



Advanced Field Services in the Digital Age

## Quick Start Guide V1.5

December 2017



Konec is an Advanced Field Services Mobility Solution. Anyone (novice or specialist) can build Field Services workflows for the latest generation of smart phones and tablets without programming.

Konec has the flexibility to adapt to almost any Field Services challenge. Map, Data Forms and Workflows are easily defined on the desktop and deployed dynamically to mobile devices. Advanced configuration tools mean Konec can adapt to deliver for almost any Field Services challenge through a single Mobile App.

The optional Integration Services bind Konec into the corporate wide electronic workflow of a modern business.

This guide serves Project Administrators who configure field services workflows and work teams who execute those workflows in the field.

Konec is developed by Global GBM. Visit the Konec website at [www.konec.today](http://www.konec.today) to access the Knowledge Base, User Forum and Support Centre.

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Developed by:

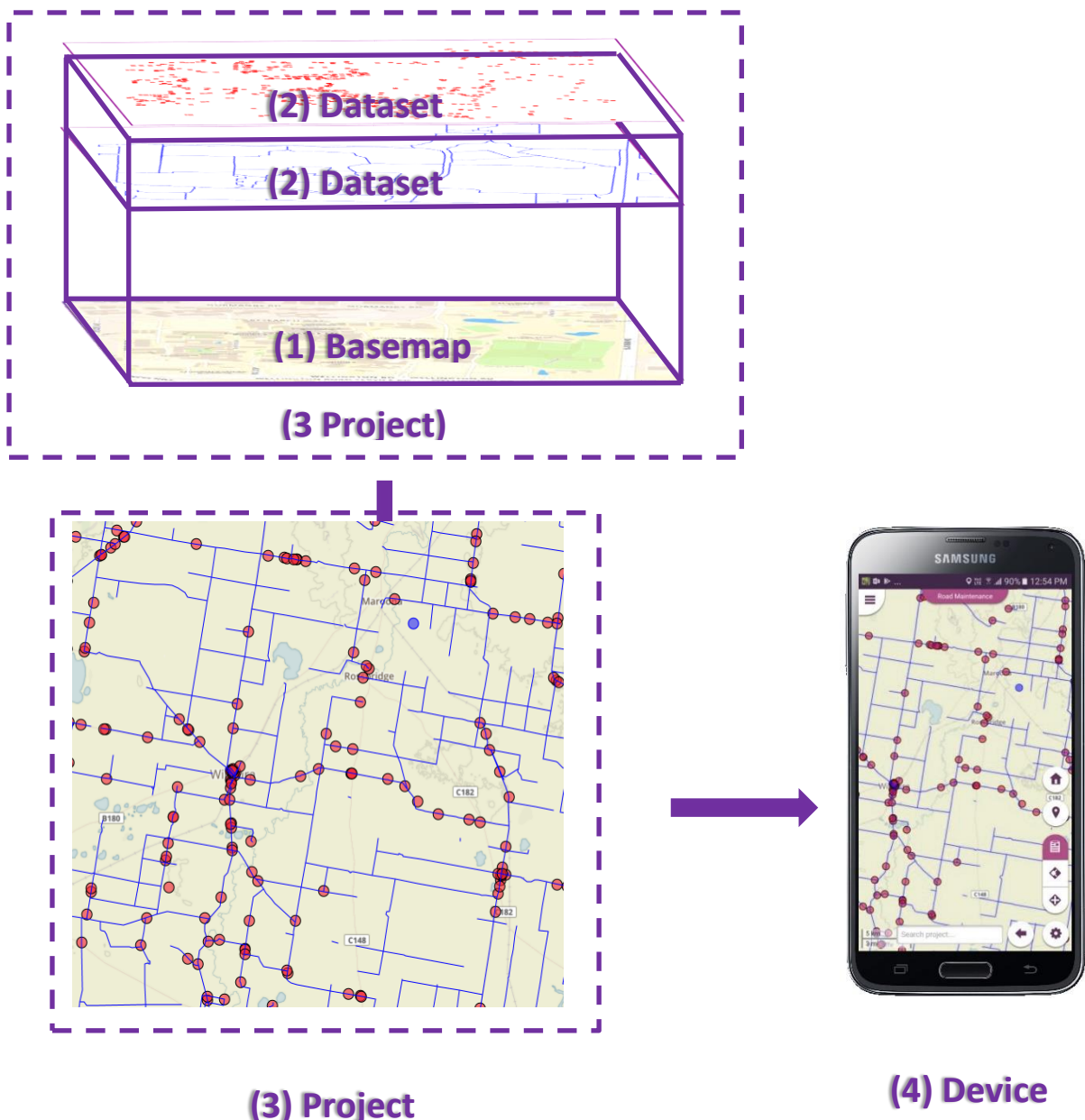


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# 1 Concepts

There are four core components of a Konect Solution.

- (1) Basemaps** Maps in raster or web tile format. These may be drawn from the standard library provided with the Konect subscription or imported from in-house GIS systems or external suppliers.
- (2) Datasets** Linked data and spatial features – commonly loaded from GIS (Vector) data files, spreadsheet files or created within Konect. One or more sets of forms and map styles are associated with each dataset that control how the data can be edited and how it presents on a map.
- (3) Projects** A combination of a Basemap and one or more Datasets creates a Project. A Project may imply a workflow as forms adapt as data content evolves
- (4) Devices** Mobile devices running the Konect App



## 2 Getting Started in 10 steps

Konect is an Advanced Field Services Mobility Solution.

Each Konect subscriptions provide customers access to the Konect Manager program to set up their Datasets and business rules, a cloud database to securely store settings and data content, and the Konect App for working in the field.



This chapter is a very brief guide to help new users to get started with Konect. Refer to chapters 3 (Konect Manager) and Chapter 4 (Mobile Device) for further detail.

### 2.1 Install Konect Manager

Download and Install Konect Manager onto a Windows PC

Konect Manager is available on this link:

<https://s3-ap-southeast-2.amazonaws.com/konect-updates-postv75/KonectManager.zip>

You will need to enter your Account PIN to connect the installation to your account.

*Check your welcome e-mail for PIN and installation instructions*

### 2.2 Create Data

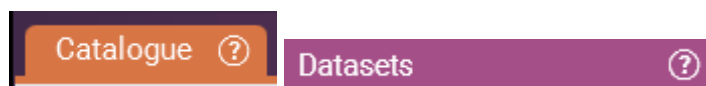
You may load files into the Konect database through the Import/Export item on the Catalogue tab. You may also create new Datasets through the Dataset item on the Catalogue Tab.



*See Section: 3.3*

## 2.3 Build Data Forms

Access the form builder through the Dataset item on the Catalogue tab.



Each Dataset has a Primary Form. Adding and removing items from the primary form automatically updates the database structure.

The settings button controls whether a feature can be drawn, edited or deleted in the Konect App.

Forms control which data elements are visible and how each item can be edited.

Form Variants are optional and can be used to create sets of forms that work on a shared Dataset. For example, to assign different view or edit privileges depending on an operator's role in your organisation.

The Map Styles control on the Dataset tab defines the way data will be presented on the map.

[See Section: 3.3](#)

## 2.4 Define a Project

Projects describe a working environment for a group of field services personnel. They combine a map (made up of a Basemap and one or more datasets) with forms that are specifically set up for a particular group of tasks.



Choose a Basemap and then add one or more Datasets. If a Dataset has Form Variants, choose either the Primary Form or one of the Variants. Similarly, if a Dataset has multiple map presentation options, choose one of the Map Styles that were set up through the Dataset Tab.

[See Section: 3.4](#)

## 2.5 Install the Konect App on a mobile device

Download the Konect App from the relevant App store and install.

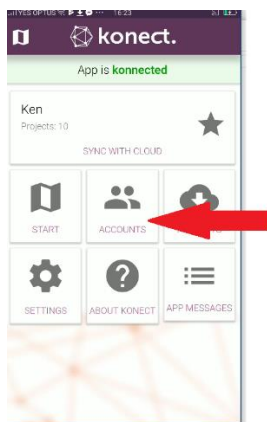
[See Section: 4.1](#)

## 2.6 Link the device to the current Konect Account

Select the Accounts button on the Konect App dashboard.

Account Administrators may choose one of two user authentication models through the Konect Portal.

In either case, Select the Accounts button on the Konect App dashboard.



For accounts using the simple login method, choose the accounts button on the mobile device dashboard and enter the account pin and user Nickname.

