will leverage Click Mobile.
14. Program/Project Management efficiencies in delivering these projects as a Program or Programs have been considered within each year.

C.2.2 Option 1 Costs

The table below shows the capital and operating costs by project and IT/Non-IT related to the enhancement mobility functionalities required as part of Option 1.

Table 35 Option 1 - Costs by Project ($ Real 2013/14)

ID	Project Name	Bus Unit	Cost Type	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
ResetProjID110	**Heavy Vehicle Driving Hours Capture**	IT	Capex	$27K	$83K	$7K	$7K	$7K	**$131K**	$7K	$5K	-	-	-	**$142K**
			Opex	-	$1K	$3K	$3K	$3K	**$10K**	$3K	$3K	$3K	$3K	$3K	**$24K**
		Non-IT	Capex	$15K	$46K	-	-	-	**$61K**	-	-	-	-	-	**$61K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID114	**Automate the processing of job data for close out**	IT	Capex	-	$231K	$82K	$7K	$7K	**$327K**	$7K	$7K	-	-	-	**$340K**
			Opex	-	-	$4K	$6K	$6K	**$16K**	$6K	$6K	$6K	$6K	$6K	**$45K**
		Non-IT	Capex	-	$38K	$13K	-	-	**$51K**	-	-	-	-	-	**$51K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID118	**WP03 - Get Fill-In Jobs**	IT	Capex	-	-	$41K	$44K	$7K	**$91K**	$7K	$7K	$7K	-	-	**$111K**
			Opex	-	-	-	$1K	$3K	**$4K**	$3K	$3K	$3K	$3K	$3K	**$19K**
		Non-IT	Capex	-	-	$25K	$25K	-	**$49K**	-	-	-	-	-	**$49K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID121	**WP04 - Notes, News, Emails and Messages**	IT	Capex	-	-	-	-	$118K	**$118K**	-	-	-	-	-	**$118K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
		Non-IT	Capex	-	-	-	-	$56K	**$56K**	-	-	-	-	-	**$56K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID122	**WP06 - Supporting Info Attachments and SAPN systems**	IT	Capex	-	$413K	-	-	-	**$413K**	-	-	-	-	-	**$413K**
			Opex	-	-	$11K	$12K	-	**$23K**	-	-	-	-	-	**$23K**
		Non-IT	Capex	-	$97K	-	-	-	**$97K**	-	-	-	-	-	**$97K**

ID	Project Name	Bus Unit	Cost Type	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
ResetProjID125	**WP09 - Job Completion for all lines of business**	IT	Capex	$70K	$144K	$7K	$7K	$5K	**$233K**	-	-	-	-	-	**$233K**
			Opex	-	$2K	$6K	$6K	$4K	**$18K**	-	-	-	-	-	**$18K**
ResetProjID125		Non-IT	Capex	$36K	$72K	-	-	-	**$108K**	-	-	-	-	-	**$108K**
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
ResetProjID126	**Field Mobility Safety Enhancements**	IT	Capex	-	-	-	$147K	$107K	**$254K**	-	-	-	-	-	**$254K**
			Opex	-	-	-	-	$4K	**$4K**	$6K	$6K	$6K	$6K	$6K	**$36K**
ResetProjID126		Non-IT	Capex	-	-	-	$63K	$46K	**$109K**	-	-	-	-	-	**$109K**
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
ResetProjID127	**Rollout of Mobile Computing**	IT	Capex	$1,830K	$7K	$7K	$7K	$611K	**$2,462K**	$7K	-	-	-	-	**$2,468K**
			Opex	-	$231K	$232K	$230K	$230K	**$922K**	$232K	$232K	$232K	$232K	$232K	**$2,084K**
ResetProjID127		Non-IT	Capex	$216K	-	-	-	-	**$216K**	-	-	-	-	-	**$216K**
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
ResetProjID207	**Single End User Interface**	IT	Capex	$215K	-	-	-	-	**$215K**	-	-	-	-	-	**$215K**
			Opex	-	$6K	$6K	$6K	$6K	**$24K**	$6K	$6K	$6K	$6K	$6K	**$52K**
ResetProjID207		Non-IT	Capex	$101K	-	-	-	-	**$101K**	-	-	-	-	-	**$101K**
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
ResetProjID208	**Street Level Routing**	IT	Capex	-	-	-	$102K	$102K	**$204K**	-	-	-	-	-	**$204K**
			Opex	-	-	-	-	$11K	**$11K**	$23K	$23K	$23K	$23K	$23K	**$126K**
ResetProjID208		Non-IT	Capex	-	-	-	$34K	$35K	**$69K**	-	-	-	-	-	**$69K**
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
ResetProjID209	**Auto vehicle location**	IT	Capex	-	-	-	$207K	$25K	**$232K**	$7K	$7K	$7K	$7K	$7K	**$265K**
			Opex	-	-	-	-	$9K	**$9K**	$10K	$10K	$10K	$10K	$10K	**$59K**
ResetProjID209		Non-IT	Capex	-	-	-	$104K	$10K	**$114K**	-	-	-	-	-	**$114K**
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
ResetProjID210	**Online Safety Audits**	IT	Capex	-	-	-	-	$90K	**$90K**	$22K	$7K	$7K	$7K	-	**$132K**
			Opex	-	-	-	-	-	-	$2K	$3K	$3K	$3K	$3K	**$14K**

