MANDELA MINING PRECINCT
MINDS FOR MINES

Guideline:

SMME COMMUNICATIONS & ENGAGEMENT TOOL

SATCAP 2022 - WP 3.1

science & innovation
Department: Science and Innovation
REPUBLIC OF SOUTH AFRICA

CSIR

MINERALS COUNCIL SOUTH AFRICA

MANDELA MINING PRECINCT
MINDS FOR MINES

About the Mandela Mining Precinct

The Mandela Mining Precinct is a Public-Private Partnership between the Department of Science and Innovation and the Minerals Council South Africa. The Precinct is jointly hosted by the Council for Scientific and Industrial Research and the Minerals Council. The Mandela Mining Precinct is an initiative aimed at revitalising mining research, development, and innovation in South Africa to ensure the sustainability of the industry. This is achieved through the South African Mining Extraction, Research, Development, and Innovation (SAMERDI) strategy.

The strategy comprises six research programmes:

1. Longevity of Current Mining
2. Mechanised Mining Systems
3. Advanced Orebody Knowledge
4. Real-Time Information Management Systems
5. **Successful Application of Technologies Centred Around People**
6. Test Mine

This guideline was developed under the Successful Application of Technologies Centred Around People (SATCAP) research programme. The programme is aimed at understanding the effects, impacts and challenges of mining modernisation on people in the minerals sector.

ISBN number: SATCAP 2022 Guideline: SMME Communications & Engagement Tool

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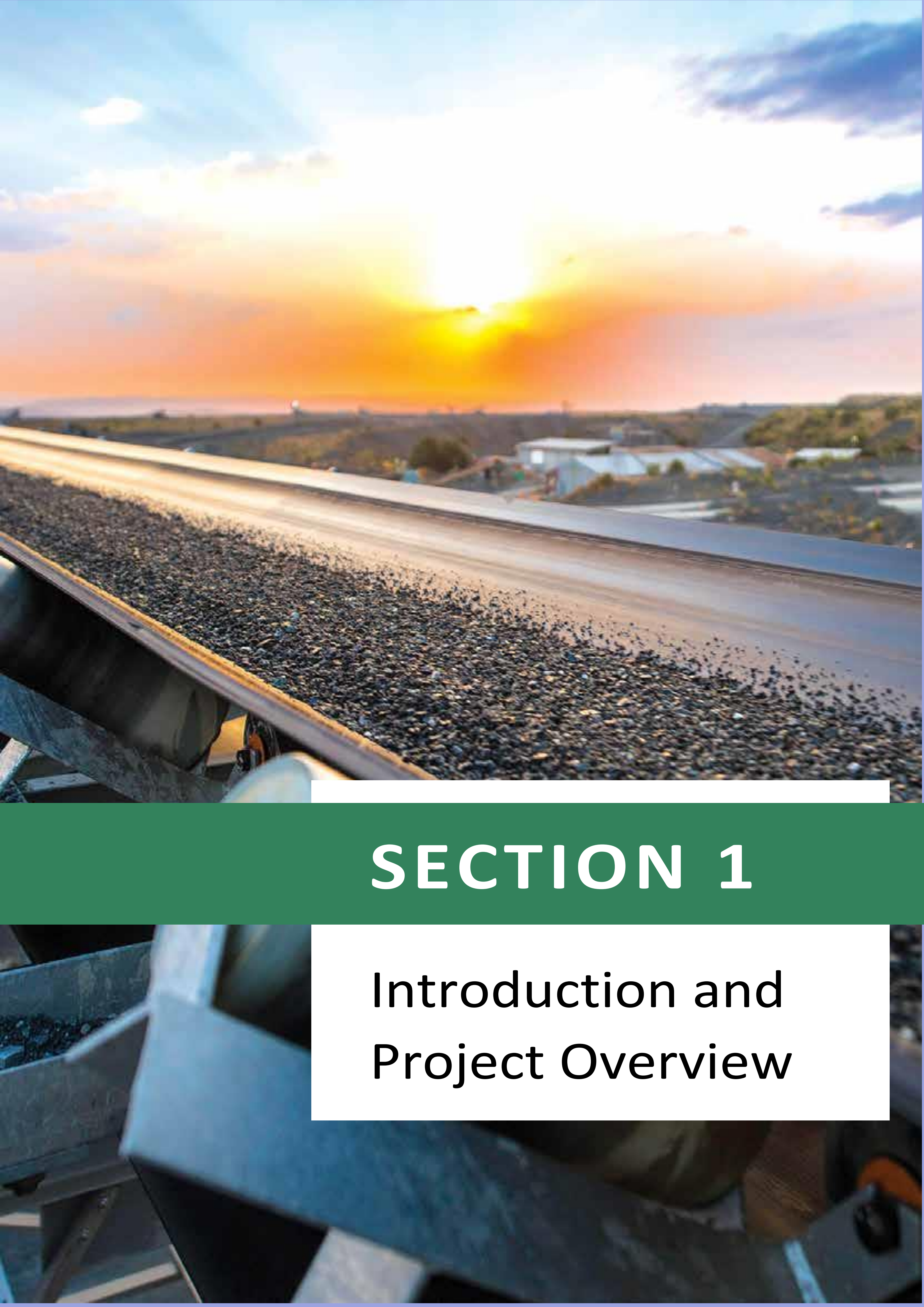


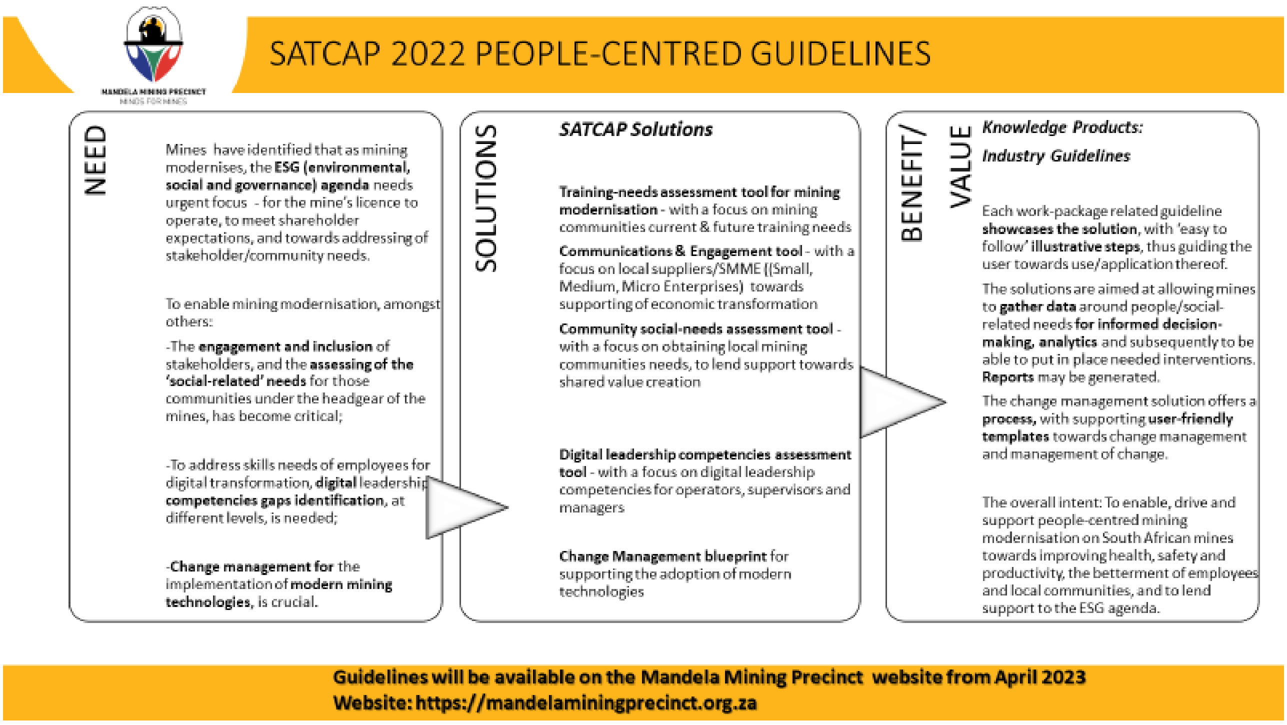
SECTION 1

Introduction and Project Overview

1. INTRODUCTION AND PROJECT OVERVIEW

This project has been commissioned by the Mandela Mining Precinct's SAMERDI SATCAP Programme. The SATCAP programme aims to understand how challenges relating to people in the mining modernisation process can be understood from all perspectives. This entails developing an understanding of how mining stakeholders are affected and impacted by mining modernisation systems, processes, and technologies of the fourth industrial revolution (4IR) with an intensive focus on skills needs, job impacts, and stakeholder inclusion. The programme further lends support to the environmental, social and governance (ESG) agenda.

For FY2022, SATCAP has focused on the Environmental, **Social** and Governance (ESG) agenda, with guidelines availed to support industry identified, specific needs. The figure below highlights the needs identified, the solutions recommended, with the synergized overall outputs for FY2022, including the benefits for the industry.



This **Work Package, 3.1**, looked at developing a local supplier/ Small, Medium and Micro Enterprise (SMME) communications and engagement tool, with key outputs including (1) Literature review, and tool design, (2) refinement of the tool, pilot, and validation, and (3) finalisation of the tool, development of a user-guideline, and transfer to project mine partner.

The lead research partner for this project is: The Research Institute for Innovation and Sustainability (RIIS). Other key collaboration partners included Win Win Consulting International (WWI), Enterprises University of Pretoria (EUP), Council for Scientific and Industrial Research (CSIR), SML4Change, The Impact Catalyst and Mining Dialogues 360 (MD360). The mine-partner included a Platinum mining company.

Context

As the mining industry modernises, the awareness of communities' social needs is important to ensure a sustainable socio-economic environment, even post mining. As communities form a part of the mining ecosystem, their inclusion is critical, and how to engage and communicate with them more meaningfully is important. More effective communication and engagement between the mine and the external stakeholders, like local communities, suppliers and SMMEs is needed. Equipping SMMEs and surrounding communities with relevant training and having effective communication and engagement tools may enable economic growth and transformation, innovation, entrepreneurship, and job creation to ensure current and post-mining communities survive and thrive.

A key issue for inclusion of SMMEs into local procurement systems is addressing their knowledge gaps around business processes, eligibility requirements and compliance with procurement and supply chain required by mines. Thus, the tool was designed to identify these gaps and help SMMEs to navigate the procurement processes more effectively.

