

# AgriCision



**onTrak**  
by AgriCision

## GPS Tractor Guidance System

### User Guide

## **Copyright**

The information contained in this document is the property of AgriCision Ltd. and is supplied without liability for errors and omissions. No part of this document may be reproduced or used except as authorized by contract or other written permission from AgriCision Ltd. The copyright and all restrictions on reproduction and use apply to all media in which this information may be placed.

AgriCision Ltd. pursues a policy of continual product improvement and reserves the right to alter without notice the specification, design, price or conditions of supply of any product or service.

iPad® and iPhone® are trademarks of Apple Inc., registered in the U.S. and other countries.

Google Earth is a registered trademark of Google LLC

© AgriCision Ltd 2018

AgriCision Limited  
Applehouse Farm  
Burchetts Green  
Maidenhead  
Berks SL66QP  
United Kingdom

Publication Number 100901  
Issue 2  
July 2018

All rights reserved

## **Warranty**

The onTrak device is warranted for one year from date of purchase. In the event of failure due to faulty materials or workmanship it will be replaced or repaired free of charge. Please contact AgriCision Ltd for return instructions.


This warranty does not extend to accidental damage or faults caused by fair wear and tear or by water ingress due to misuse.

The battery, in common with all rechargeable batteries, has a finite life, and will not be replaced under warranty if it has reached the end of its normal life. However, provided that it has not been misused, the battery is covered by the warranty if it has failed to deliver the expected life due to faulty manufacture.

## Contents

1	Introduction to the onTrak system .....	3
2	Introduction to the onTrak device.....	3
2.1	External features of the onTrak device.....	3
2.2	Installation of the onTrak device.....	6
3	Introduction to the onTrak app .....	7
3.1	Features of the onTrak app (iPad®).....	9
3.1.1	iPad® Home screen .....	9
3.1.2	iPad® Settings screen .....	10
3.2	Features of the onTrak app (iPhone®).....	11
3.2.1	iPhone® Home screen .....	11
3.2.2	iPhone Main menu.....	12
3.2.3	iPhone Settings screen.....	13
4	Using the onTrak system.....	14
4.1	Getting Started.....	14
4.2	Implement Settings.....	15
4.2.1	Setting the Implement Width .....	15
4.2.2	Setting the Side Offset.....	16
4.2.3	Setting the Rear Offset .....	17
4.3	Setting an A/B line .....	18
4.4	Recording the field boundary .....	19
4.5	Recording the work done .....	20
4.6	The Aerial View .....	21
4.7	Saving and opening fields.....	22
4.8	onTrak.Cloud.....	23
4.8.1	Using onTrak.Cloud with a new device .....	23
4.8.2	Using field data with onTrak.Cloud.....	24
4.8.3	Privacy.....	24
4.9	Using the simulator.....	25
4.10	Using the Demo onTrak device .....	25
4.11	Updating the software .....	25
5	Specification.....	26

**Wherever you see this symbol**



**you can click on it for more information.**

(Use Alt + ⇐ to go back)

## 1 Introduction to the onTrak system

The onTrak Global Positioning System (GPS) tractor guidance system by AgriCision is a cost-effective and simple to use solution to assist a driver to steer his tractor on the correct line for optimum efficiency and to record details of the field and work done. It consists of the onTrak device, which is a self-contained unit placed on the tractor bonnet in the driver's line of sight and requiring no wiring, together with an app that runs in an iPad® or iPhone® ("iDevice").