If the Account Administrator has selected advanced login mode, you will need to enter a user name as password in addition to the Account PIN.

[See Section: 4.2](#)

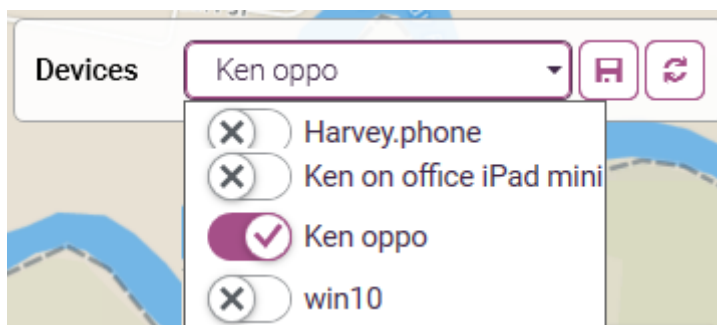
## 2.7 Authorise a Device to access a Project

On the Operations Tab, select a Project. This will be one of the project that were defined through the Projects item on the Catalogue tab.



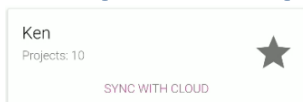
Choose the Devices drop down. Any device that has been registered to this account by entering the account PIN will be listed.

Tag the target device and click save.



[See Section: 3.6](#)

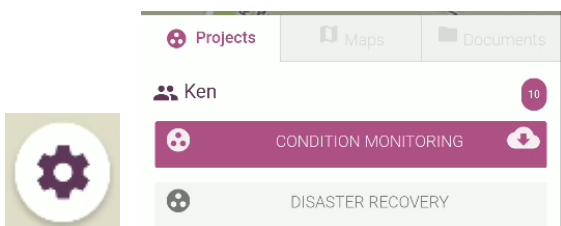
## 2.8 Open the project on the Authorised Device



Click Sync with Cloud button on the Konect App dashboard to retrieve available projects from the Cloud database.



Click the Start button at top of the Dashboard screen to open a project map.



If your device is authorised to access multiple projects, you may need to click the map selection button at the bottom right of the map screen to set the active project.

[See Section: 4.3](#)

## 2.9 Enter and Edit data on the Mobile Device

Create new features or edit existing features as permitted by the form settings. If you are operating in the normal on-line mode, all changes will be directly reflected in the cloud database.

[See Section 4.3](#)

## 2.10 View Data Edits in the Office

Go to the Operations tab in Konect Manager and choose the project that was used on the mobile device. Maps and data forms in Konect Manager operate in a very similar manner to those on the mobile device.

[See Section 3.4](#)

## 2.11 Export Data

Select Data tab in Konect Manager and choose one of the Datasets that were edited on the mobile device.



The data will appear in both list form and on the map. Click a map feature or double click a row in the data grid to open the data form.

Query

Optionally sub-set the content through a data query.

 Export

Click the Export button to create a file containing the data that passed the query conditions.

[See Section: 3.5](#)



## 3 Konect Manager

Konect Manager is installed on a Windows PC and is used by Project Administrators to set up field operations and manage data. This chapter explains Konect Manager operation. Chapter 4 describes the operation of the Mobile App.

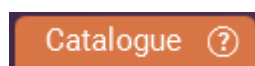
Customers who are unable to run Konect Manager directly on their Windows PC may arrange to operate through a Browser via Google Workspaces. Contact your account representative for details.

### 3.1 Operating Controls

The main controls are on the tab strip at the top of the main Konect Manager screen.



The active tab is highlighted in orange with a help control highlighted. Click the active tab to access online help.

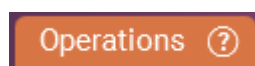


Use the Catalogue tab for project set-up and administration. This is where you define resources that will subsequently be used to manage daily operations. You can import data, define intelligent data forms, and set up new operational projects with the maps and data sets that will be dispatched to the mobile devices.

Konect Manager can be installed in two modes. Administration or normal mode provides access to all features of the system. The administration tab is disabled in supervisor mode to protect settings from inadvertent edits.



Use the Data tab to review and export data and to define dynamic data sub-sets (Queries) and save those queries for re-use. Saved queries can be used when adding datasets to a map (Catalogue>Projects) as part of the work dispatch process (Operations tab) and for data export.



Use the Operations tab to preview project maps and to authorise mobile users to access an operational project. Projects used on the Operations tab are pre-defined through Catalogue>Projects.




Use the Tracking tab to see the map location of work crew mobile devices. Mobile Device locations and current crew tasking will be presented here if the device is available on the network and GPS Tracking has been enabled on the device (Section 4.3).



The name of your active Account name is presented on the top right of the main screen. Those customers who have multiple accounts (e.g. separate accounts for Training, Test and Production) may click the account name to swap to another account.

Proxy settings are normally only required for those organisations with internal firewall controls that might otherwise prevent Konect Manager from connecting to the cloud infrastructure. If necessary, contact your in-house network administrator for information on local proxy servers.

 Use the “?” button to access version information and to manage the installation.



Konect Manager will normally prompt operators to install updates as they are released. Please check that you are working with the latest software version before reporting any operational issues.

Konect writes an operational log and stores debug information in the folder that can be opened by clicking on the blue hyperlink on this screen. The Konect support team may require these files when investigating abnormal behaviour.

### 3.2 Basemaps

The map is a primary focus in Konect. It helps you navigate to worksites and to confirm that you are at the correct location to create, edit or enter observations about a feature.



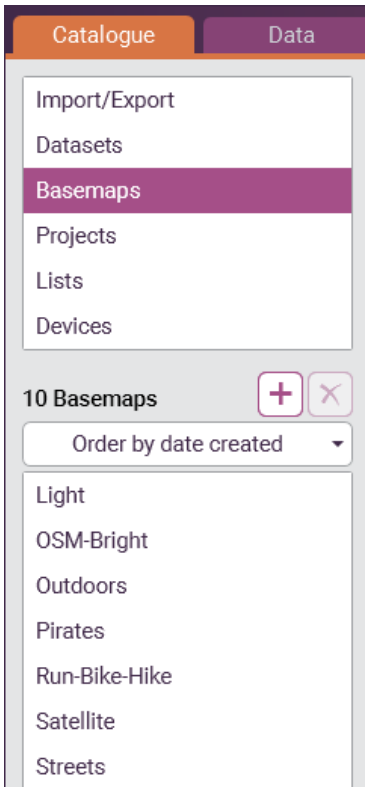
Maps are typically made up of a Basemap overlaid by one or more layers of map features, with data associated with each of those features.

A Basemap is a mosaic of images (map tiles) that provide a graphical representation of the world. They may be simple street maps, aerial imagery or satellited views.

Most customers simply choose one of the Basemaps from the options packaged from their Konect subscription.

Organisations with access to web map servers may load those image tiles directly into Konect.

For more information on Basemaps and information about registering your own Web Map Tile Service (WMTS), see the Knowledgebase article at: <https://konect.atlassian.net/wiki/display/KS/Understanding+basemaps>



Basemaps are commonly downloaded on demand as web tiles but may be cached onto the device for off-line operation. Refer to the Konect knowledge base for information on creating off-line caches of image tiles in MB tile format.

### 3.3 Datasets

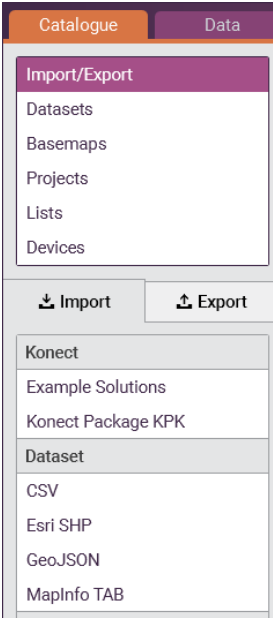
Konect is typically used to collect or edit information that relates to a location in the real world or is associated with an object in the field.

Each real-world items is represented by a map feature and each type of feature can have a different set of data items (data fields) associated with it.

Datasets store the information you collect in the field and the information you will reference to complete your field assignment, as a collection of map features.

For example, a dataset may contain the map representation of assets and information about those assets, work Instructions (work orders) and their map location or a set of map located field sites and the observations recorded at those sites.

Datasets may be imported from pre-existing GIS files or text file or created directly in Konect.



#### Import Dataset


Catalogue > Import/Export > Import

Existing data files can be imported into the Konect database from a range of common formats including: Comma delimited spreadsheet format (CSV), Esri GIS format (Shape), Open Source GIS files (GeoJSON) or MapInfo GIS data (TAB).