The tool developed by the SATCAP programme has considered a *SMME Communications & Engagement Tool*. The focus thereof is to improve communications and information flow between local SMMEs/suppliers and mining companies on procurement matters. The tool is targeted primarily at new and prospective local suppliers who are at different maturity levels and not only for established suppliers that already conduct business with mines.

The tool may be used as supplementary to existing procurement systems and processes. While mines do have vendor portals, the information that is provided by this tool pertains to SMME/local supplier business development and procurement support, as opposed to commercial business process support that is provided by the vendor portal. This tool has also been created with local SMMEs in mind as it is aimed at improving local procurement and supports leveraging local economic development.

This tool is not meant to replace existing mine procurement platforms, systems or processes on mines, like ARIBA, but rather supplement these, based on possible gaps in existing tools. Mining companies may use this tool in decision-making related to SMMEs by analysing the data provided by the tool. The ultimate goal is to enable SMMEs to self-manage their compliance and ensure that they meet requirements for entry into the local procurement supply chain. These have been issues that mines and SMMEs are grappling with, which this tool seeks to address.

The tool is meant to empower emerging SMMEs to ensure that the requirements for engaging with the mines procurement systems are met. It is also not meant to replace processes for vetting of suppliers, neither is it intended for use by the general public or for whistleblowing.

The tool seeks to address the need for:

- Improved engagement on local procurement matters;
- Greater visibility of opportunities for local suppliers, arising from mines;
- Mining company specific information on basic procurement requirements;
- An easy-to-access communication channel with the mine where general procurement questions can be asked; and
- Clarity on procurement governance and administrative requirements.

The tool is made up of the following features:

- Three checklists aimed at assisting SMMEs on their procurement journey;
- A series of FAQs that accompany these checklists;
- A resource library to provide a repository of useful business development information;
- A notice board for dissemination of information by the mining company to SMMEs; and
- A query submission section where SMMEs can relay procurement related queries to the mining company.

1.1 VALUE FOR THE MINING INDUSTRY

The overall intent of SATCAP is to enable, drive and support people-centred mining modernisation on South African mines towards improving health, safety and productivity, the betterment of employees and local communities, and to lend support to the ESG agenda. This tool has been specifically designed to support the mine's local SMMEs.

The benefits of the tool are as follows:

- Improve local procurement efforts by providing local SMMEs with guided assistance, with defined features for specific functions;
- Is designed in open-source code and application is a stand-alone web-based application that can be incorporated into current on-mine information management systems;
- Contains analytics to provide information on the use of the tool by end-users;
- Is fully hosted by the mine with no hosting or subscription cost. As hosting of the application is in the mines IM environment, all data collected by the mine will be stored in the mines IM systems and managed internally by administrators;
- All reports for the mines main operations can be managed from a central point with the super administrator and subsequent surveys can be created for different operations and locations and centrally archived by the mine;
- May be administered at timely intervals or the application can be hosted and managed perpetually;
- Monitoring of use of the application by end users is managed by the administrators and super administrator; and
- Is a web-based tool available on a mobile device e.g., smart phone, tablet, or laptop.

1.2 DIFFERENT USERS OF THE TOOL

The SMME communications & engagement tool is a web-based digital application that can be used via a smart phone, laptop or tablet. Five features are included in the tool: checklists, frequently asked questions (FAQs), a notice board, a resource library and a query submission feature.

End-users of the tool at the mine may include teams from procurement, enterprise and supplier development, stakeholder relations or any team that engages with local SMMEs for advancing local procurement.

The tool will be used by the following roles:

- User – emerging local SMMEs or suppliers and current local SMMEs or suppliers;
- Super Administrator – an individual within the mine who will be responsible for assigning administrator rights to various other individuals within the company;
- Administrator – an individual within the tool hosting department at the mine who is responsible for managing the communication and information flows of the tool and communicating insights to the manager;
- Manager – an individual within the tool hosting department at the mine who would use the insights from the tool for decision making; and
- IT Administrator– an individual within the mining company who would install, embed, and manage the technical aspects of the tool and provide troubleshooting if needed.

End-users of the tool at the mine may include the procurement team, enterprise and supplier development team, stakeholder relations team or any team that engages with local SMMEs for the purpose of advancing local procurement.

The tool, together with this user-guideline and video are made available for mining companies uptake through the Mandela Mining Precinct website.