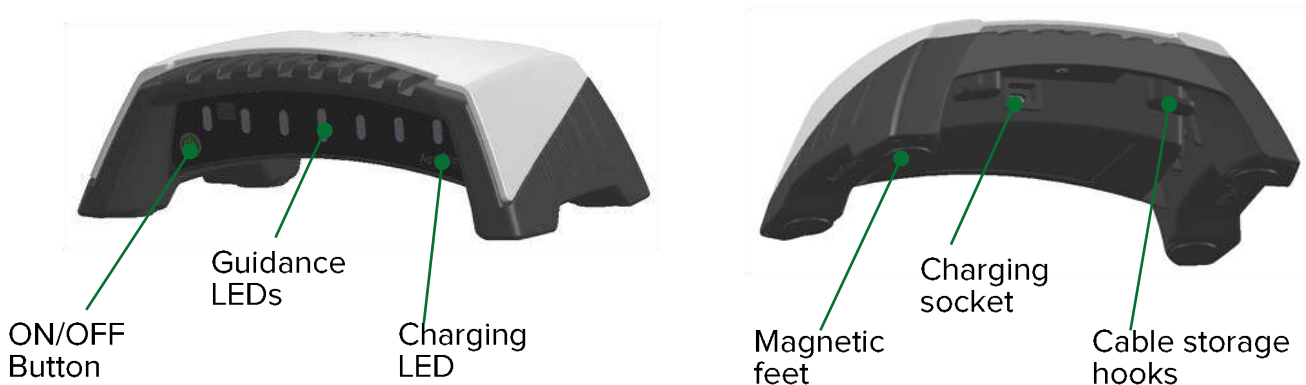
The onTrak device and the iDevice connect automatically using Bluetooth Low Energy (BLE). Once they are connected, and the user has input basic settings into the app, such as implement width, the principle of operation is that the onTrak device knows its location, using GPS, and its heading, using a combination of GPS and its integrated gyroscope, and the app knows the correct line that the tractor should be following. The onTrak device sends its position and heading data to the app, which compares them with its optimum data and calculates any corrections that may be required. It sends instructions to the onTrak device to illuminate Light Emitting Diodes (LEDs) to show the driver the steering corrections needed.

No other system components are required apart from the onTrak device and the iDevice. No GPS subscription service is required to achieve the specified accuracy. No Internet or phone connection is required for the app to operate.

## 2 Introduction to the onTrak device

The onTrak device contains the GPS receiver, inertial and magnetic sensors, guidance LEDs, a BLE radio for communicating with the iDevice, and a rechargeable battery, all housed in a waterproof case which can be attached to the tractor bonnet.

### 2.1 External features of the onTrak device



- ⊕ ON/OFF Button. Press to switch the device ON. Press again to switch OFF.
- ⊕ Guidance LEDs. These indicate to the driver whether the tractor is on track or whether any course corrections are needed. The green centre LED also indicates Bluetooth status.

The meanings of the various indications are as follows:



Switched off



(Centre green LED Flashing) -  
The device is searching for a Bluetooth connection to the app



The device is connected to the app via Bluetooth. No A/B line has been set



The machine is on track - no course correction is required



A small course correction to the right is required. A short nudge on the steering should be enough to correct the error. Don't continue steering until the green light shows - you will probably overshoot.



A large course correction to the right is required



A course correction to the left is required



Firmware update is in progress ►

- ⊕ Charging LED. This indicates when the charger is connected and when the battery is charging.

**NOTE.**

It is recommended that the device should be switched off and its battery recharged after work. The device is not designed to be used while on charge.

The meanings of the various indications are as follows:



Charger not connected



Charging is in progress. Time to recharge a completely empty battery is approximately 5 hours. (There is no need to disconnect the charger when charging is complete. No damage will be done if the device is left on charge continuously.)



Charging is complete (with the device switched off). (With the device switched on, and the charger connected, the Charging LED stays orange even when the battery is full. Use the device battery indication in the app to determine when the battery is full.)

- ⊕ Magnetic feet. These are used to attach the device to the tractor bonnet. Keep the feet clean, and do not slide them across the bonnet, in order to avoid damaging the tractor's paintwork. If the bonnet is not made of steel, the self-adhesive steel discs supplied can be used. Follow the instructions on the template supplied.
- ⊕ Charging socket. This is located under a waterproof cover. Be sure to replace the cover when no cable is connected, in order to prevent water and dust from penetrating the waterproof compartment. Use the USB cable supplied to connect the device to any USB mains charger (for example the one used to charge the iDevice) or cigar lighter adapter. Be careful to plug the cable into the socket the right way round to prevent damage.
- ⊕ Cable storage hooks. These can be used to store the charging cable if required.