ID	Project Name	Bus Unit	Cost Type	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
ResetProjID210		Non-IT	Capex	-	-	-	-	$54K	**$54K**	$11K	-	-	-	-	**$65K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID211	**Field Services Mobile Inventory Mgt**	IT	Capex	-	-	-	-	$204K	**$204K**	$64K	-	-	-	-	**$267K**
			Opex	-	-	-	-	-	**-**	$25K	$33K	$33K	$33K	$33K	**$157K**
ResetProjID211		Non-IT	Capex	-	-	-	-	$113K	**$113K**	$38K	-	-	-	-	**$151K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID212	**Location based safety information**	IT	Capex	-	-	-	$175K	$126K	**$301K**	-	-	-	-	-	**$301K**
			Opex	-	-	-	-	$3K	**$3K**	$6K	$6K	$6K	$6K	$6K	**$32K**
ResetProjID212		Non-IT	Capex	-	-	-	$63K	$45K	**$108K**	-	-	-	-	-	**$108K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID213	**Spatial view of jobs and crew**	IT	Capex	$37K	$111K	-	-	-	**$148K**	-	-	-	-	-	**$148K**
			Opex	-	$1K	$6K	$6K	$6K	**$19K**	$6K	$6K	$6K	$6K	$6K	**$49K**
ResetProjID213		Non-IT	Capex	$26K	$80K	-	-	-	**$107K**	-	-	-	-	-	**$107K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID214	**WP10 Mobile Timesheeting**	IT	Capex	$680K	$16K	$16K	$16K	$16K	**$745K**	$16K	-	-	-	-	**$761K**
			Opex	-	$89K	$88K	$91K	$91K	**$358K**	$91K	$91K	$91K	$91K	$91K	**$815K**
ResetProjID214		Non-IT	Capex	$303K	-	-	-	-	**$303K**	-	-	-	-	-	**$303K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID215	**Field Services Fatigue Management**	IT	Capex	$45K	$138K	-	-	-	**$183K**	-	-	-	-	-	**$183K**
			Opex	-	$5K	$17K	$11K	$11K	**$44K**	$11K	$11K	$11K	$11K	$11K	**$100K**
ResetProjID215		Non-IT	Capex	$20K	$61K	-	-	-	**$81K**	-	-	-	-	-	**$81K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
	TOTAL	**IT**		$2,904K	$1,478K	$532K	$1,090K	$1,814K	**$7,818K**	$564K	$470K	$458K	$452K	$445K	$10,206K
	TOTAL	**Non-IT**		$717K	$395K	$38K	$290K	$358K	**$1,797K**	$49K	-	-	-	-	$1,845K
	TOTAL			**$3,621K**	**$1,873K**	**$569K**	**$1,380K**	**$2,172K**	**$9,614K**	**$613K**	**$470K**	**$458K**	**$452K**	**$445K**	**$12,051K**