SECTION 2

SMME Communications & Engagement Tool

2. SMME COMMUNICATIONS & ENGAGEMENT TOOL

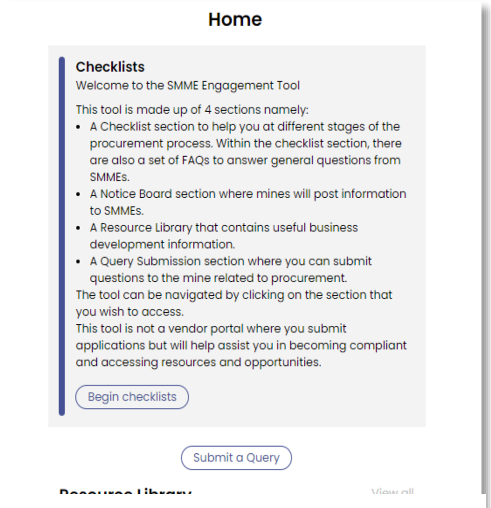


Figure 1: Consent form

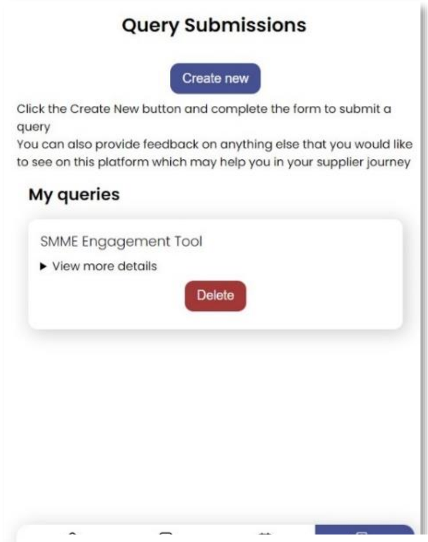


Figure 2: Query submission form

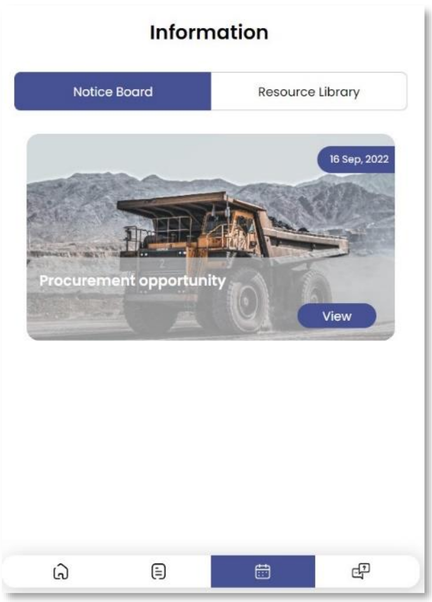


Figure 3: Information section of the tool Notice Board and Resource Library

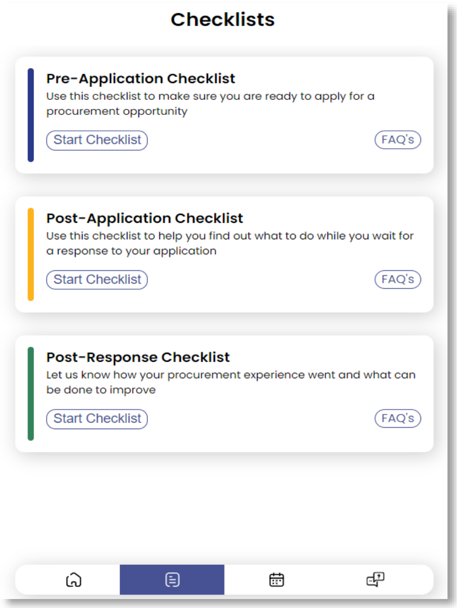


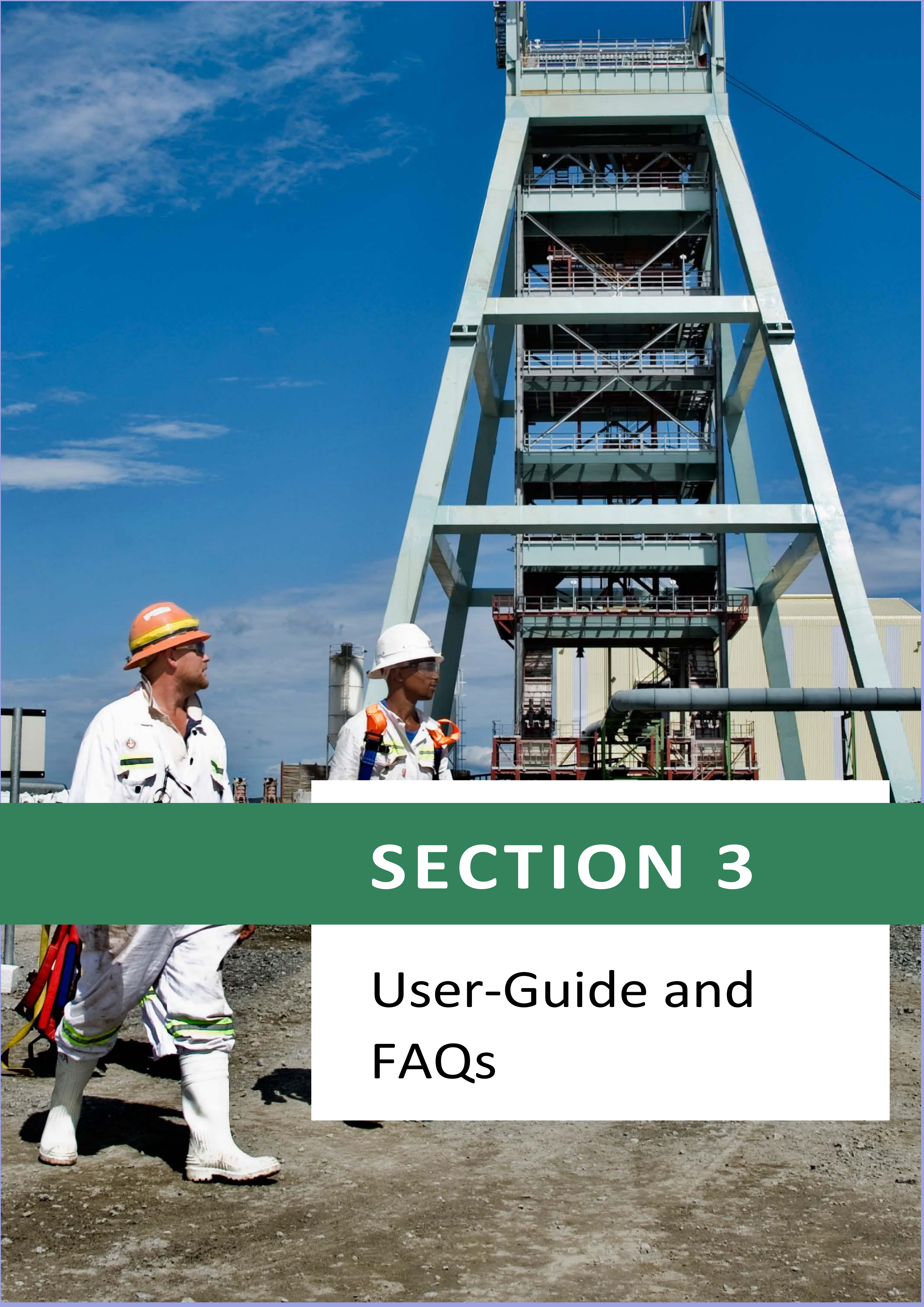
Figure 4: Checklist section of the tool

The Checklist feature of the tool has three checklists with a range of self-assessment questions and accompanying frequently asked questions (FAQs) as indicated in Table 1 aimed at assisting SMMEs on their procurement journey for the pre application stage to assess readiness, post application stage after they have registered on the vendor portal, and the post response stage after SMMEs have submitted a tender application. Below is a comprehensive list of all the questions.

Table 1: Questions in the Pre-application checklist, Post-application and Post-response checklist

	Questions
Pre-application checklist	Does your company have a registered name?
	Do you have a company trading name?
	Do you have a primary contact person for the company?
	Do you have a primary contact number for the company?
	Do you have a primary contact email address for the company?
	Can you explain what your product or service offering is?
	Is your company registered with the Companies and Intellectual Properties Commission (CIPC)?
	Do you have a company registration number?
	Is your company registered on the Central Supplier Database (CSD)?
	Is your company registered with the Workman's Compensation Fund?
	What type of company do you operate? Envisaged as a multiple-choice answer.
	Are you an exempt micro enterprise (turnover less than R10M) or qualifying small enterprise (turnover between R10M-50M) or generic enterprise (turnover above R50M)?
	What is your BBBEE level?
	Do you have a company tax number?
	Do you have a VAT registration number?
	Do you have a bank account for your business?
	Do you prepare internal management accounts or financial statements?
	When is your financial year end? The term "financial year-end" refers to the completion of any one-year or 12-month accounting period.
	The average time to complete the application process is 6-8 hours- if your governance is in place. Have you set aside enough time to complete this process.
	Do you know how long an application typically takes to complete when you have all the required documents on hand?
	Are you aware of the closing date for the procurement opportunity that you are applying for?
	Do you understand the tender requirements?
	Do you know how to interpret a Request for Proposal (RFP)?
	Are you aware of the health and safety requirements you need to comply with as an employer?
	Have you conducted business/obtained a work contract with the mines before?
	Are you able to produce proof of your BBBEE Certification?
	Do you meet the functionality criteria for the opportunity you are interested in?
Pre-application FAQs	Where can I find general help related to the running of my business?
	What do the different acronyms in procurement mean?
	What documents will I need?
	What does a procurement process look like?
	What do I need to keep in mind when applying for procurement opportunities?
	How do I register an EOI?
Post-application checklist	Have you submitted the required supporting documentation for your application?
	Are you aware of the pre-application readiness checklist that assists by guiding you through the application process?

	Have you taken our pre-application readiness checklist?
	Have you checked that you have supplied the mining company with the correct contact information?
	Did you verify that your application was successfully submitted?
	Do you know where to check the status of your application?
	Are you actively monitoring the status of your application, where possible?
Post-application FAQs	Have you submitted the required supporting documentation for your tender submission?
	Are you aware of the pre-application readiness survey that assists by guiding you through the application process?
	Have you taken our pre-application readiness survey?
	Have you provided the mining company with the correct contact information?
	Did you verify that your application was successfully submitted?
	Do you know where to check the status of your application?
	Are you actively monitoring the status of your application?
Post-response checklist	Did you know how to navigate the portal in order to submit your application?
	Were the instructions on the vendor/procurement portal easy to follow?
	When applying to the mine, were your supporting documents easy to upload?
	Was the application process user-friendly?
	What is your preferred method to receive the outcome of your application?
	Do you know some of the common reasons that applications are rejected?
	Were you able to amend your application during the application process?
	How can the mines make the administrative processes easier?
Post- response FAQs	What are the common reasons for applications being rejected?
	Where can I get help for future applications?
	My application was successful, what now?
	Where do I report unfair procurement practices?



SECTION 3

User-Guide and FAQs

3. ‘HOW TO?’ USER-GUIDE AND FAQS

3.1 INTERNAL USER

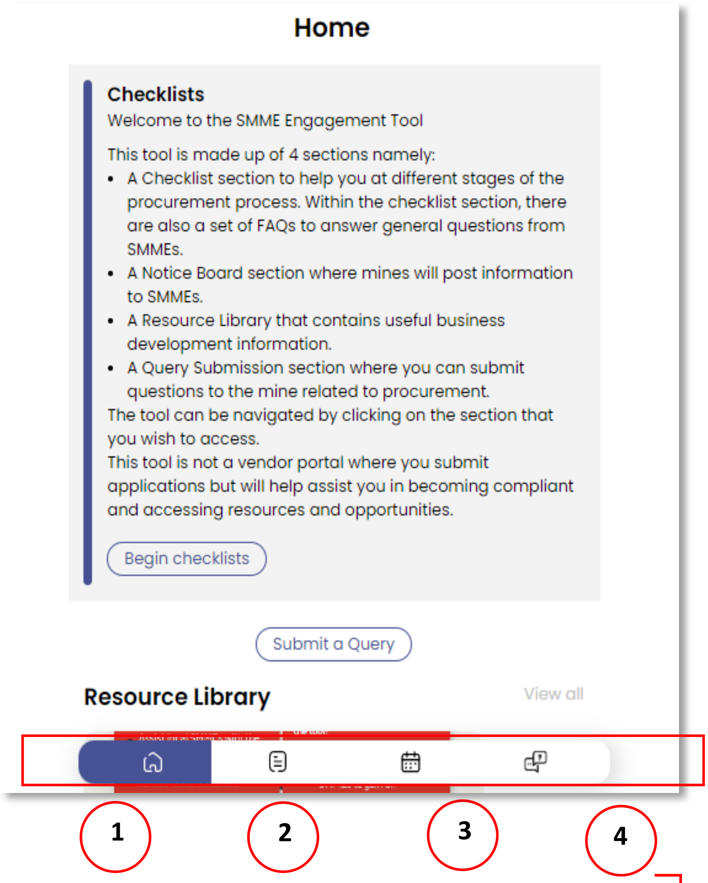


Figure 5: Home screen of tool

Access the tool by typing the link provided by the mine administrator, into the URL of a web browser. The Home screen on the left is what the SMME user will see.

The resources within the Resource Library and notices on the Notice Board can be accessed from the Home screen by scrolling from left to right using the toggle bar and then selecting the appropriate resource.

1) Home: homepage view of the user portal.
2) Checklists: access the three checklists.
3) Information: access the Resource Library and Notice Board.
4) Query Submissions: send the mine procurement related

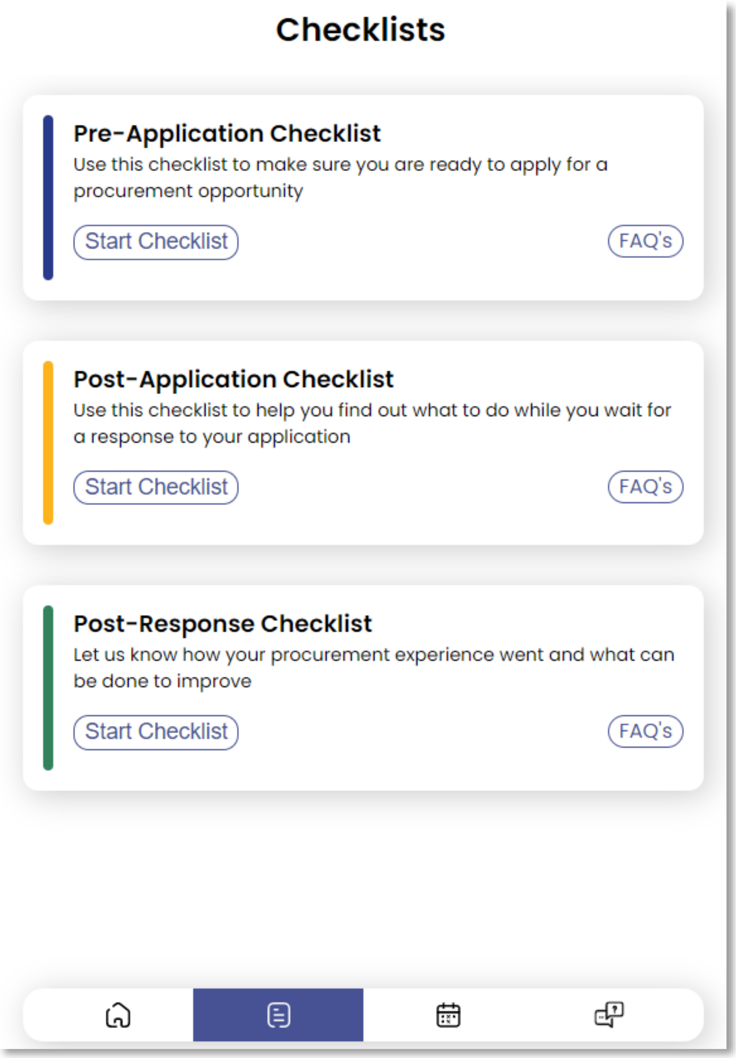


Figure 6: SMME view of the 3 checklists

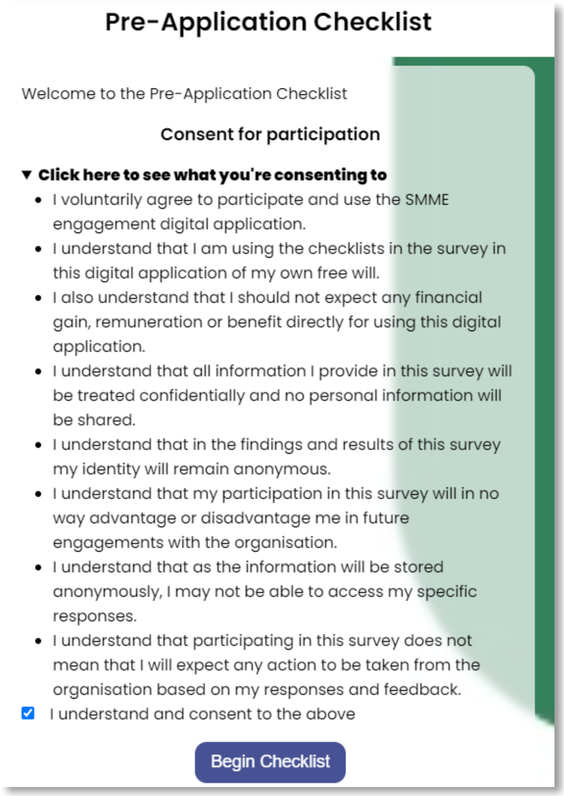
The checklist section consists of three checklists, namely the Pre-application, Post-application, and Post-response checklists:

1. The Pre-application checklist should be completed prior to applying for procurement opportunities. This checklist aims to prepare the SMME for the procurement process.
2. The Post-application checklist should be completed after applying for opportunities. This lets applicants know what to do while awaiting a response to their application; and
3. The Post-response checklist should be completed after a response to the application has been received. It gives applicants the opportunity to provide feedback on the process and reflect on next steps and prepare for future opportunities.

Questions are presented as either multiple-choice, drop-down selections, open text fields or ratings scales, and responses may be selected by clicking on the appropriate answers or entering in an appropriate response.
Once all questions have been answered, the user is requested to click the “submit” button at the end of the page to submit their responses.

There are FAQs that accompany each section and can be accessed by clicking the FAQ button under the relevant checklist section.

Prior to starting the checklist, the user will need to provide consent using the consent form.


Pre-Application Checklist

Welcome to the Pre-Application Checklist

Consent for participation

▼ **Click here to see what you're consenting to**
- I voluntarily agree to participate and use the SMME engagement digital application.
- I understand that I am using the checklists in the survey in this digital application of my own free will.
- I also understand that I should not expect any financial gain, remuneration or benefit directly for using this digital application.
- I understand that all information I provide in this survey will be treated confidentially and no personal information will be shared.
- I understand that in the findings and results of this survey my identity will remain anonymous.
- I understand that my participation in this survey will in no way advantage or disadvantage me in future engagements with the organisation.
- I understand that as the information will be stored anonymously, I may not be able to access my specific responses.
- I understand that participating in this survey does not mean that I will expect any action to be taken from the organisation based on my responses and feedback.

☑ I understand and consent to the above

Begin Checklist

Figure 7: Consent form for checklists

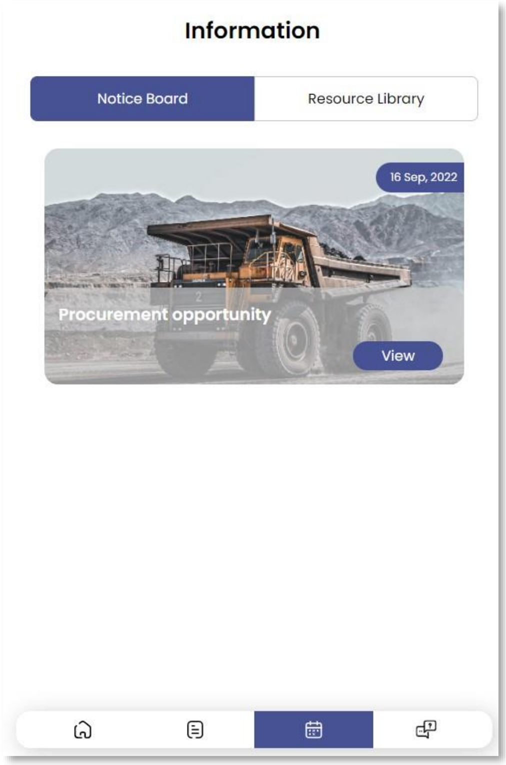


Figure 8: SMME view of the Notice Board section of the tool

The **Notice Board** can be used to provide information to the SMME by the mine (for example, information on open procurement opportunities and useful procurement contact details). Note that it is at the discretion of the mine what sort of information will be shared here and the picture above is just an example.

To view contact details or explore open opportunities, navigate to either section or click "View".

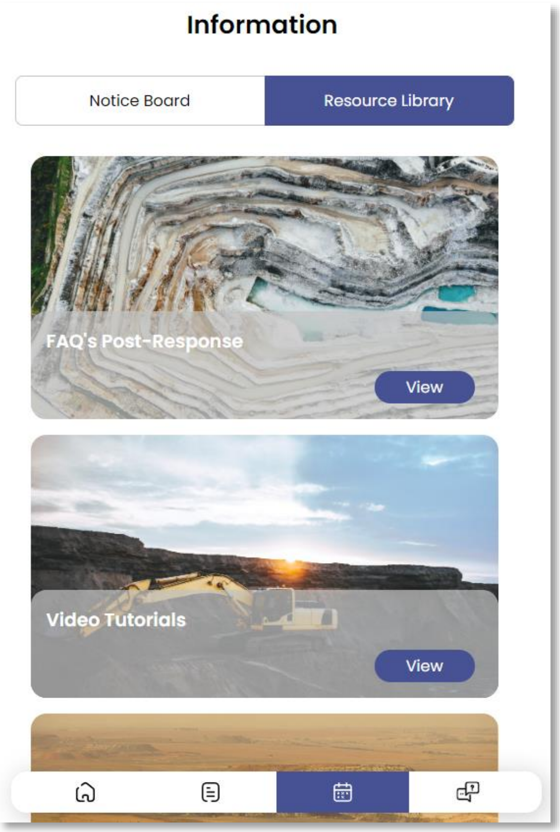


Figure 9: SMME view of the Resource Library section of the tool

The **Resource Library** contains may contain useful business development documents and may also contain mine specific information such as policy documents and templates depending on what the mine would like to share.

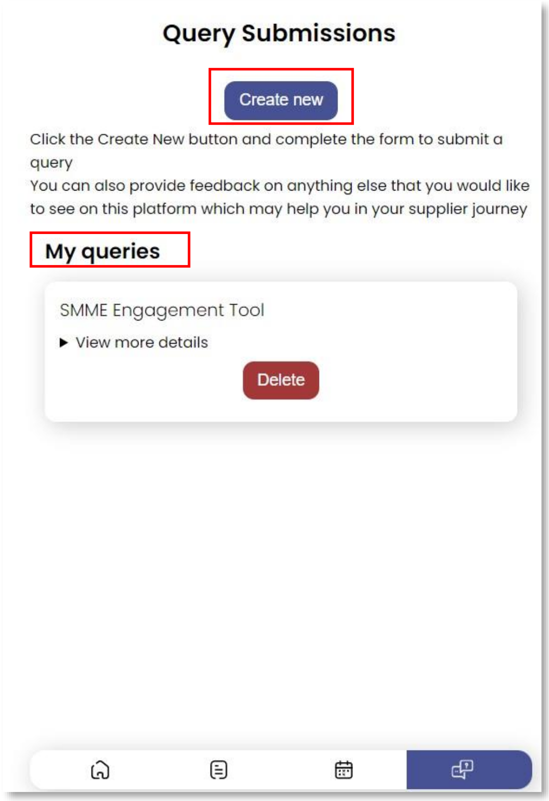


Figure 10: SMME view of the Query Submission feature

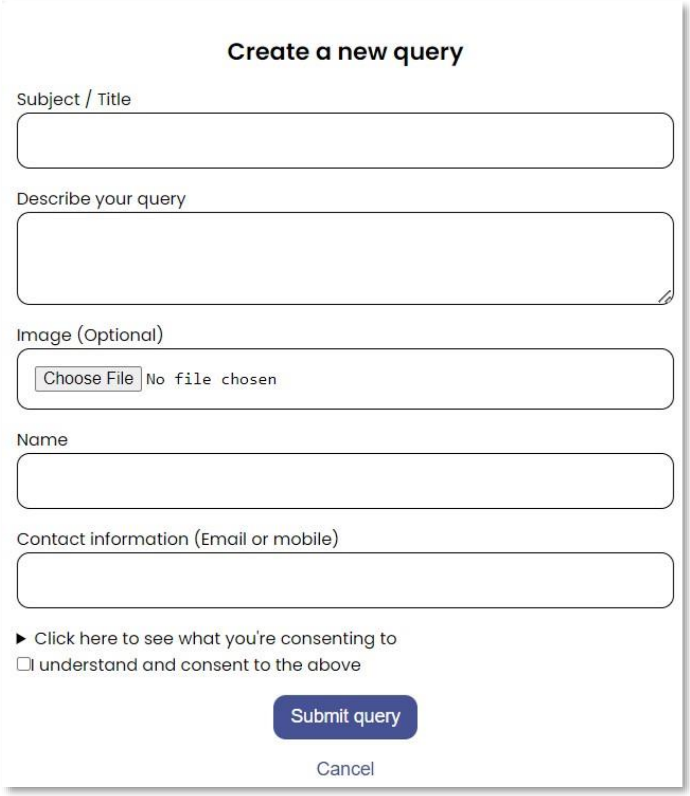


Figure 11: Fields that need populating to submit a query

Before submitting a new query, be sure to check the Resource Library for answers to frequently asked questions (FAQs). The following steps should be followed should an answer not be found:

STEP 1: Submit a query to the mine by navigating to and clicking on the "Create new" button.

STEP 2: On the query form, fill in the required fields, tick the consent box and click "Submit query".

STEP 3: The SMMEs' query history will appear on the query submissions page under "My queries".

3.2 SUPER ADMINISTRATOR AND ADMINISTRATOR

This section of the guideline has been created to assist in understanding the administrator functionality and is accompanied by a supporting video. The video is available on the Mandela Mining Precinct – SATCAP website.