## 2.2 Installation of the onTrak device

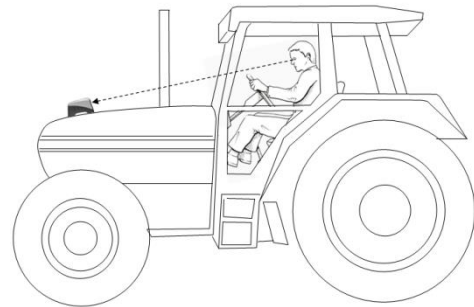
A major benefit of the AgriCision system over other systems is that the guidance indication is positioned in the driver's line of sight and at a comfortable distance from his eyes. Staring at other in-cab displays, and frequently changing from close focus to distant focus, leads to driver fatigue, but the onTrak is positioned so that the driver does not need to look away from the area where he should be concentrating, i.e. where he is going, to be able to see and follow the guidance indications.

Additional benefits of having the GPS receiver on the bonnet of the tractor rather than on the roof include:

- ⊕ Easy swapping from tractor to tractor - the device can be reached from the ground without the need for a ladder.
- ⊕ Increased sensitivity to off-course errors - the front of the tractor is the first part to deviate from the correct line and the GPS receiver can sense any errors, and the system can generate correction responses, a fraction of a second earlier.
- ⊕ Reduced sensitivity to terrain fluctuations - the lower the GPS receiver is above the ground the less is the influence of pitch and roll of the tractor on sloping ground.
- ⊕ Reduced vulnerability to damage from overhanging trees etc.

In order for the GPS receiver to have a clear view of the sky, it should be placed as far away from the tractor cab as possible.

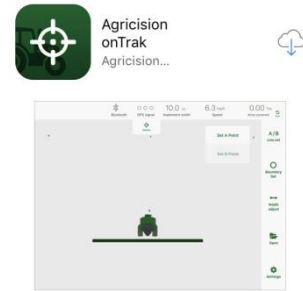
The onTrak device should therefore be placed on the end of the tractor bonnet, on the centre-line of the tractor, using the slope of the bonnet to adjust the angle of the device so that the front panel is facing directly towards the driver.



Once the onTrak device has been installed and switched on, after an LED test sequence it automatically starts searching for the app running in the iDevice and needs no further adjustments.

## 3 Introduction to the onTrak app

The onTrak app for iPhone® / iPad® is a free app available from the Apple App Store. Just search the store for "agricision ontrak" and download the app.



Visit the store regularly for updates to the app containing important improvements and enhancements. ►



Launch the app by tapping the icon on the Home screen of the iDevice.

The first time the app is launched, some key points about its operation are displayed.

The iDevice should be carried inside the tractor cab. After initial setting it does not need to be visible to the driver, but mounting it in a place where it can be seen and controlled is helpful, especially when turning at the headlands.

### NOTE: Close the app!

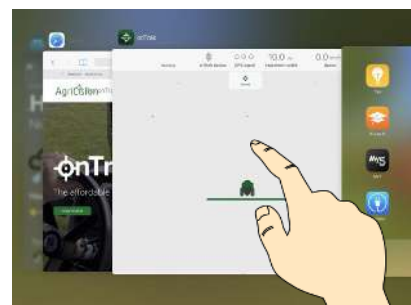
It is important to close the app when you have finished using it. (Simply tapping the Home button just removes it from the screen but does not close it completely.)

This is because:

- ⊕ While it is open, the app continues to use system resources, including memory and battery power, even if it is not connected to an onTrak device.
- ⊕ After being disconnected from a device, the app continues to search for one. However, after a long period of disconnection, the app abandons the search and will not then find an onTrak device again until it has been closed and re-launched.