For more information on Importing data refer to the following Knowledgebase article at <https://konect.atlassian.net/wiki/display/KS/Importing+Data>

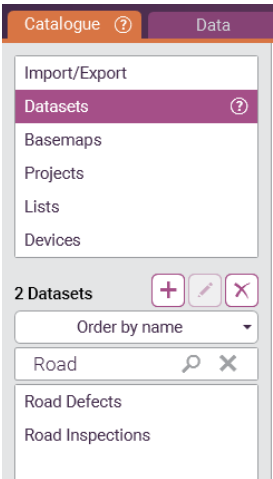
#### Create your Own Dataset

Catalogue > Datasets > +

 To set up your own data from scratch select the + button and then use the Form builder to establish the dataset.

Building the form builds the dataset structure as you go, so you need to add each data field required to describe the data to be collected e.g. Asset Type, Height, Condition etc.

See below for instructions on adding data fields to a dataset.

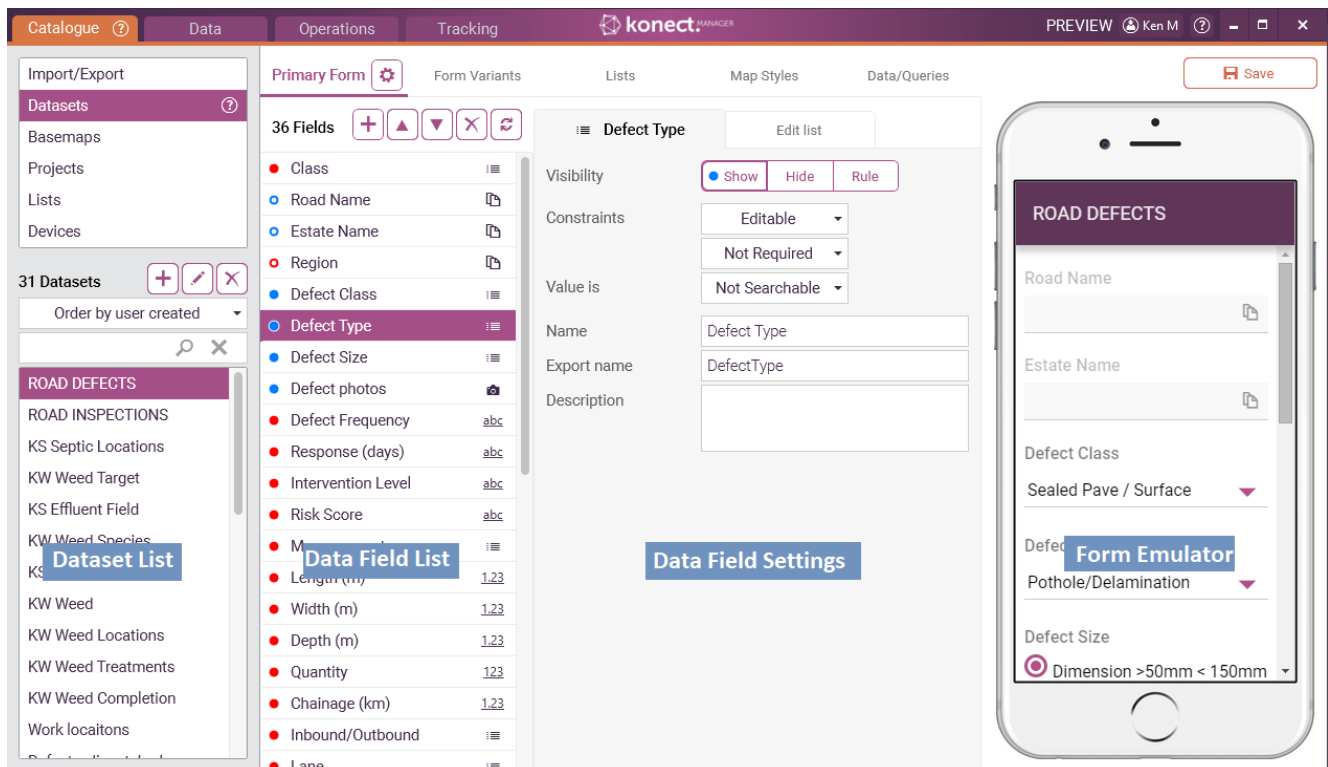


## Building Data Forms

[Catalogue](#) > [Datasets](#) > [Primary Form](#)

Konect forms control the way end-users see and edit data and map features. Each data set has a Primary Form and may also have a number of alternative forms (form variants) that present a different view of the same data.

The primary form is created automatically whenever a new data set is imported or created through Konect Manager.



















### Primary Form

Select the Primary Form and use the Plus button to add additional data fields to a dataset. Each data field has:

- **Name**: This is the text that presents on data forms
- **Export Name**: This is the external name used when the data is shared through external systems such as through spreadsheets, GIS files or integration tools.
- **Description**: Free text that describes this element of data. The description field can be used to give end-users instructions on how to work with the data.
- **Visibility and Edit Controls**: These settings control which data end users such as operators of the Konect App can see, and how they can interact with the data.
- **Data Type**: The type of data that is stored, such as text, date, time and numbers

Konect supports the following data types:

 Text  Multi-line text	<p>Simple text – any numbers of lines</p> <p>Can be tagged to read from a barcode scanner</p> <p>Can be tagged to be searchable through the search bar at the bottom of the Konect App</p> <p>If a text file contains a string starting with http:// or https:// and is read only, clicking the field will open the external URL.</p>
 Number	Numbers with decimals
 Whole number	Numbers without decimals
 Date and time  Date  Time	Date and time fields – calendar and time pickers available
 Yes/No	Logical – true or false
 List	Select value from pick list – can be converted to a text field
 Photo	Any number of images can be stored – with camera activation and select from Gallery on mobile device
 Document	An individual PDF File may be selected in Konect Manager and viewed on the device
 Label	Text to be presented on the form – often used for headings or instructions
 Generate a unique id	Auto filled with a globally unique text string
 User friendly tag	Auto filled with a unique text string that is easier to read than that produced by the more rigorous unique ID generator used above
 Geographical attribute	Geographic location or dimensions calculated from the associated map feature
 Copy value from dataset	Duplicate a value associated with another spatial feature at the same location as this feature. E.g. auto fill with road name when a pothole is drawn on a road.








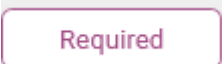

As well as the Primary Form, alternative forms (Form Variants) can be created over the same data. Form variants allow the user experience to be tailored for the different user roles that may work with the same data records. For example, one form may be provided for Inspectors to log defects and a different form provided to Maintenance Teams.

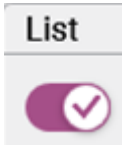
First add all the required data fields into the primary form and then inherit these into a form variant.

Name (the text displayed in the form) and the order the data fields present in the form can all be set independently for each form variant. Field addition/removal, list selection and export name can only be set on the primary form but are inherited into each of the variants.

Each data field has a name that will appear on the form, an export name that will appear as the column heading for any data exports such as spreadsheet files and a field description. The description will present when a user taps the “?” hot point on the form.

Choose an existing Dataset to display the Primary Form.

- The form emulator updates the form layout dynamically as details are added.
  -  Click the save button to retain changes.
  -  If necessary, click the refresh button to update the form emulator.
-  Click the + button at the top of the form to add a new data field and select the type of data to be held in this field. Adding a new item into the form automatically adjust the database structure to accommodate the new item.
  - “Geographical attributes” are calculated dynamically and are normally attributes of the map feature associated with each database record, for example the feature length area or map coordinates.
  - “Copy values from dataset” will auto-populate a data field by reading data from features on another map layer at the same location as a the data record being created.
-  Select a data field and click the up and down buttons to change the presentation order in the data form.
-  Click the delete button to remove a data field. Existing content in this data field will be permanently lost.
- **Field** In the Data Field section, the Name is the text that will appear on the form. The Export Name is the name of the data field for data export, import and merge from external data operations (Catalogue>import and Data>export).
-  Individual data fields may be presented on the form or hidden. Forms can be dynamic with data fields presenting or hidden depending on the data content of another data field in the dataset. Visibility rules can vary between the Primary form and Form Variants to allow different forms to be built for different user roles.
-  Editability can be enabled or disabled for individual data fields with different settings applied to the Primary Form and Form Variants. Validation rules for editable data fields are defined at the bottom of the form and vary infrastructure depending on the data type.
-  Tag this setting to prevent operators from saving a data record until a value has been entered for this data field.
-  Tag the Searchable control to activate this data field for use with the search control in the Mobile App (Section 4.3).