3.2.1 LANDING PAGE

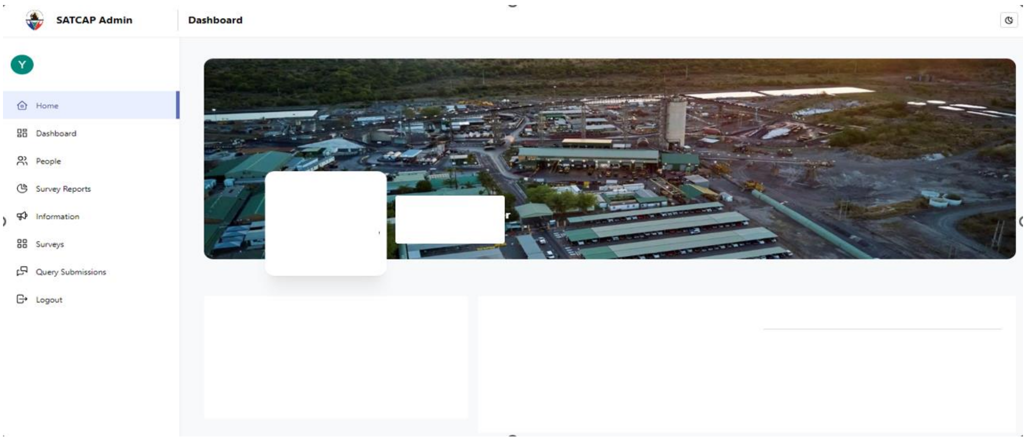


Figure 12: Administrator landing page

3.2.2 MENU STRUCTURE

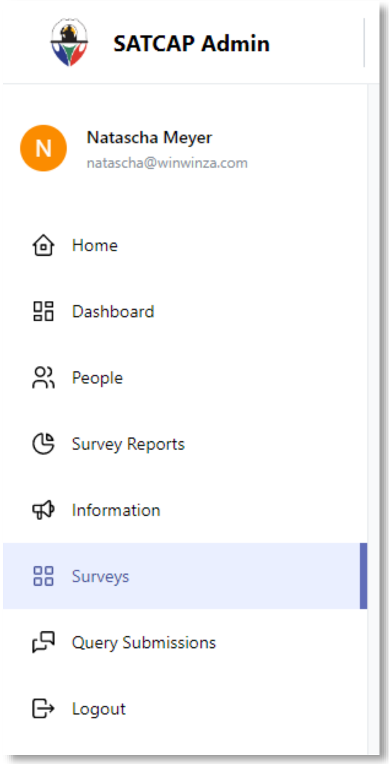


Figure 13: Various administrative functions

3.2.3 DASHBOARD

This section may be used to select the desired tool, in this case, the *SMME Engagement Tool*. Once the *SMME Engagement Tool* is clicked, a robot report for manager will open. Please see section 3.3 for more details.

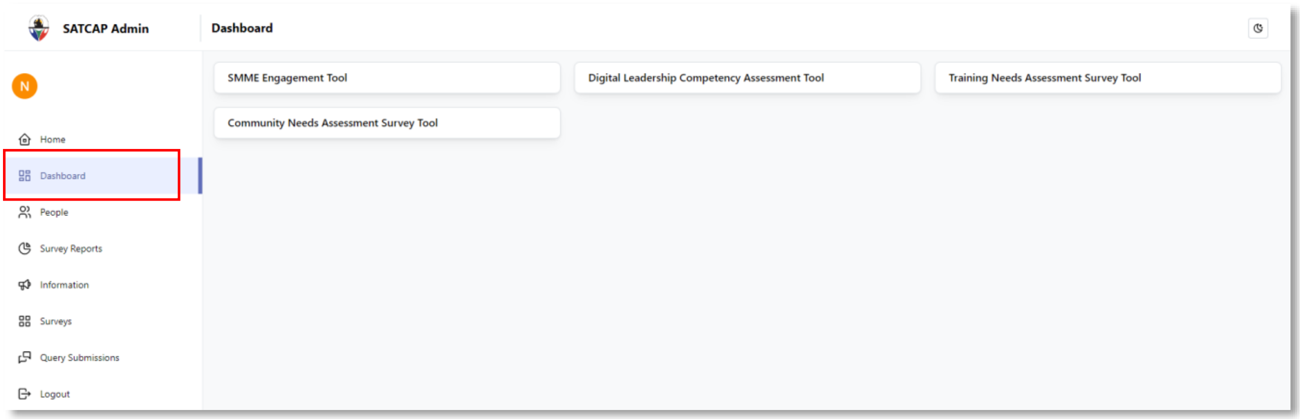


Figure 14: Dashboards per Checklist/Survey

3.2.4 MANAGING PEOPLE

In this section, the Super Administrator can add new administrative users by clicking the “Add new admin user” button. Once this button is clicked, the administrator will be required to fill in information on the new administrator and specify the operation(s) that that administrator will manage.

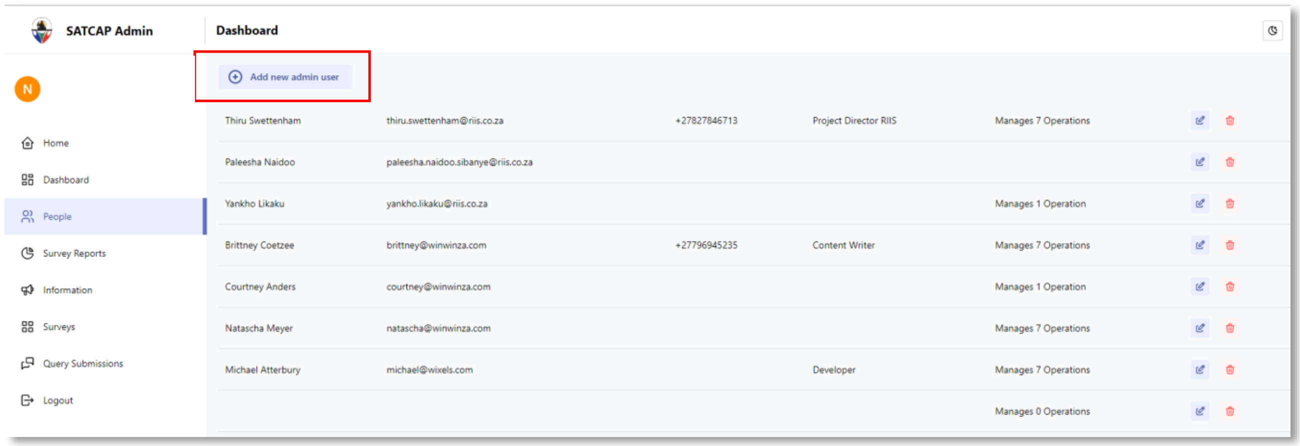


Figure 15: Adding different administrators

3.2.5 SURVEY REPORTS

The analytics on the dashboard will only be visible once new survey data has been submitted. The back end of the dashboard has been programmed to collate data and compute the analyses but needs input data to produce the reports. (Do not be concerned if you do not see analytic reports when setting up the survey.)

The tool has been built with an analytics component which contains visuals of certain questions from the checklists. These analytics can be accessed by clicking on "Survey Reports", selecting the location of the desired operation and then clicking on the name of the tool shown in the red box. Once clicked, the analytics will display onscreen, as shown in figures 17—19 below.

If the administrator were to instead click on the three highlighted dots, an Excel version (a CSV file) of checklist responses would be downloaded, which may be cleaned and analysed for further insight such as number of checklists completed per month by the administrator.

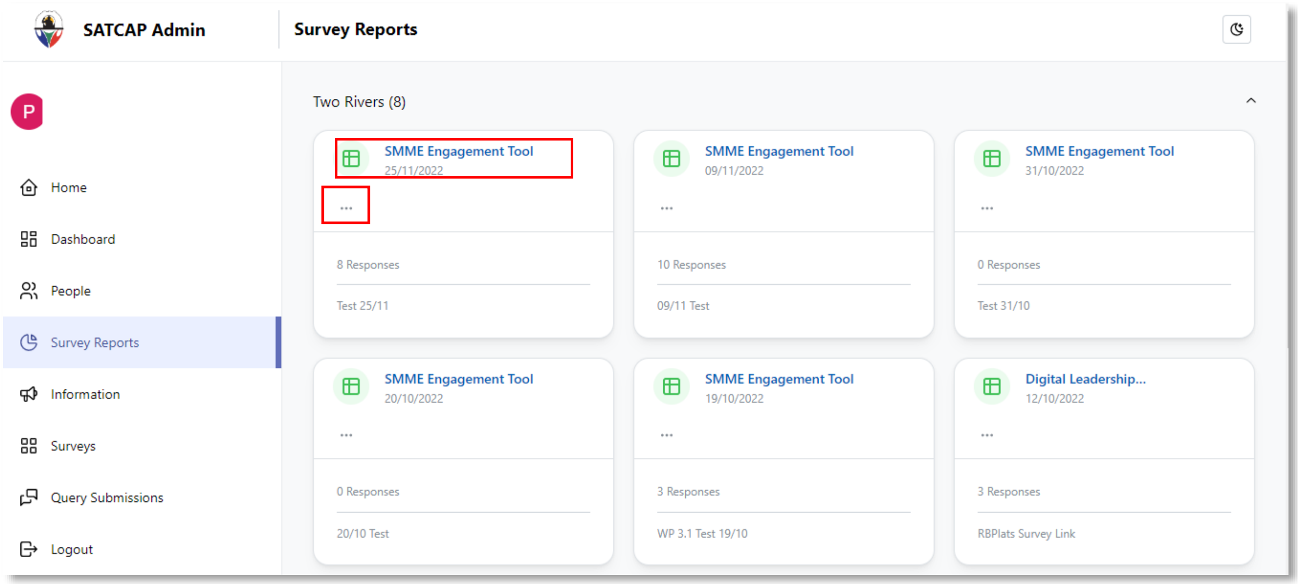


Figure 16: Comprehensive set of checklist responses as a CSV file

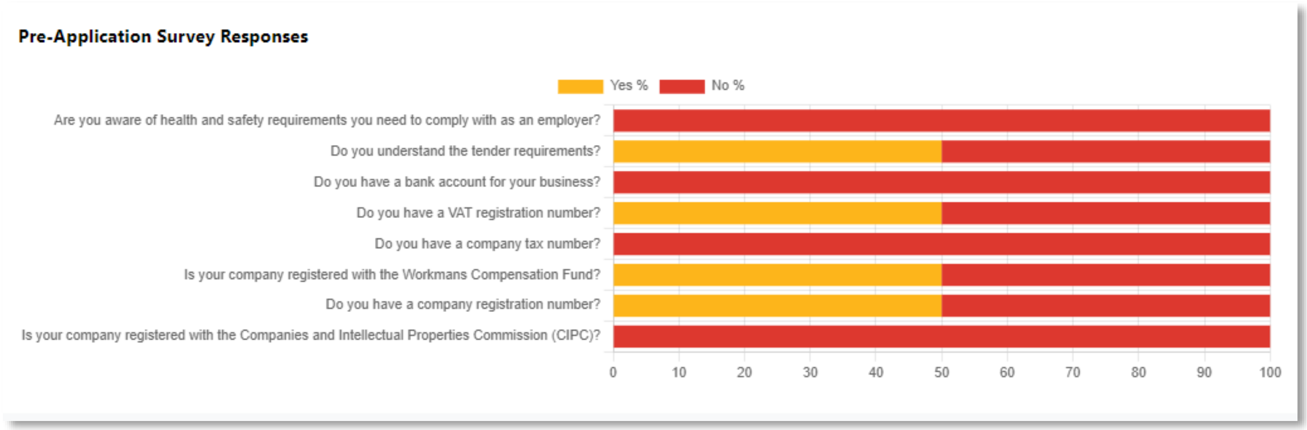


Figure 17: Chart showing responses to certain questions from the Pre-Application Checklist

The visual above provides a high-level overview of SMMEs' readiness for procurement opportunities with the mines. These insights could inform enterprise supplier development (ESD) initiatives targeted at local suppliers.