C.3 Option 2 Financial Information

C.3.1 Option 2 Cost Assumptions and Notes

1. The cost estimates are based off of the functional scope mentioned in Section 3.2
2. The project timelines are based on the timescale mentioned in Section 4.2.3
3. The new mobility device roll-out costs includes a 0.5 FTE uplift in Mobility Support Services
4. The new mobility device costs include license costs for the following software:
    - Mobility XE
    - iMobileTC
    - Click Mobile
    - Sygic
    - Windows
5. Existing Telstra NextG pricing has been used to determine network connectivity costs for the new devices
6. 170 new mobility devices will need to be purchased as part of this option
7. Relevant Field Services SME, Change Management and Training costs have been included in the cost estimates. Training estimates for each project vary depending on whether it is assumed to be in-person/classroom training or through updated training material
8. The 'Get Fill-in' project costs are based on the assumption that the current 'Get SLO' functionality can be extended
9. IT resource costs associated with developing and maintaining the software with respect to the enhancements and business requirements are mentioned in the detailed cost model spreadsheets
10. Option 2 costs include mobility support uplift of 1 FTE
11. The 'Do Nothing' option (Option 0) costs have been included in this Option
12. The estimated costs associated with resourcing have been validated with SA Power Network key stakeholders.
13. The application enhancement cost estimates have been developed based on the current mobile application landscape at SAPN. For instance, for scheduling related enhancements the costs assume that the enhancements will leverage Click Schedule, time sheeting will leverage SAP and job displays on the mobile device will leverage Click Mobile.
14. Program/Project Management efficiencies in delivering these projects as a Program or Programs have been considered within each year.

C.3.2 Option 2 Costs

The table below shows the capital and operating costs by project and IT/Non-IT related to the enhancement mobility functionalities required as part of Option 2.

Table 36 Option 2 - Costs by Project ($ Real 2013/14)

ID	Project Name	Bus Unit	Cost Type	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
ResetProjID110	**Heavy Vehicle Driving Hours Capture**	IT	Capex	$36K	$109K	$7K	$7K	$7K	**$166K**	$7K	$5K	-	-	-	**$177K**
			Opex	-	$1K	$3K	$3K	$3K	**$9K**	$3K	$3K	$3K	$3K	$3K	**$23K**
		Non-IT	Capex	$8K	$24K	-	-	-	**$32K**	-	-	-	-	-	**$32K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID114	**Automate the processing of job data for close out**	IT	Capex	-	$249K	$88K	$7K	$7K	**$351K**	$7K	$7K	-	-	-	**$364K**
			Opex	-	-	$4K	$6K	$6K	**$16K**	$6K	$6K	$6K	$6K	$6K	**$44K**
		Non-IT	Capex	-	$24K	$8K	-	-	**$32K**	-	-	-	-	-	**$32K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID118	**WP03 - Get Fill-In Jobs**	IT	Capex	-	-	$49K	$52K	$7K	**$108K**	$7K	$7K	$7K	-	-	**$127K**
			Opex	-	-	-	$1K	$3K	**$4K**	$3K	$3K	$3K	$3K	$3K	**$18K**
		Non-IT	Capex	-	-	$18K	$18K	-	**$36K**	-	-	-	-	-	**$36K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID121	**WP04 - Notes, News, Emails and Messages**	IT	Capex	-	-	-	-	$146K	**$146K**	-	-	-	-	-	**$146K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
		Non-IT	Capex	-	-	-	-	$32K	**$32K**	-	-	-	-	-	**$32K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID122	**WP06 - Supporting Info Attachments and SAPN systems**	IT	Capex	-	$456K	-	-	-	**$456K**	-	-	-	-	-	**$456K**
			Opex	-	-	$11K	$11K	-	**$23K**	$11K	$11K	$11K	$11K	$11K	**$79K**
		Non-IT	Capex	-	$63K	-	-	-	**$63K**	-	-	-	-	-	**$63K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**