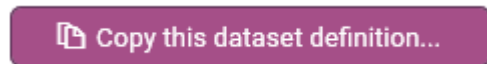


- Data entry can be constrained to the selection of a value from a list of valid entries. Lists can be arranged in hierarchical relationships whereby the choice of options presented for selection depend on the data content in another field that is controlled by a related list.

List values can be edited directly in the form for simple lists. Hierarchical relationships (dependent list relationships) are defined externally and loaded through the import function (catalogue>import/export>Lists).



- Additional controls are available under the settings button.



Choose this button to create a new dataset with an identical form layout and list of data fields.

#### Form behaviour

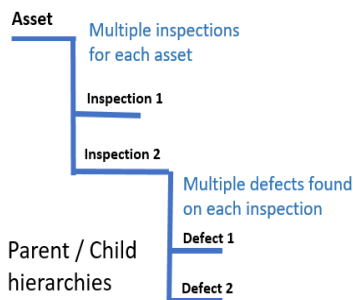


- The Form Behaviour setting is used to control whether operators are permitted to create new map features or delete features.

#### Linked parent dataset



- 



This setting is used to create hierarchical data relationships under which multiple records of this dataset can be linked to a single record in a parent dataset as presented in the mobile device data forms as explained in section 4.2. Operators will create the parent feature and have the option of adding multiple data records to this dataset that share the same map outline as the parent feature.

#### Linked parent dataset



The alternative setting allows the daughter records to have a map representation different from the parent record but with an implicit relationship in the data that allows daughter records to be linked to their parent for reporting. For example, the Draw Geometry option can be used to mark point defects on a road (linear feature) and subsequently relate the child records (defects) to the parent records (road).

## Selection fields

<input checked="" type="checkbox"/> ID <input checked="" type="checkbox"/> Type	ID Type
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Selection fields are those that present in list view, either when an operator clicks a location on the map where there multiple map features (below) or when multiple data records are returned from a data search on the mobile device (bottom of section 4.3).





## Dataset Map Styles

[Catalogue](#) > [Datasets](#) > [Map Styles](#)

Style sheets control the way features present on the map. Multiple style sheets can be created for each dataset and one of them chosen when the layer is added onto a project map.

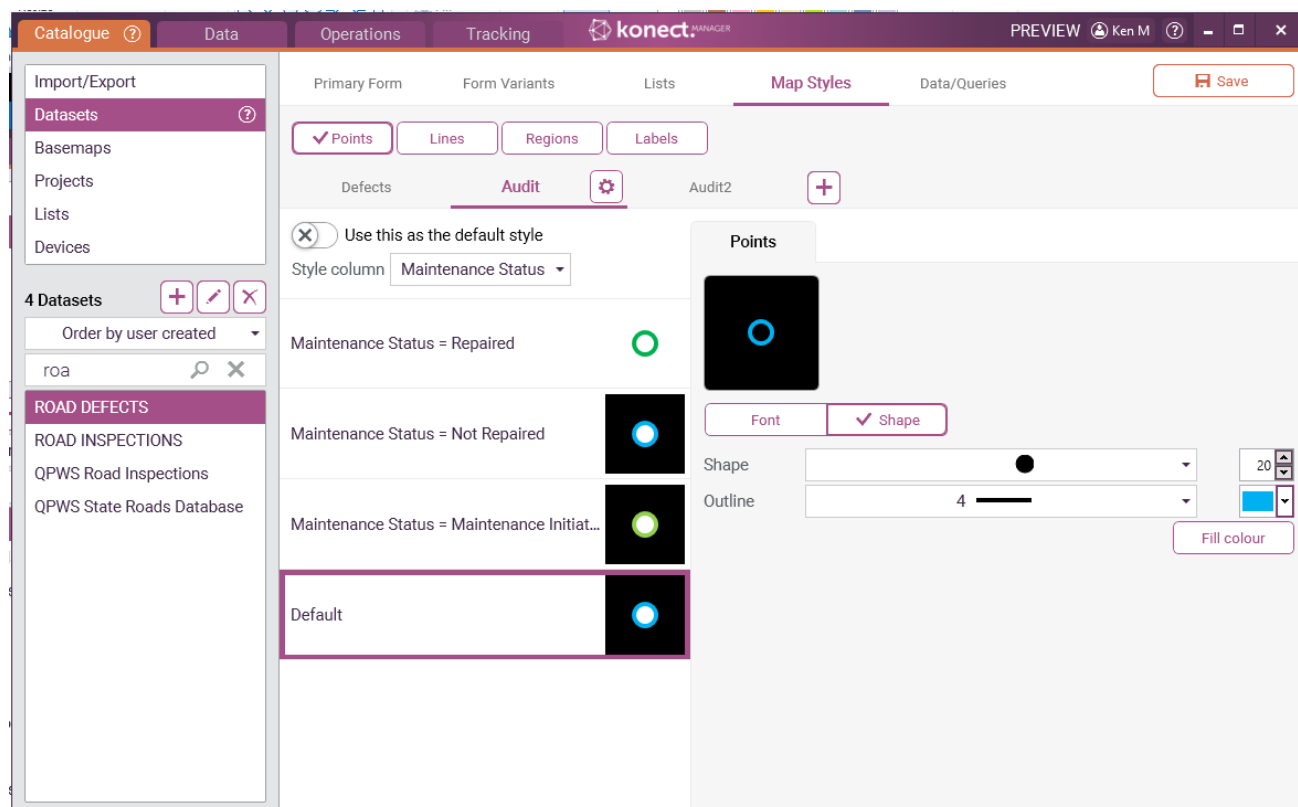


Tick the tags at the top of the

style sheet definition form to allow drawing of Points, Lines or Regions.

To set labelling, check the Labels button and then choose a field and a style for the labels.

Map Styles and Labels need to be chosen/turned on when creating a Project map (see below)



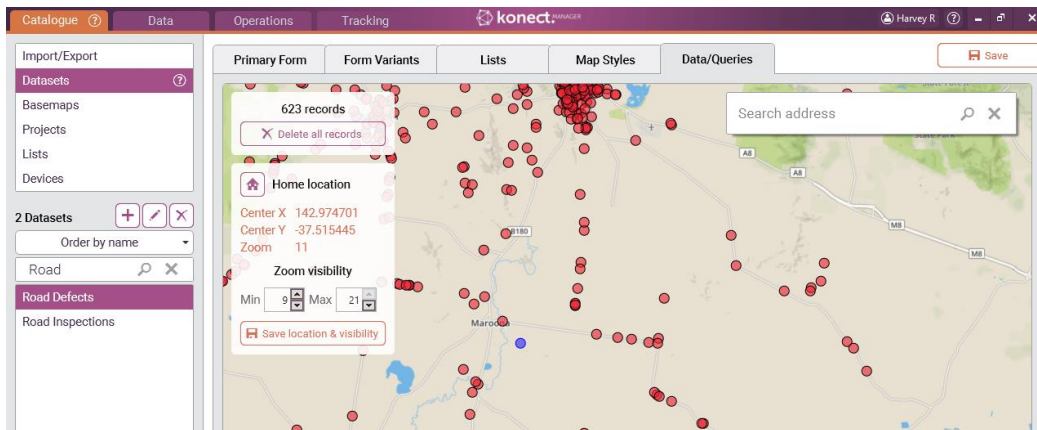
## Data Sub-sets and Map Display

[Catalogue](#) > [Datasets](#) > [Data/Queries](#)

Home location and zoom visibility can be set for each dataset. Zoom visibility is useful for hiding a dataset when the operator is zoomed out or zoomed in too far. For example, the administrator may choose de-clutter a map by hiding minor roads when zoomed out to the national scale. ide

Zoom settings are levels that have a maximum (most zoomed) of 21. The smaller the number, the area covered by the map increases and the larger the number, the area covered by the map decreases.

Use the Search Address feature to help find a location of interest, zoom in and out and then click the save button to retain map centroid and extents as the home location for the dataset.