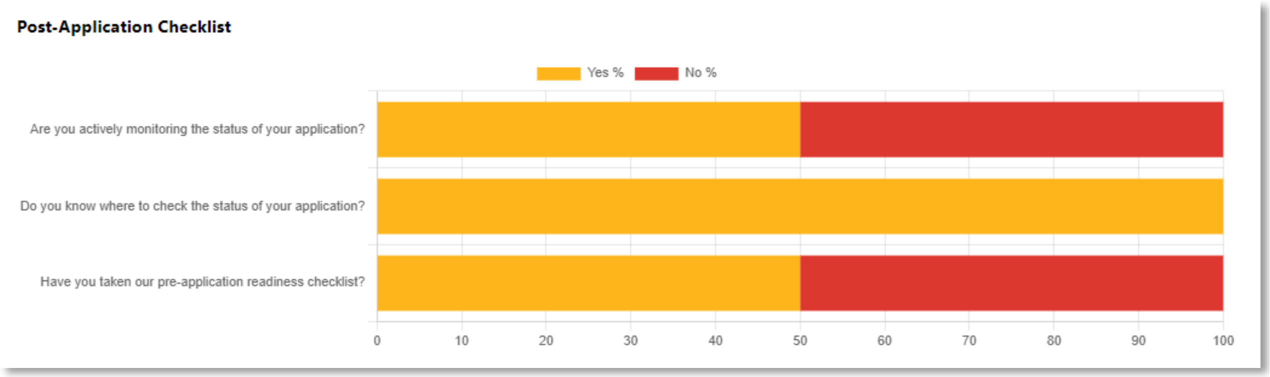


Figure 18: Chart showing responses to certain questions from the Post-Application checklist

The visual above depicts responses from SMMEs to the above questions allows mines to assess levels of SMME awareness regarding tracking their applications. Based on this assessment, changes could be proposed to current vendor management systems.

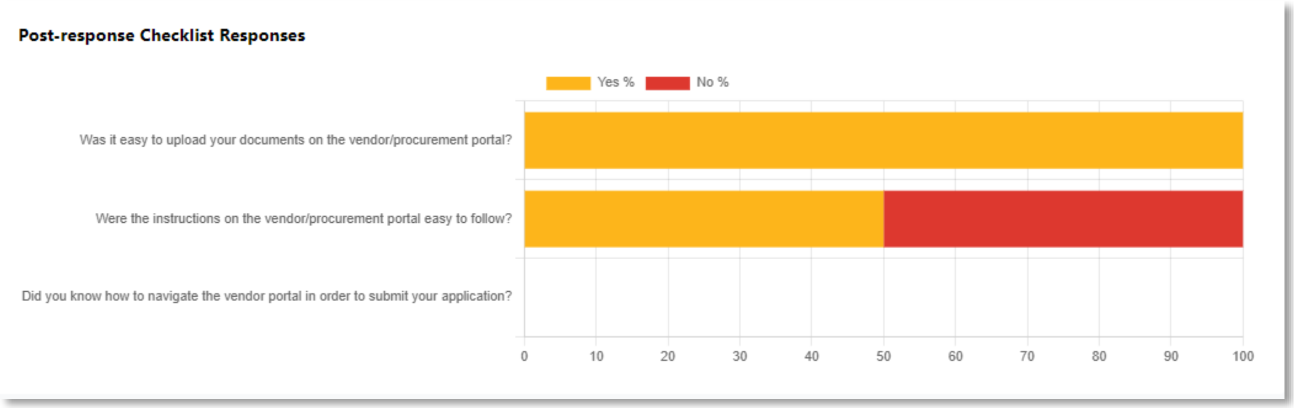


Figure 19: Chart showing responses to certain questions from the Post-Response checklist

3.2.6 HANDLING INFORMATION

Selecting the “Create New” in the top right corner allows the administrator to upload either new resources to the Resource Library (such as policy documents and general business development information for an SMME) or create a notice for posting to the Notice Board. The administrator will also be requested to specify which mine site will be able to view these notices and access these resources, thereby ensuring that SMMEs only get information relevant to them.

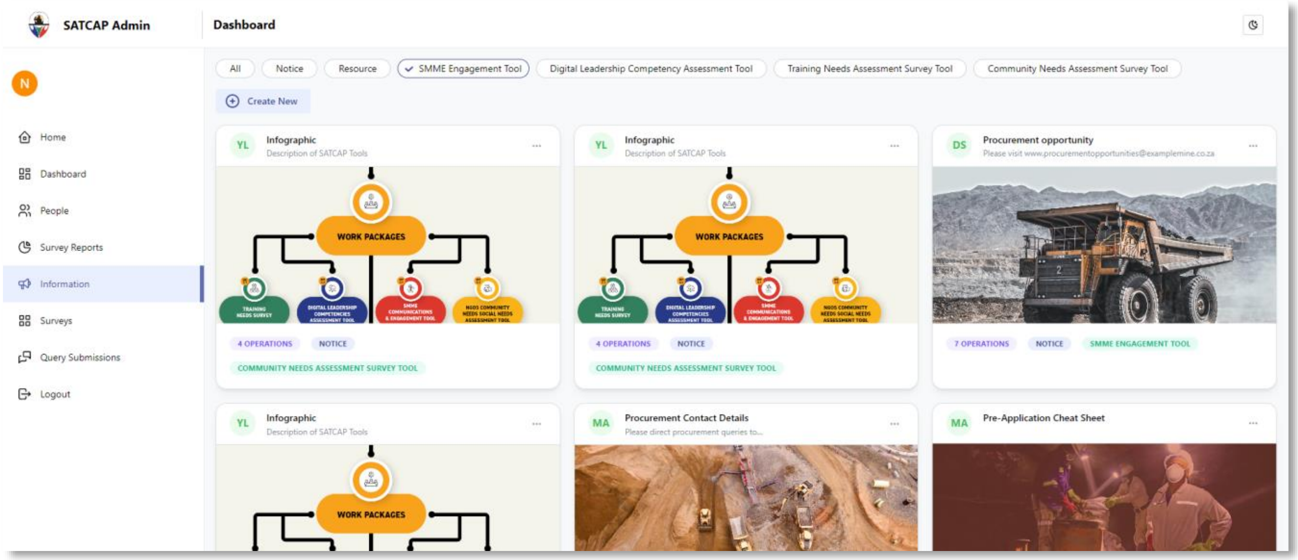


Figure 20: Uploading resources or notices to the Resource Library and Notice Board

3.2.7 SURVEYS

In this section, the administrator can create multiple unique links to the tool to send out to specific user groups. For example, separate links could be created for prospective and established suppliers. By creating a new link, the administrator is creating a new version of the tool that can now be populated with group-specific information, notices and resources. Documents that come standard with the tool are the Pre-application, Post-application and Post-response FAQ documents and Pre-application and Post-application cheat sheets as those are part of the Checklist feature. Mines will also have access to three pre-populated informational documents, namely: a document with a list of video tutorials, a document with helpful links for SMMEs and a glossary of commonly used procurement terms. These will be shared with the mines for adding to the Resource Library at their discretion. To ensure that local procurement is encouraged, it is imperative that the mine mention to the SMMEs that the link should not be disseminated with those outside of the local community. Doing so would remove any competitive advantage that the tool aims to provide local SMMEs.

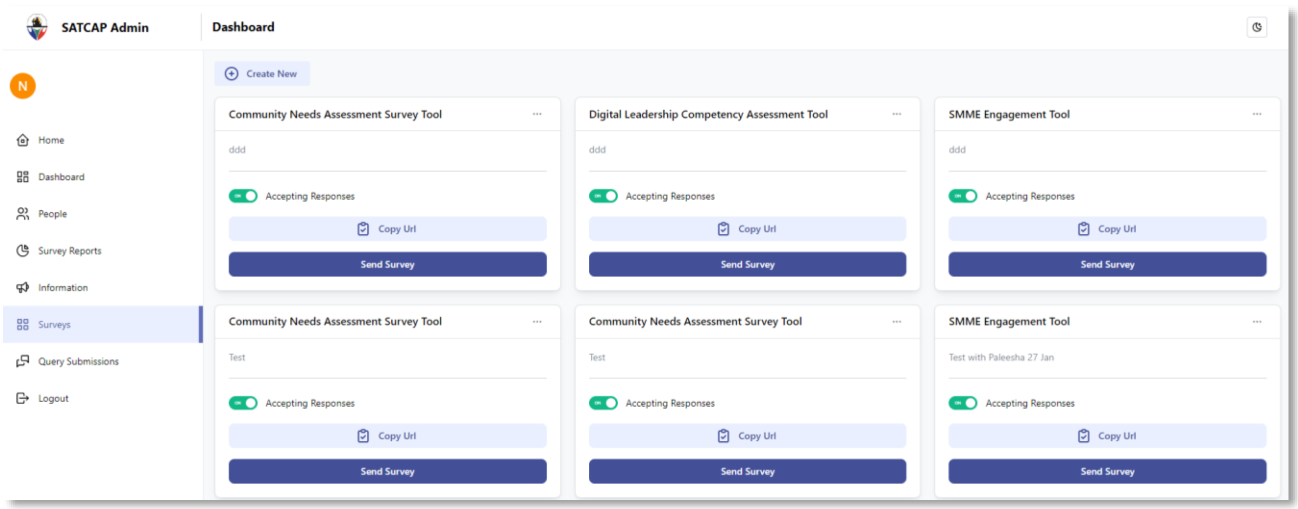


Figure 21: Creating new links of the tool for specific user groups

3.2.8 QUERY SUBMISSIONS

In this section, the administrator will be able to access the queries that have been submitted by the SMMEs by clicking the title of the query. Once opened, the query description, together with the contact details of the SMMEs, will be shown. The query will need to be responded to using the contact information specified within the query i.e., if an email address was specified by the SMME, an email response will be required by the administrator.