ID	Project Name	Bus Unit	Cost Type	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
ResetProjID125	**WP09 - Job Completion for all lines of business**	IT	Capex	$93K	$189K	$7K	$7K	$5K	**$301K**	-	-	-	-	-	**$301K**
			Opex	-	$2K	$6K	$6K	$4K	**$17K**	$6K	$6K	$6K	$6K	$6K	**$45K**
ResetProjID125		Non-IT	Capex	$20K	$40K	-	-	-	**$60K**	-	-	-	-	-	**$60K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID126	**Field Mobility Safety Enhancements**	IT	Capex	-	-	-	$190K	$137K	**$327K**	-	-	-	-	-	**$327K**
			Opex	-	-	-	-	$4K	**$4K**	$6K	$6K	$6K	$6K	$6K	**$35K**
ResetProjID126		Non-IT	Capex	-	-	-	$34K	$24K	**$58K**	-	-	-	-	-	**$58K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID127	**Rollout of Mobile Computing**	IT	Capex	$2,806K	$7K	$7K	$7K	$924K	**$3,751K**	$7K	-	-	-	-	**$3,757K**
			Opex	-	$316K	$316K	$316K	$316K	**$1,263K**	$316K	$316K	$316K	$316K	$316K	**$2,841K**
ResetProjID127		Non-IT	Capex	$198K	-	-	-	-	**$198K**	-	-	-	-	-	**$198K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID207	**Single End User Interface**	IT	Capex	$278K	-	-	-	-	**$278K**	-	-	-	-	-	**$278K**
			Opex	-	$6K	$6K	$6K	$6K	**$23K**	$6K	$6K	$6K	$6K	$6K	**$51K**
ResetProjID207		Non-IT	Capex	$60K	-	-	-	-	**$60K**	-	-	-	-	-	**$60K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID208	**Street Level Routing**	IT	Capex	-	-	-	$125K	$125K	**$249K**	-	-	-	-	-	**$249K**
			Opex	-	-	-	-	$11K	**$11K**	$23K	$23K	$23K	$23K	$23K	**$126K**
ResetProjID208		Non-IT	Capex	-	-	-	$14K	$14K	**$29K**	-	-	-	-	-	**$29K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID209	**Auto vehicle location**	IT	Capex	-	-	-	$306K	$34K	**$341K**	$7K	$7K	$7K	$7K	$7K	**$373K**
			Opex	-	-	-	-	$10K	**$10K**	$11K	$11K	$11K	$11K	$11K	**$66K**
ResetProjID209		Non-IT	Capex	-	-	-	$22K	$2K	**$24K**	-	-	-	-	-	**$24K**
			Opex	-	-	-	-	-	**-**	-	-	-	-	-	**-**
ResetProjID210	**Online Safety Audits**	IT	Capex	-	-	-	-	$113K	**$113K**	$27K	$7K	$7K	$7K	-	**$159K**
			Opex	-	-	-	-	-	**-**	$2K	$3K	$3K	$3K	$3K	**$14K**
ResetProjID210		Non-IT	Capex	-	-	-	-	$34K	**$34K**	$7K	-	-	-	-	**$41K**

ID	Project Name	Bus Unit	Cost Type	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16-2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
ResetProjID211	**Field Services Mobile Inventory Mgt**	IT	Capex	-	-	-	-	$284K	**$284K**	$90K	-	-	-	-	**$374K**
			Opex	-	-	-	-	-	-	$25K	$33K	$33K	$33K	$33K	**$157K**
ResetProjID211		Non-IT	Capex	-	-	-	-	$41K	**$41K**	$14K	-	-	-	-	**$54K**
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
ResetProjID212	**Location based safety information**	IT	Capex	-	-	-	$214K	$153K	**$367K**	-	-	-	-	-	**$367K**
			Opex	-	-	-	-	$3K	**$3K**	$6K	$6K	$6K	$6K	$6K	**$32K**
ResetProjID212		Non-IT	Capex	-	-	-	$35K	$25K	**$60K**	-	-	-	-	-	**$60K**
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
ResetProjID213	**Spatial view of jobs and crew**	IT	Capex	$52K	$156K	-	-	-	**$208K**	-	-	-	-	-	**$208K**
			Opex	-	$1K	$6K	$6K	$6K	**$18K**	$6K	$6K	$6K	$6K	$6K	**$47K**
ResetProjID213		Non-IT	Capex	$16K	$49K	-	-	-	**$65K**	-	-	-	-	-	**$65K**
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
ResetProjID214	**WP10 Mobile Timesheeting**	IT	Capex	$831K	$17K	$17K	$17K	$17K	**$897K**	$16K	-	-	-	-	**$913K**
			Opex	-	$86K	$86K	$86K	$86K	**$345K**	$86K	$86K	$86K	$86K	$86K	**$776K**
ResetProjID214		Non-IT	Capex	$203K	-	-	-	-	**$203K**	-	-	-	-	-	**$203K**
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
ResetProjID215	**Field Services Fatigue Management**	IT	Capex	$60K	$181K	-	-	-	**$242K**	-	-	-	-	-	**$242K**
			Opex	-	$5K	$17K	$10K	$10K	**$42K**	$10K	$10K	$10K	$10K	$10K	**$94K**
ResetProjID215		Non-IT	Capex	$8K	$24K	-	-	-	**$32K**	-	-	-	-	-	**$32K**
			Opex	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	**IT**		$4,156K	$1,780K	$628K	$1,382K	$2,426K	**$10,372K**	$690K	$565K	$553K	$547K	$540K	$13,267K
	TOTAL	**Non-IT**		$513K	$223K	$26K	$123K	$171K	**$1,056K**	$20K	-	-	-	-	$1,076K
	TOTAL			**$4,669K**	**$2,003K**	**$654K**	**$1,505K**	**$2,597K**	**$11,428K**	**$710K**	**$565K**	**$553K**	**$547K**	**$540K**	**$14,343K**