## 3.4 Projects

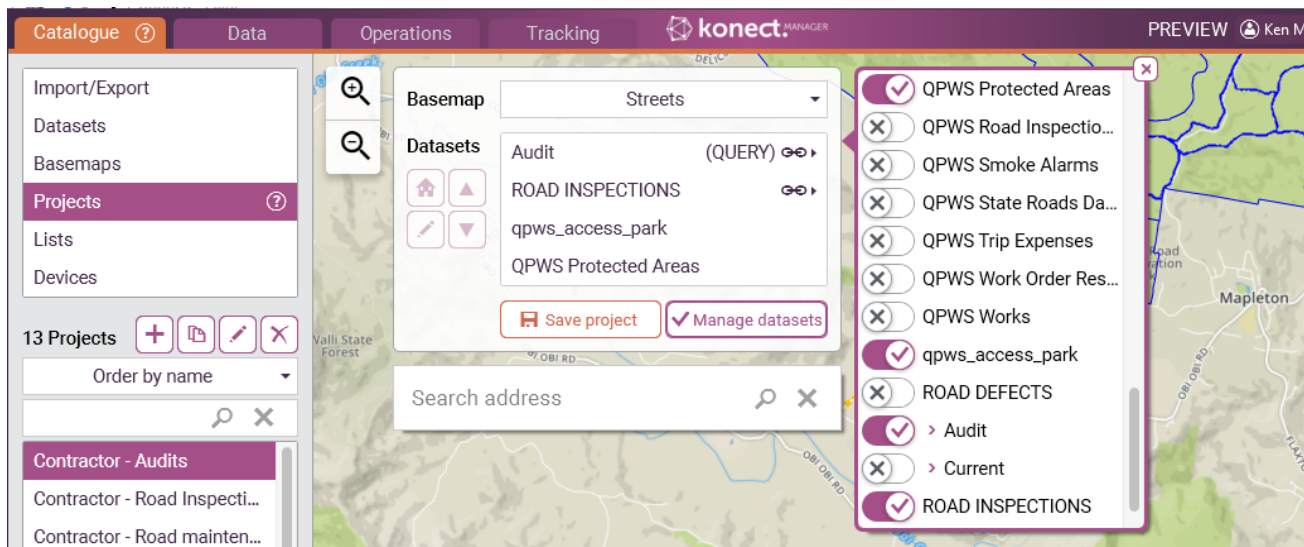
[Catalogue > Projects](#)



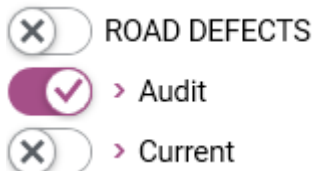
Use the + button to create a new project. A default Basemap will be loaded automatically and can be reset through the pull-down list.



Click the Manage Datasets button to select one or more Datasets to add to the map.



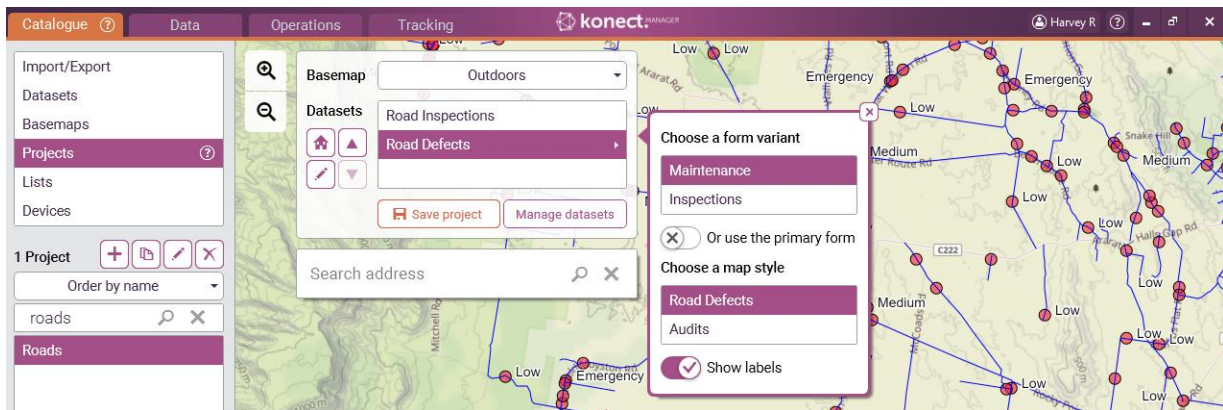
You may add all the map features in a Dataset or select one of the dynamic sub-set that was created through the query controls on the Data Tab.



If query sub-sets exist, they will be listed below the name of the parent dataset.

When adding a Dataset as a map layer, you may be asked to choose other options from those that were defined through the dataset definition section of the Catalogue tab.

If form variants have been defined, you will be given the option of choosing the primary form or one of the variants. If alternative style sheets have been defined, you will be asked to choose one. You may include a label style if one or more exist.



The project can be saved at any time. Saving a project will also re-set the home location for the map.

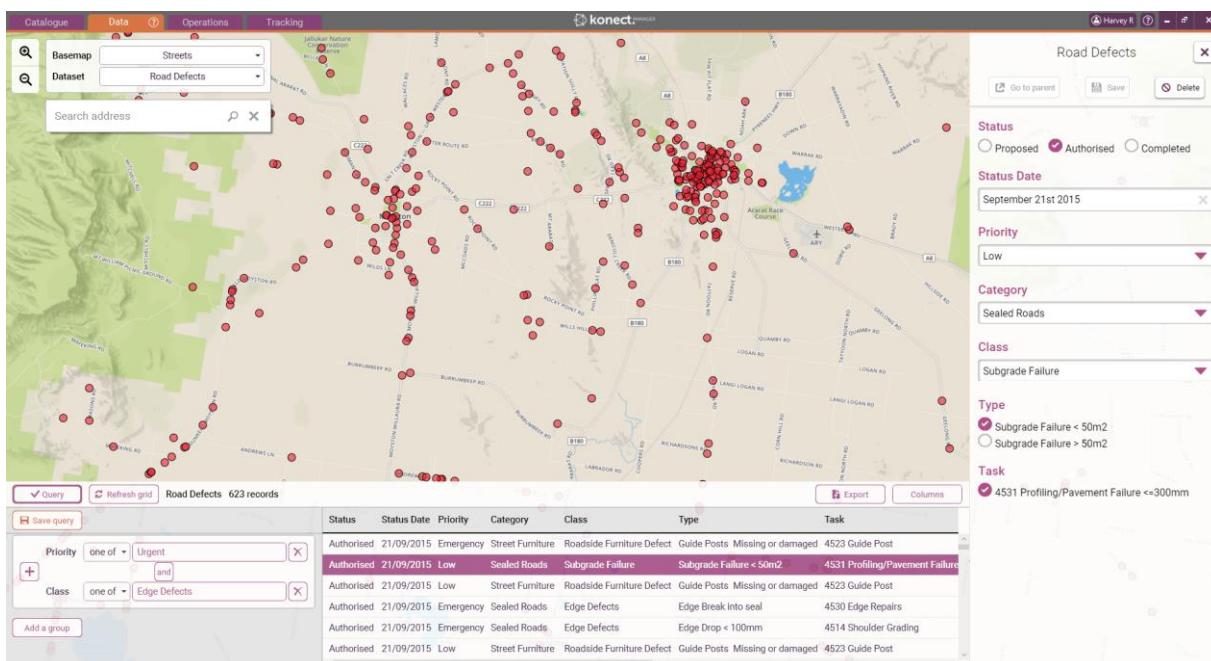


The map may re-position as each dataset is added. If necessary, click the home button at the bottom of the page to reset zoom and centroid to the default position before saving the project.

## 3.5 Data Tab

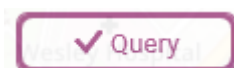
The Data tab is where you will review your data. You may:

- Present data on the map and watch it change dynamically as it is edited in the field
- Display the data in tabular form
- Edit data through data forms
- Build and save queries that define dynamic sub-sets of the data
- Export data to use in other systems



Click a feature on the map to open the data form.

Double click a row in the data grid to zoom the map on that location and present a data form.



Click the Query button to create a dynamic data query. Click the "Save Query" button to save the query definition for subsequent re-use, either in the data tab or to define a data sub-set for inclusion in a project. Saved queries can subsequently be selected in the Dataset drop down list.



Click the "Columns" button to choose which data fields in a Dataset are to be displayed in the tabular view or included in export files.



Choose the "Export" button to extract database content into external files as regular text (CSV) or one of the available GIS formats. The export file will include only those data columns set through the "columns" control and the rows of data whose content passes the current query settings.



Where photos are included in the form definition, they can be downloaded into a sub-folder and referenced back to the data row through the filename.