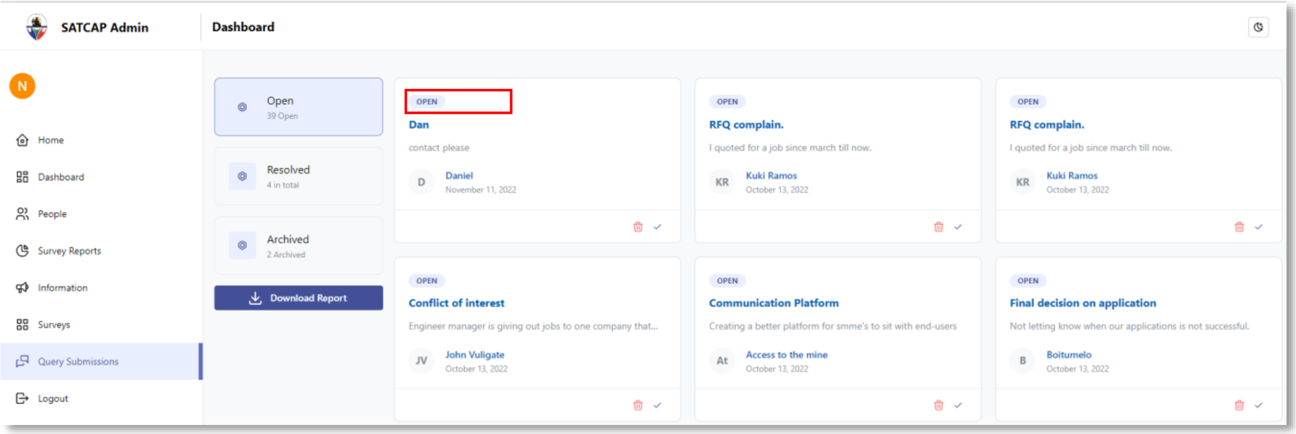


Figure 22: Different sections within the Query Submission back end

Items to remember:

1. Administrators, when creating a new tool link, should first test the link functionality first prior to sharing the link with SMMEs.
2. Administrators have to ensure that the required resources and notices have been posted or updated prior to sending out the link to a new user group.
3. When responding to the SMMEs queries, be sure to mark it as "Resolved" once the query has been addressed. It is recommended that the administrator "Archive" the queries monthly so that the monthly response rate be analysed.
4. The analytics drawn from this tool and displayed in the dashboard are not the only analytics that can be drawn. Other insights can be obtained by downloading the Excel files that contain all the checklist responses using the "Survey Report" function, and then analysed separately using the preferred analytics software.

3.3 MANAGER

This section of the guideline has been created to assist managers in interpreting the dashboards that are created through the tool. The dashboards will be downloaded by the administrator and provided to the manager for decision making purposes.

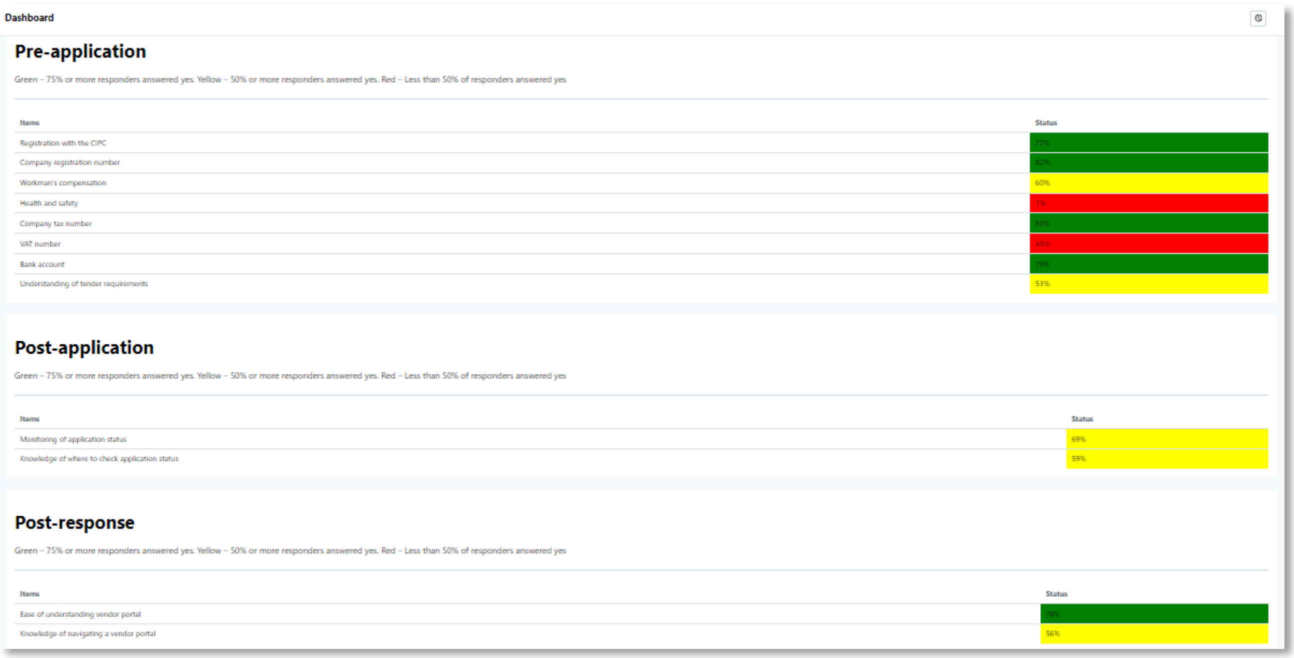


Figure 23: Chart showing responses to certain questions from the Pre-Application, Post-Application and Post-Response checklists

The visual above is a summary of the responses from the checklist and assigns a red, yellow or green status to the item based on the responses from the SMMEs:

- An item will reflect green when 75% or more responders answered "Yes" to having these items in place.
- An item will reflect yellow when 50% or more responders answered "Yes" to having these items in place. This indicates a gap in SMME understanding of that item and interventions from the mine should be considered to remedy this gap.
- An item will reflect red when 50% or less answered "Yes" to having these items in place. This indicates a gap in SMME understanding of that item and interventions by the mine from an Enterprise and Supplier Development or Procurement departments are strongly recommended to remedy this gap.

Note: These are the analytics that will be available on the dashboard that is a standardised offering of the tool. Should the manager want other questions further analysed and visualised, the administrator should be contacted regarding the downloading of the complete data set.

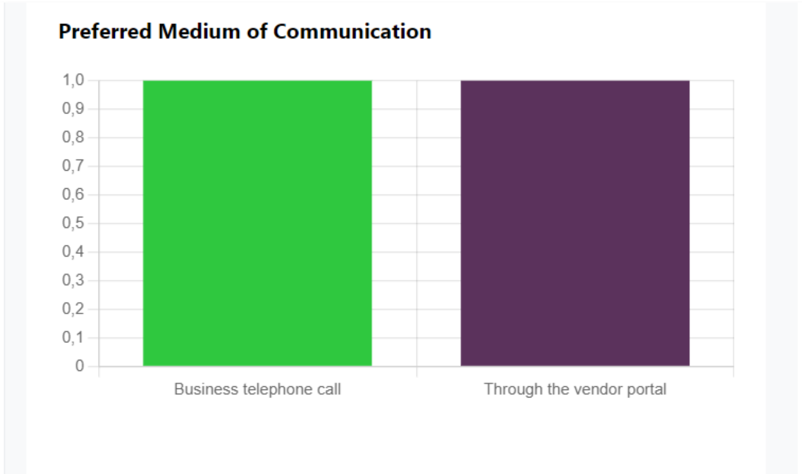


Figure 24: Preferred medium of communication obtained from the Post-Response checklist

The figure above allows mines to tailor messaging to suit SMME preferences and/or available means of communication.

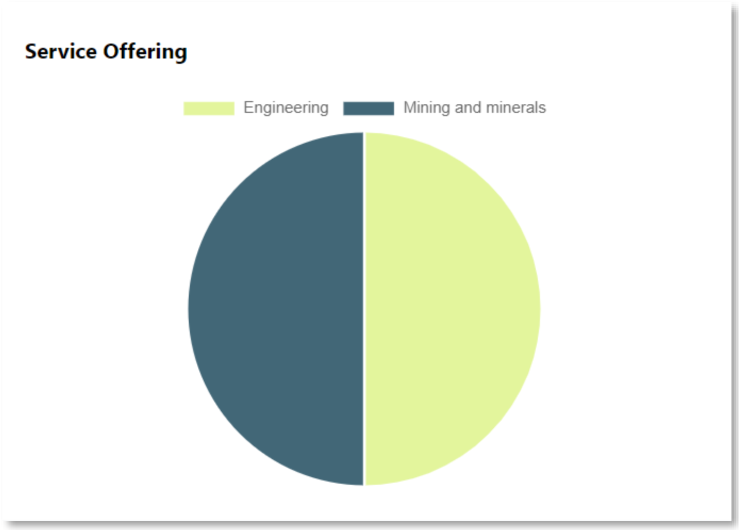


Figure 25: Service offering information from the Pre-Application checklist

The figure above highlights the types of local businesses in the area and may support improved targeting of localised procurement.

Improvement Suggestions

1. *Please include a contact email address for procurement matters*
2. *The vendor management help desk is offline, please provide alternate number*

Figure 26: Improvement suggestions from the Post-Response Checklist

3.4 IM OPEN-SOURCE HANDOVER GUIDE

Context

The below information has been included into this guideline should a mining company wish to incorporate these applications and their functionality into their information management (IM) space as a mine-specific tool. This guide provides a comprehensive view of prerequisites, structures and roles etc.