D.1 Relationship to SAPN's Strategic Plan

The benefits dependency map below provides an illustration of the strategic alignment between field force mobility initiatives[20] and SAPN's 2014-2018 strategic plan. By mapping the mobility initiatives to the business strategy, we can demonstrate how field force mobility enhancements meet SAPN's strategic objectives.

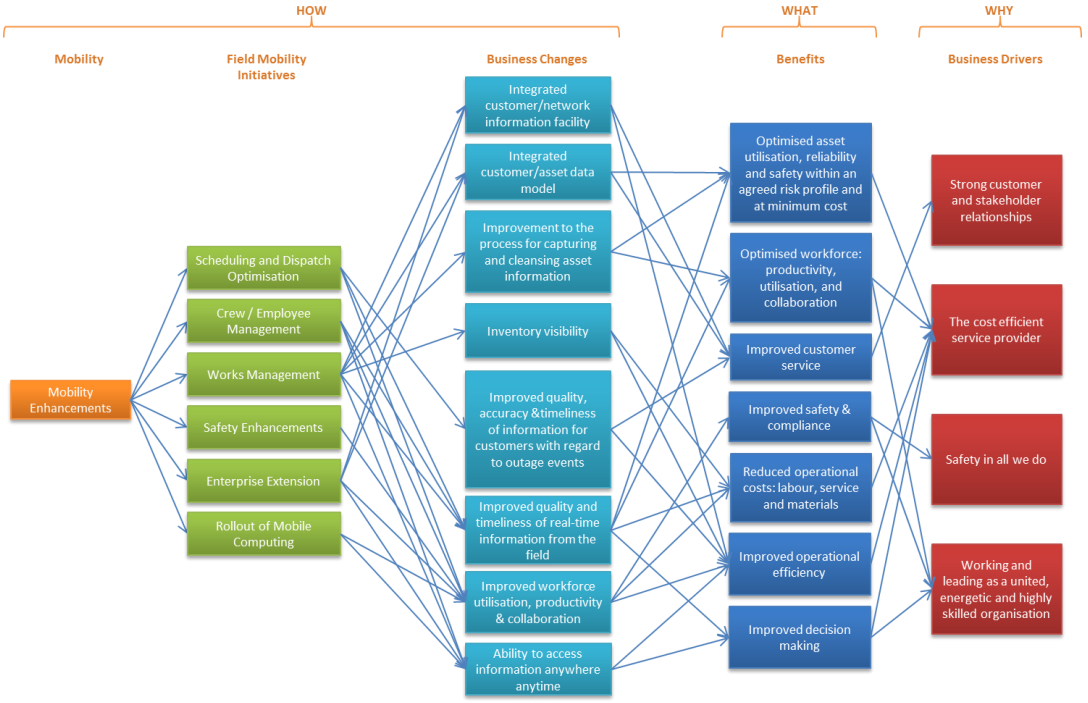


Figure 7 Strategic alignment between field force mobility and SAPN's strategic plan

E.1 Option 1 and 2 Timescale

The below figure represents the functionality timescale along with the key dependencies