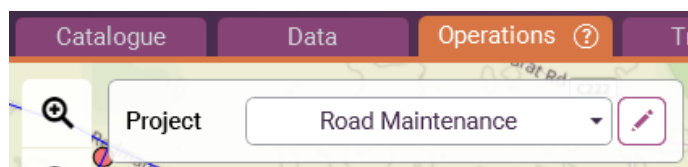
Where data forms constrain data entry to values from look up lists, choose whether to show the codes (Unique value) or the extended descriptions (Display value) in the data file. Refer to the Lists section of the Catalogue Tab to see the combination of unique value and display values for each data list.

## 3.6 Operations Tab

The Operations Tab is used to:

- Dispatch a project to selected field devices
- See data on the map and watch it change dynamically as it is edited in the field
- View and edit spatial and attribute data for an object or create new objects

### Open a Project



Choose a Project from the pull-down list of projects that have been created through the projects section on the catalogue tab. The project map will present, centred in its default location that was defined when the map definition was last saved.

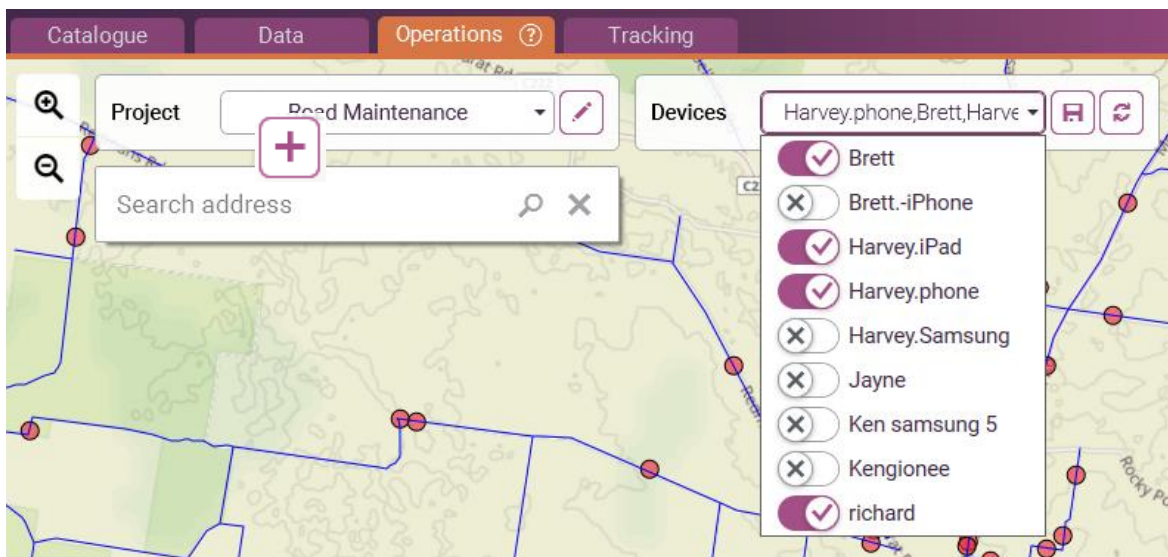


Click the edit button or view or change project details.

### Dispatch a Project

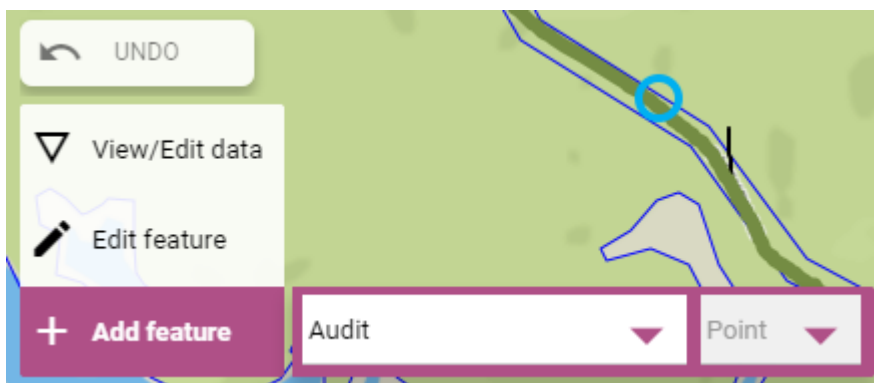
Select the devices to be associated with the project. Open the list of devices attached to your account and select those devices that are to receive the project

Devices will not appear in the device list until they have been registered in your account. Device registration is discussed in the Quick Start section for Konect App



## View, edit and create spatial objects

Choose the appropriate tool to:



- View/Data will open the form for editing the data associated with a map feature.
  - Select this tool and click on the map to choose a feature to edit.
- Edit features allows the individual vertices that define a spatial outline to be moved.
  - Select this tool and click on a map feature to show the individual vertices (nodes) that define the map outline.
  - Select a node and drag to a new position or use the tool buttons to delete a note.
  - Use the delete button on the form to remove a feature from the data set.
  - Click the save button on the form to save the new outline.
- Add a feature allows new items to be drawn directly on the map.
  - Select the feature type to draw from the pick list. This list is controlled through options set in the definition of the form that selected when this dataset was added to the project.
  - Click save on the data form to add the new feature to the Dataset or click delete to remove the new feature.



## 4 The Konect App

The Konect App operates identically on Apple iOS, Android or Windows 10 tablets and smart phones.

### 4.1 Installing the App

Install the Konect App from the Google Play Store (Android), Apple App Store iOS or the Windows 10 App store. Download is free.

Following installation, you will find the Konect icon in your app list.



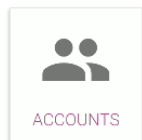
Tap the icon to start Konect.

### 4.2 App Dashboard

Konect will open at the Dashboard. You will not be able to leave the Dashboard until your device has been registered with an Account and you have synched your device with the cloud to receive at least one project that the Account Administrator has authorised you to access.

#### Accounts

Mobile devices need to be granted permission by the Account Administrator to access the database associated with an account. To register with an account:



Tap the Accounts button on the dashboard and add connections to one or more accounts.

Click “ADD NEW CONNECTION” to authenticate against each account that you are permitted to access.

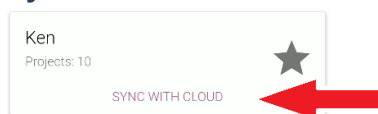
Depending on whether the Account Administrator has chosen simple or advanced security management, either enter the 6 digit Account PIN or the PIN plus your user name and password.

If you have connected to multiple accounts, choose one of these to be your active account.



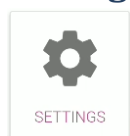
Use the back arrow at the top of the accounts screen to return to the dashboard.

## Sync With Cloud



Click “SYNC WITH CLOUD” on the dashboard to retrieve details of all the Konect projects in your active account that your login is authorised to access.

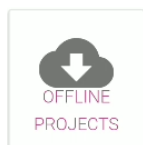
## Settings



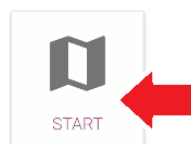
Click the settings button on the dashboard to customise operation.

This is where you control whether the GPS location will be shown on the map, activate GPS tracking and control which buttons appear on the map. See the section below on using GPS in Konect

Camera image quality settings allow images to be downsized to speed up synchronisation and reduce data costs. There are additional support tools at the bottom of the setting screen.



Konect can exchange content with the cloud database dynamically or cache data on the local device for off-line operation. See section 4.4 below for information on using Konect in off-line mode.



Click the START button to open a project map. You will not be able to exit the dashboard unless you have rights to access at least one project. The button will not be available unless you have been granted rights to at least one project and have synched to download that project.