Prerequisites

- Have an existing Firebase/Google account
- Have a Firebase project set up
- Have Firebase CLI installed on your workstation
- Have the code on your workstation (this is the downloaded zip)
- Have access to a unix based terminal on your workstation
- Have NPM and NodeJS (nvm recommended) installed on your workstation

Project setup

Firebase Project docs

1. Open this project in VS Code and open the terminal inside VS Code (or open your terminal and `cd` to the project root directory)
2. `firebase login`
3. `firebase use --add`
4. When prompted for which project you want to add, select the project you created in the prerequisite step
5. Write your alias (can be anything like e.g. satcap-prod)
6. You are now using your own Firebase project and no longer the default (satcap-research)

To switch projects run the following, changing ALIAS to a defined alias

```
firebase use ALIAS
```

Please note, if you're on a project that your Google account does not have access to, you won't be able to deploy.

Firestore setup

1. Login to Firebase console
2. Open your project
3. Click on Build -> Firestore Database
4. Click "Create Database"
5. Follow the prompts

Authentication setup

1. Login to Firebase console
2. Open your project

3. Click on Build -> Authentication
4. Go to the "Sign-in method" tab
5. Click "Add new provider"
6. Turn on "Email/Password"

Hosting setup

Hosting docs ADMIN_SITE_ID and USER_SITE_ID has to be replaced with a value of your choosing.

riis-satcap-admin riis-satcap-user

This would however need to be unique across the entire Firebase platform so if you use a value that already exists, you will get an error similar to the below:

```
Error: HTTP Error: 400, Invalid name: `admin-satcap-research` is reserved by another project; try something like `admin-satcap-research-51aa9` instead
```

1. `firebase hosting:sites:create ADMIN_SITE_ID`
2. `firebase hosting:sites:create USER_SITE_ID`
3. `firebase target:apply hosting admin ADMIN_SITE_ID`
4. `firebase target:apply hosting user USER_SITE_ID`

Firebase Application Configuration

You will need to update the firebase configurations for each app (user & admin) respectively.

Admin

. `cd admin/src/`
. Open firebase.ts in your favourite editor
. Replace the `config` object with your app's Firebase project configuration

User

. `cd user/public/_scripts`
. Open init.js in your favourite editor
. Replace the `firebaseConfig` object with your app's Firebase project configuration

Hosting URL Configuration

Admin

. `cd admin/`
. Open .env in your favourite editor
. Set VITE_USER_URL=https://USER_SITE_ID.web.app

Functions setupbl

PLEASE NOTE: Blaze (Pay As You Go) billing option is required to use cloud functions

. `cd functions/`

. `npm i`

. Open .env in your favourite editor

. Set ADMIN_URL=https://ADMIN_SITE_ID.web.app

. Set USER_URL=https://USER_SITE_ID.web.app

Deploy

Because of the admin website requiring a build before deployment, it is not advised to run the global `firebase deploy` command as this will cause unforeseen problems.

Rules and Indexes (Firestore / Storage)

```
firebase deploy --only firestore:indexes
firebase deploy --only firestore:rules
firebase deploy --only storage
```

Admin

. `cd admin/`

. `npm i && npm run build`

. `cd ../`

. `firebase deploy --only hosting:admin`

User (survey links)

```
firebase deploy --only hosting:user
```

Functions

You can read here for more details about Firebase Functions and deployments

Before deploying all functions, we need to have an existing mine in the Firestore Database so that the relevant trigger functions on the `mines` collection will deploy successfully.

```
firebase deploy --only functions:addMine
```

Please see Initial data import/Add Mine for how to execute this function before running the below:

```
firebase deploy --only functions
```

Initial data import

To start using the application, you can easily add mines and import packages using cloud functions before accessing the application on the web.

The current version of the application does not support the creation of mines or packages within the application itself.

Add Mine

To create your mine without adding it manually on Firebase console you can run the `addMine` cloud function deployed in the previous step.
Please change the following:

- {LOCATION} = The location in which the project was deployed e.g. us-central1
- PROJECT_ID} = The ID of the Firebase Project e.g. satcap-research
- {NAME} = The name of the mine you're wanting to create

```
https://{LOCATION}-{PROJECT_ID}.cloudfunctions.net/addMine?name={NAME}
```

Please see the data architecture to understand what can be edited/added to the mine information

Add Surveys/Packages

In order for the mine to create survey links, the packages collection needs to have the predefined data in it.

To achieve this, you can run the `importPackages` cloud function deployed in the previous step.

Please change the following:

- {LOCATION} = The location in which the project was deployed e.g. us-central1
- {PROJECT_ID} = The ID of the Firebase Project e.g. satcap-research

```
https://{LOCATION}-{PROJECT_ID}.cloudfunctions.net/importPackages
```

Default Survey Questions

To use the default questions provided per package, you will need to run the `importQuestions` cloud function.

You can view and add questions to each package by going to the "Tool Editor" tab within the admin application.

```
https://{LOCATION}-{PROJECT ID}.cloudfunctions.net/importQuestions
```

Create Admin User

Initially, you will have to manually add a person to the "backend" to get started.

All subsequent users can be added the traditional way on the "People" tab within the admin application.

Please see Data Architecture for more information before proceeding to the below steps

. Login to Firebase console
. Open your project
. Click on Build -> Authentication
. Under the "Users" tab, click "Add user"
. Enter details and "Add User"
. Copy UID generated
. Click on Build -> Firestore Database
. Click on "mines" collection
. Click on the mine you're wanting to add the person to
. Click on the Sub-collection "users" (If not there, create it by clicking "Start collection" within the mine document and skip step 11)
. Click "Add document"
. Click "Auto-Id" and add the following fields

Email/ SMS

You will need to enable the following extensions within Firebase:

Trigger Email

- Link to extension
- Setup with your own SMTP account
- Use mail as the collection name

Send Messages with Twilio (optional)

- Link to extension
- Setup with your own Twilio account
- Use messages as the collection name

Data Architecture

Packages

Collection Id: packages

Structure

Field	Type	Value
docId	string	Redundant copy of actual doc UID
Name	string	Name of work package
Survey	map	Survey information this package links to
survey.complete	map	Custom messages on completion of a survey
survey.complete[surveyKey].message	string	Custom message
survey.complete[surveyKey].type	string	Custom heading
survey.shortDescription	string	Summary description of survey
survey.description	string	Full description of survey
survey.key	string	Unique key of survey or parent key of surveys
survey.title	string	Title of survey or parent title of surveys
survey.surveys	array[map]	(Optional) list of surveys if package provides more than one
survey.surveys[0].color	string	HEX value of theme colour for survey
survey.surveys[0].description	string	Description of survey
survey.surveys[0].faqUrl	string	Link to FAQ's for survey
survey.surveys[0].key	string	Unique key of survey
survey.surveys[0].title	string	Title of survey
scopes	array[string]	List of all menu items this package has access to on the user side

Scope
Home
Survey
Information
Queries

Mines

Collection Id: mines

Structure

Field	Type	Value
address	String	Area of mine
name	String	Name of mine
description	String	Description of mine
featureImageUrl	String	Link to header image
imageUrl	String	Link to logo of mine
packages	array[string]	Document ID's of all packages this admin has access to

Users

Sub-collection of mines

Collection Id: users

Structure

Field	Type	Value
authUid	String	Value of UID according to authentication user

name	String	Name of user
mobile	String	Mobile number of user
email	String	Email of user (must be contactable - not required to be same as authentication email)
isAdmin	Boolean	true if can manage mine (operations / about etc.) and add people to mine
jobTitle	String	Job title of user
mineId	String	Document ID of current mine
locationAdmin	array[string]	Document ID's of all locations (operations) this user can manage (is allowed to be null if isAdmin is true)

Locations

Sub-collection of mines

Collection Id: locations

Structure

Field	Type	Value
name	string	Name of location

3.5 FAQ SECTION

3.5.1 USER FAQS

Question	Answer
Do I need an advanced computer or digital device to use the tool?	The tool can be accessed on most digital devices which have access to the internet. Advanced devices are not needed.
Where will my responses go; will my information be shared externally?	No information will be shared external to the mine. Each response is captured and stored on a secure database, which is not shared with third party entities. The responses, with exception of the query submission, is completely anonymous.
Why can't I submit my checklist responses?	All questions must be answered. Review the checklist to ensure each question has a response.
Why did I receive different links from different mines to the same tool?	There are standard features of the tool as well as customised sections that are mine specific within the tool. The mine specific sections contain information that are relevant to that mine.
Is the tool available in other languages?	No, the application is only available in English.
The link that I click on to access the tool doesn't work, what should I do?	Please ensure that you have a stable internet connection when accessing the tool. If you have made sure of this, please contact the mine for further assistance.

3.5.2 ADMINISTRATOR FAQS

Questions and answers to further assist the Administrator.

Question	**Answer**
Where is the application hosted?	The tool is stand alone web based application hosted within the information management system in the mine.
How does one become an administrator of the tool?	A link will be shared by the Super Administrator of the mine via email.
Can I create multiple surveys for different mine operations?	The super administrator can create accounts for different mine administrators from multiple mine operations. The data can be accessed by the super administrator and the administrator for each mine operation.
Who is in control of how data is managed?	Once the tool has been handed over to the mine, the data obtained from the surveys with the tool will be managed by the administrator at the mine.
What is the difference between a Super Administrator and Administrator?	Super Administrators are able to create new users and assign access permissions. Whilst Administrators are only able to manage survey links and reporting outputs.
I no longer have administrator access, what should I do?	Contact your mine designated Super Administrator to grant you access.
How do I integrate the tool into my respective mine's systems?	Refer to the IT Administrator guideline for more information.
Where is all this information stored?	Each response is captured and stored on a secure database hosted by the mine, and the information is only accessible by the mine administrator and not shared with third party entities.
Who is responsible for managing the database generated by the application?	The IT administrator together with the super administrator is responsible for managing the database and responsible for security of information and access to the information collected.
Who manages query submissions from end users?	The administrator collects queries and forwards them to the procurement, enterprise development or supply chain department to address issues related to procurement queries. This system may already exist in mines and can be used for this function.
Can the application be updated or modified?	The open-source code is available for all mines wanting to use the tool. It is customizable according to the needs of the mine if they have the expertise in house in their IT teams.
Why am I not seeing analytic reports when I set up the survey?	The analytics on the dashboard will only be visible once new survey data has been submitted. The back end of the dashboard has been programmed to collate data and compute the analyses but needs input data to produce the reports. Do not be concerned if you do not see analytic reports when setting up the survey.