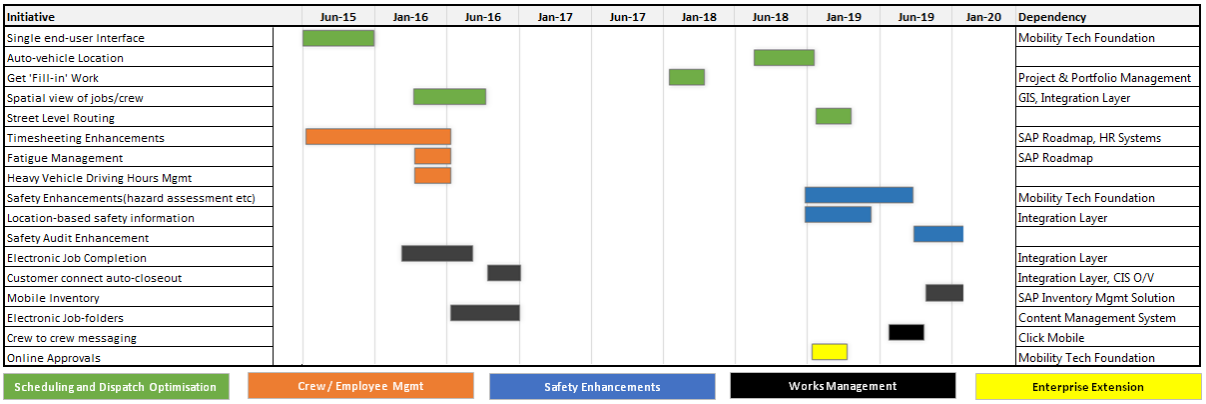


Figure 8 Functionality Timescale with dependencies

[20] Refer Section 3.2 Functional Scope for an overview of the Field Mobility initiatives

F.1 Risk Likelihood Rating

Rating	Descriptor	Description	Probability	Indicative Frequency
5	Almost Certain	Is expected to occur	96 – 100%	At least one event per year
4	Likely	It will probably occur	81 – 95 %	One event per year on average
3	Possible	May occur	21 – 80%	One event per 2 – 10 years
2	Unlikely	Not likely to occur	6 – 20%	One event per 11 – 50 years
1	Rare	Most unlikely to occur	0 – 5%	One event per 51 – 100 years

F.2 Risk Consequence Rating

Rating	1 Minimal	2 Minor	3 Moderate	4 Major	5 Catastrophic
Financial	Less than $100,000	$100,000 or more, but less than $1m	$1m or more, but less than $10m	$10m or more, but less than $100m	$100m or more
OH and S	Incident but no injury	Medical treatment only	Lost time injury	Death or Permanent Disability	Multiple Fatalities
Environment	Brief spill incident. No environmental damage.	Minor spill. Pollutant on site. No environmental damage.	Escape of pollutant causing environmental damage	Significant pollution on and off site < $0.5 m	Long term environmental damage
Reputation / Customer Service	Localised customer complaints	Widespread customer complaints or Complaints to Ombudsman or Regulator	Intervention by the Ombudsman or Regulator	Repeated intervention by the Ombudsman or Regulator	Loss of Distribution Licence
	Adverse regional media coverage	Adverse State media coverage	Adverse media campaigns by customers, media, industry groups	Severe negative impact on both regulated and un-regulated businesses	Loss of Distribution Licence
Legislative and Regulatory	Minor breaches by employees resulting in customer complaints or publicity	Act or Code infringements resulting in minor fines	Severe Company or Officer fines for Act or Code Breaches	Prison sentences for Directors or Officers	Loss of Distribution Licence
	ACCC require apology and / or corrective advertising	ACCC require special offer be made to all customers / suppliers	ACCC minimum level penalties	ACCC moderate level penalties	ACCC maximum level penalties
	Directors / Officers given minimum fines	Directors / Officers given moderate fines	Directors / Officers given severe fines	Directors / Officers given prison sentences	Loss of Distribution Licence
Organisational	Absorbed without additional management activity	Absorbed with minimal management activity	Significant event which requires specific management	Critical event which can be endured with targeted input	Disaster which can cause collapse of the business

Rating	1 Minimal	2 Minor	3 Moderate	4 Major	5 Catastrophic
Reliability	2000 customers without supply for a min. of 12 hours (i.e., a medium size urban feeder)	10,000 customers without supply fora min. of 24 hours (i.e., a major storm related outage or a major substation outage)	Up to 40,000 customers without supply for a min. of 48 hours (i.e., major multiple zone substation coincident outages)	Over 40,000 customers without supply for longer than 48 hours (i.e., major geographical areas off supply)	Adelaide CBD without supply for longer than 24 hours

F.3 Risk Classification Rating

Likelihood (Probability)	Threat Consequences				
	Minimal (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Almost Certain (5)	Medium	High	High	Extreme	Extreme
Likely (4)	Low	Medium	High	High	Extreme
Possible (3)	Low	Low	Medium	High	High
Unlikely (2)	Negligible	Low	Low	Medium	High
Rare (1)	Negligible	Negligible	Low	Low	Medium