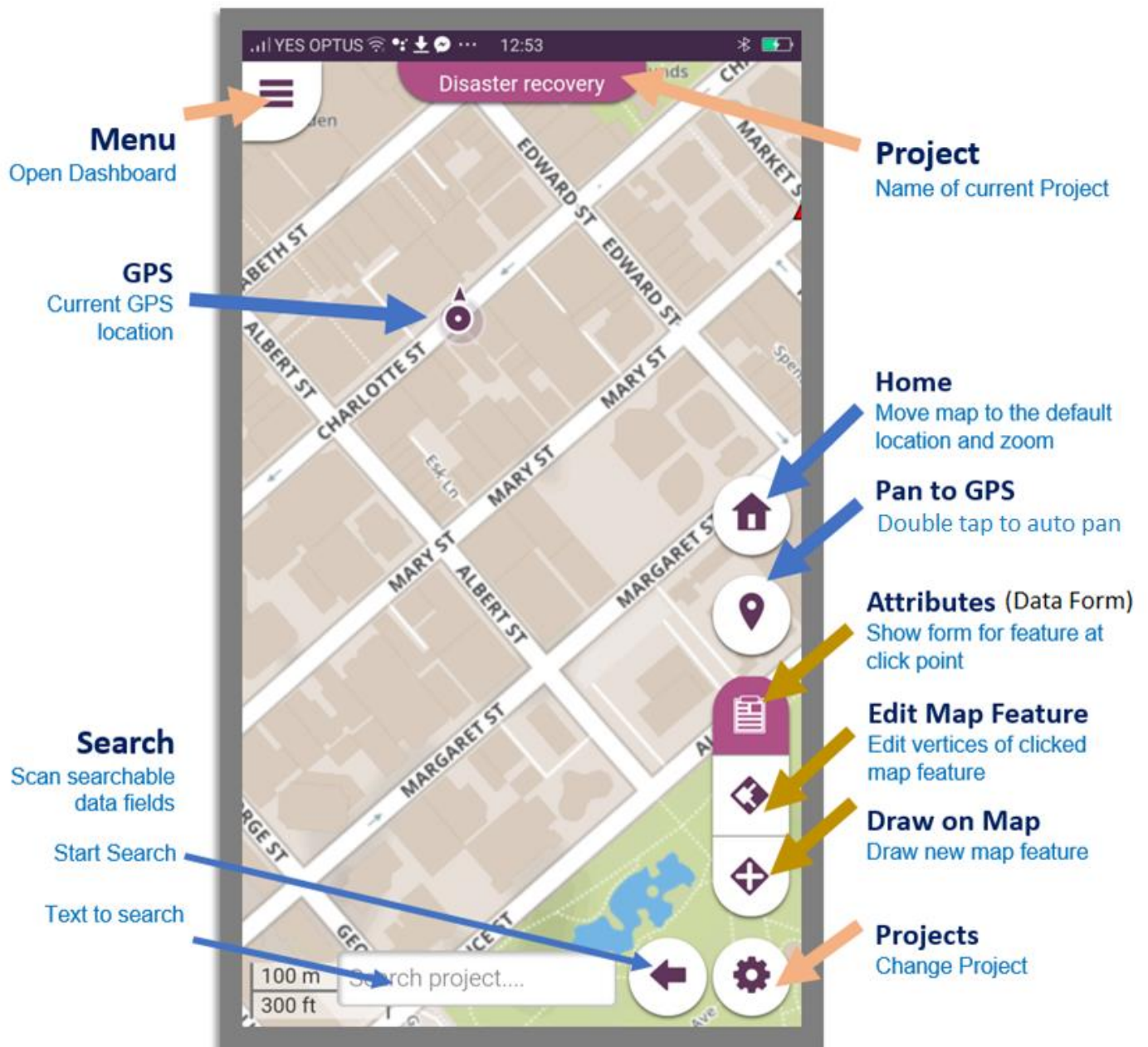
Project are configured through the Konect Manager software by a project administrator. Each project includes the Maps, Datasets, Forms and Business rules that have been set for a specific type of field assignment.

## 4.3 Working with Konect App

### Map Screen



Click the menu bar in the top left of the dashboard to open a project map. This menu button is not active until the Account Administrator has given your device authority to access a project.



Konect presents the map that the Project Administrator has defined for the current project. Tap the Projects button to choose an alternative project from the list of projects in the current account that your device may have been authorised to access.



A device may be permitted to access projects in multiple accounts. If necessary, tap the menu button to return to the dashboard to make a different account active.

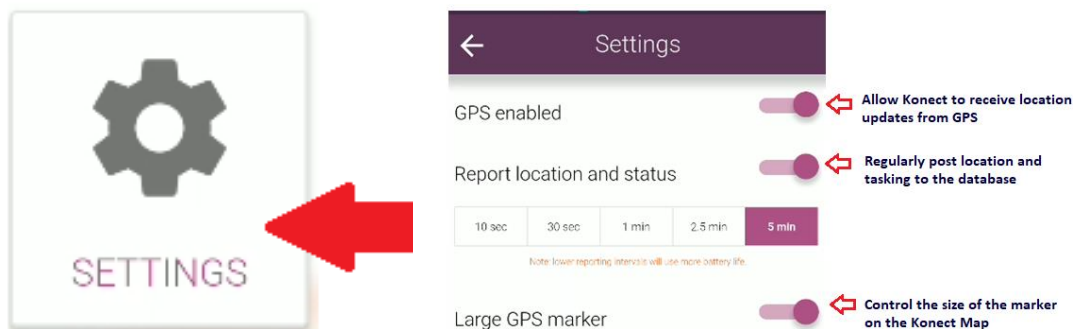


## GPS Location

Konect links into the Location Services sub-system of your device operating system that may use GPS or other mechanisms to estimate your current location. Accuracy will depend on conditions and your device hardware.

Location Services or GPS must be turned on through the Settings controls in your mobile device operating system to allow Konect to receive location updates.

Dashboard settings in Konect control the presentation of location information.



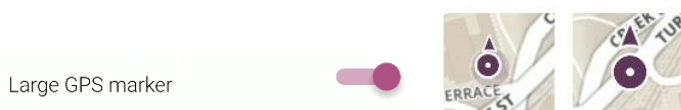
### GPS Map Marker



Enable GPS through the settings button. Once enabled, the current GPS location will be presented on the map.



There is a setting to change the size of the market that is drawn on the map to mark the current location.



### Pan Map to GPS



The Pan to GPS button will appear on the map once GPS is enabled. Single tap to centre the map on the current GPS position

Double tap to automatically pan the map so the current GPS position is always visible

## Status Updates

Report location and status



10 sec	30 sec	1 min	2.5 min	5 min
--------	--------	-------	---------	-------

Note: lower reporting intervals will use more battery life.

When status update reporting is enabled, an additional button will appear on the right edge of the map.

Off duty
On break
Standby
Travel
<b>On task</b>
Special

Tap to choose an operational status. Operational status will be posted to the database with each GPS location update at the time interval chosen on the Konect Settings screen.

When enabled, device location and operating status will be updated regularly on the Tracking tab in Konect Manager.



## Attributes Tool - Open Konect Data Form

Choose the Data Form (attributes) tool and tap on the map. If a map feature under the tap point has an associated data form, the form will open. Data forms and their behaviours are defined in Konect Manager by the administrator who set up your active project.

The first screenshot shows a map with a 'Tap' label and an arrow pointing to a location. The second screenshot shows a list titled 'C- Roads - state data' with a table of road features. The third screenshot shows a data form for 'Property Access 4' with fields for Road, Sub Classification, Defect, and Defect Classification.

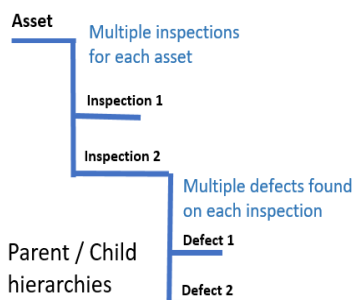
Map	Street	Roadtype
	CAVE ACCESS	400 and Tracks
	KALKANI CHATLER ACCESS	400 and Tracks
	KALKANI CHATLER ACCESS	400 and Tracks
	KALKANI	400 and

The data form for 'Property Access 4' includes the following fields:

- Road: ☒ Road, ☐ Drainage, ☐ Path
- Sub Classification: ☐ Gravel Road, ☒ Sealed Road
- Defect: ☒ Rutting, ☐ Potholes, ☐ Edge breaks, ☐ Shoulder
- Defect Classification: ☐ Potholes >=300mm diameter and/or >=5, ☒ Potholes <300mm diameter or <50mm d

If there are many features under the tap point, a list will be presented. Tap on an item to open the relevant form.

Tap the map icon in the list to highlight the location of the selected feature.



Forms may link together in a hierarchy with multiple child records linked to the parent record and map feature.

Click the “related Items” tab to switch between parent and child data records in a hierarchy.

## Photo



Where a data form is configured to include photos, buttons will be presented for taking a new photo with the in-built camera, or importing an existing image from the photo gallery on the device.

## Image Time Stamping



With Location Services enabled on your device, the device camera will normally write a location into the image metadata. If that information is available, Konect will write it onto white space at the bottom of the image whenever photos are taken from within Konect or imported from the photo gallery on the device.

Three dates will be written on the bottom left of the image if the information is available.

- Imported date is the data the image was added to the Konect form
- Phot date is the date the image was taken
- Annotated date is the date annotations were last added or modified through the Konect image annotation tool.

Dates are recorded in the time zone of the device and an offset between that time zone and UTM time.

## Image Preview

Tap a thumbprint to open the image in fast preview mode or use a long tap to open directly in image annotation mode. In preview mode you map pinch and stretch to zoom the image.

- Swipe left or right to see the previous or next image in a group
- Swipe down to close the image
- Swipe up to enter image annotation mode.



Tapping the EDIT button in preview mode also activates the image annotation tools.



### Image Annotation

In image annotation mode, the top row of buttons activate map zoom and pan along with addition and editing of annotations.



Tap this button to drag the image. Pinch and stretch to zoom in or out. Be sure both fingers are on the image area for zoom operations.



Use these tool buttons to add Arrows, Circles Rectangles, Shapes, Polylines, Squiggles, Text or Symbol annotations.



Tap the annotation editing tool and click on an annotation drawn in this session to move, resize or rotate the annotations. It may be possible to double tap the image to move individual nodes in a drawing object. Tap a colour on the pallet on the right of the screen to change the colour of the active annotation.



To add text, tap the text tool and type. Click the Go button on the keyboard to finish. Text may be moved, rotated and resized. To change the content, delete and retype.

All live annotations can be edited. It will not be possible to edit annotations created in some earlier editions of the software as those annotations will have been fused into the image and are therefore no longer available as separate annotation objects.

Additional action buttons are available at the bottom of the screen.



Tap the APPLY button to fuse annotations to the image and close the annotation session. The annotation time will be automatically stamped onto the white space at the bottom of the image, replacing any earlier annotation date reference.



Tap CANCEL to exit annotation mode without applying the latest edits.

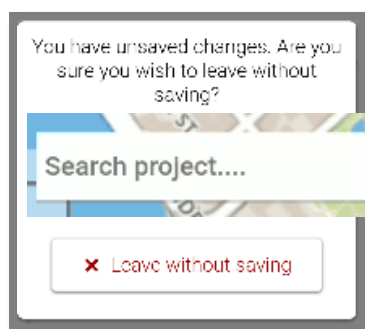
### Navigate to Location



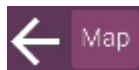
OPEN DIRECTIONS

Tap the tree stacked ellipses at the top right of the form and then select "OPEN DIRECTIONS". The location of the current map feature will be passed directly to the navigation software registered on your device. This will commonly be Google Maps and will give the operator direct access to turn by turn navigation assistance to drive to that location.

### Save Data Edits



Tap the save button at the top of the screen to keep you changes. You will not be permitted to save until all content passes validation and any mandatory data fields (marked with orange stars) have been completed.

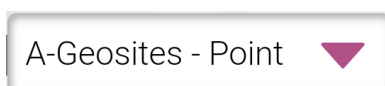


Tap the back arrow to exit without saving.



### **Draw on Map**

Tap the draw button and select an available drawing style from the list. The list of features that can be drawn and their graphical style will have been set by the Project Administrator.



Point objects are defined as a single vertex. Line and Area objects will have multiple vertices. There are four ways to add the vertices that make up a new map feature.

### Simple Tap



Simply tap on the screen to add a new vertex at the tap point. Click save to complete drawing the object.

### Precision Drawing

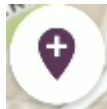
Tap a second time when drawing a feature to drag the vertex to a new location. The vertex location will be offset from the tap point so it can be dragged to an accurate location that is no under the operator's finger on a touch screen. Drag to the required location and let go to lock that location.

### Scrawl



Choose the scrawl button and trace you finger across the screen. Vertices will be added automatically along the scrawl path.

### Draw with GPS



Tap the GPS button to add a vertex at the current GPS location.

### Edit Tools



The Undo, Vertex Delete and Feature Delete tools described in the feature edit section below are also active in feature drawing model.

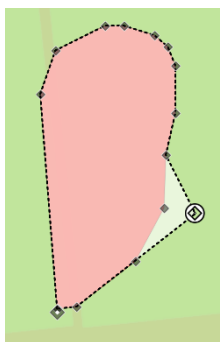
### Save Map Feature



Tap the Save button once drawing has been completed. If the administrator has associated a data form with this feature type, the data form will open automatically.



## Edit Map Feature



Choose the Edit Map Feature tool and tap on the map. If the project administrator allows the geometry of the feature at that location to be edited, the individual vertices that make up the spatial feature will be highlighted.

Once the vertices are displayed, drag individual vertices to their new location. The position of the vertex being edited will be displaced so it is not directly under your finger if you are working on a touch screen.

Use the six tool buttons on the left of the screen to complete your map editing.



### Save

Save drawing and open form for data entry



### Draw at GPS

Add a drawing vertex at the current GPS Location



### Undo

Undo last change



### Delete

Delete the current map object entirely



### Vertex Delete

Delete the selected vertex



### Scrawl

Draw continuously on the map

## Data Search

Type text into the search box and click the magnifying glass.

Debris Collections		
Map	Status	Status Date
	Removal completed	Tue, Mar 8th 2016
	Removal completed	Wed, Nov 2nd 2016
	Removal completed	Tue, Oct 20th 2015

Konect will match the search string with text in all the data fields that the Project Administrator marked as being searchable.

Tap an item in the list to open the form. Tap the Map icon to highlight the map location of that feature.

Searching works on text fields and only on those data fields that have been tagged as being searchable in the dataset definition. Search is not case sensitive.

## 4.4 Working Offline



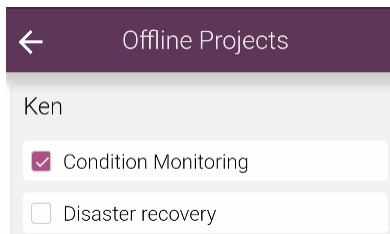
Konect normally reads data from the cloud database as it is needed. Additional data increments are retrieved as the map pans to each new area. Edits are shared with the cloud database instantly.

When a project is tagged for off-line operation, the entire dataset is downloaded immediately and cached on the device. With an off-line project, field crews can keep working even when outside the area of telecommunications coverage.

Most projects employ raster image tiles as map underlays and draw datasets, or vector data, on top of the map tiles. As map tiles cannot be read dynamically from a map server when a device is off-line, tiles in the operating area need to be downloaded into a local database and stored on the device.

A number of software products including MOVAC, ESRI and Tile Mill can be used to cache raster maps in a MB Tile file. MB tile files can be uploaded through the import/export tab of Konect Manager and chosen as the background map when a project is defined in the Catalogue/Data Sets tab of Konect Manager.

If you tag a project with a map that is built on an MB Tiles file background, the whole of the MB tiles file will be automatically downloaded and stored on the device when you tag the project for off-line operation.



In this example, the Condition Monitoring project is tagged for offline operation while the Disaster recovery project will transact directly with the cloud database and will only work when connectivity is available.

With an off-line project, you will need to click “sync with cloud” to upload your local edits into the cloud database and retrieve data updates from the cloud. The cache of map tiles will remain on the device until you choose to remove them by un-tagging the project on the off-line projects screen.

There is no need to remove an offline project to update content. Simply click “SYNC WITH CLOUD” when communications are available.

## 5 Konect Extensions

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A number of separately priced extensions are available for Konect users. These Include:

### [Report Writer Extension](#)

The Konect cloud database is fully integrated with the Jasper reporting engine that runs on the same AWS cloud infrastructure as Konect. Custom reports integrating text and graphics can be created on demand directly from the Konect database.

Integration with customers' in preferred business intelligence or reporting toolkits are developed on demand.

### [Automated Data Import and Data Export toolkit](#)

These utilities run on the customer's computer network and either poll Konect on a regular basis to update a local copy of Konect data or directly update the Konect database from local files or databases.

### [Custom Integrations](#)

Our consultants can directly integrate the Konect database with external business systems to implement corporate wide electronic workflows that span multiple business applications.

### [Integration Toolkits](#)

An Application Programmes Interface can be made available to senior developers if required.

### [Asset System Integrations](#)

Asset System integrations are normally completed in partnership with domain specialist familiar with the target asset system. Interfaces are typically provided to exchange Work Orders, Work Requests and Asset information.

These automated interfaces allow the Asset system becomes the primary point of truth for assets and works and financial information and Konect extends the reach of those systems into the field.

Additional extensions are constantly under development. Refer to the Konect Roadmap and contact your Konect Reseller for more information.