To close the app:

- ⊕ Double-tap the Home button on the iDevice. All of the open apps will be displayed, arranged like a pack of cards.
- ⊕ Find the onTrak app and swipe it up to the top of the screen until it disappears.



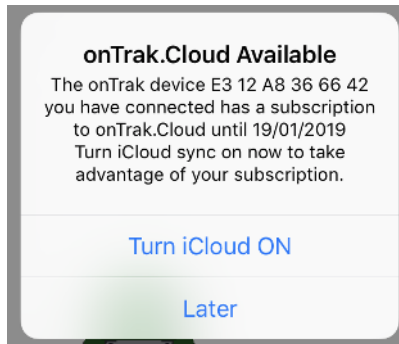
As soon as the app is launched, it automatically searches for any onTrak device within range, and connects to the first one it finds (if there are more than one). The app and the onTrak device are then exclusively paired together and will not connect to any other Bluetooth devices. (This does not prevent other apps in the iDevice from connecting to other types of device. For example, an iPhone® can be connected to a Bluetooth headset and used to make and receive calls while simultaneously running the onTrak app connected to the onTrak device.)

If the app and the onTrak device fail to connect automatically within a few seconds, this could be caused by:

- ⊕ One of them is already connected to another onTrak app / device
- ⊕ The app needs to be closed and relaunched ►



The following message invites you to take advantage of AgriCision's onTrak.Cloud service. This service can have important benefits for your farm business, and we strongly recommend that you look at section 4.8 and follow the instructions to enable it.



Otherwise tap [Later](#) (You will have another opportunity to use the service later on.)

## 3.1 Features of the onTrak app (iPad®)

### 3.1.1 iPad® Home screen

The top bar contains information about the system and the current field operation:

The screenshot shows the onTrak app interface. At the top, a status bar displays: 'Croxford's 0.49 ha', 'onTrak device' (with Bluetooth icon), 'GPS signal' (with 8 satellites icon), '12.0 m Implement width', '2.6 mph Speed', and '0.01 ha Area covered'. Below this is a field view with a tractor icon and a green active guidance line. A side bar on the right contains controls: 'A/B Line set', 'Boundary set', 'Implement set', 'Open', and 'Settings'. A 'Centre' button is located in the top center of the field view.

**Name and area of the current field** ▶

**Status of the onTrak device:**  
 \* indicates Bluetooth connected  
 84% indicates battery level

**Status of the GPS signal:**  
 ●●● indicates 8 or more satellites in use (good fix)

**Implement width in use** ▶

**Current speed**

**Total area covered while recording has been switched on** ▶

**The side bar contains controls:**

- Tap to reset the area recorded
- Tap to display or hide the A/B line setting controls ▶
- Tap to display or hide the Boundary setting controls ▶
- Tap to display the implement setting controls ▶
- Tap to open a previously saved field ▶
- Tap to go to the Settings screen ▶

**Inactive guidance lines.** Simply drive close to any line to make it the active line

**Active guidance line:**  
 The line nearest the tractor automatically becomes the active line.

**Implement:**  
 — indicates recording is switched on  
 — indicates recording is switched off

**Recorded area:**  
 Tap anywhere in the field area to switch recording on/off ▶

**Centre:**  
 Tap to adjust all of the guidance lines to bring the active line into the centre of the implement

**Zoom:**

At any time the field view can be zoomed using the normal "pinch in / out" gestures

### 3.1.2 iPad® Settings screen

**Back:**  
Tap to apply the new settings and return to the Home screen

**Simulation mode:**  
Tap to switch on/off a simulator to exercise the app ►

**Demo onTrak device:**  
Tap to switch on/off a graphic of the onTrak device on the Home screen ►

**Area units:**  
Set the units used to measure field size and area covered

**Speed units:**  
Set the units used to measure speed

**Guidance sensitivity:**  
Slide the control left to reduce the sensitivity (for novice users)  
Slide the control right to increase the precision (for experienced users)

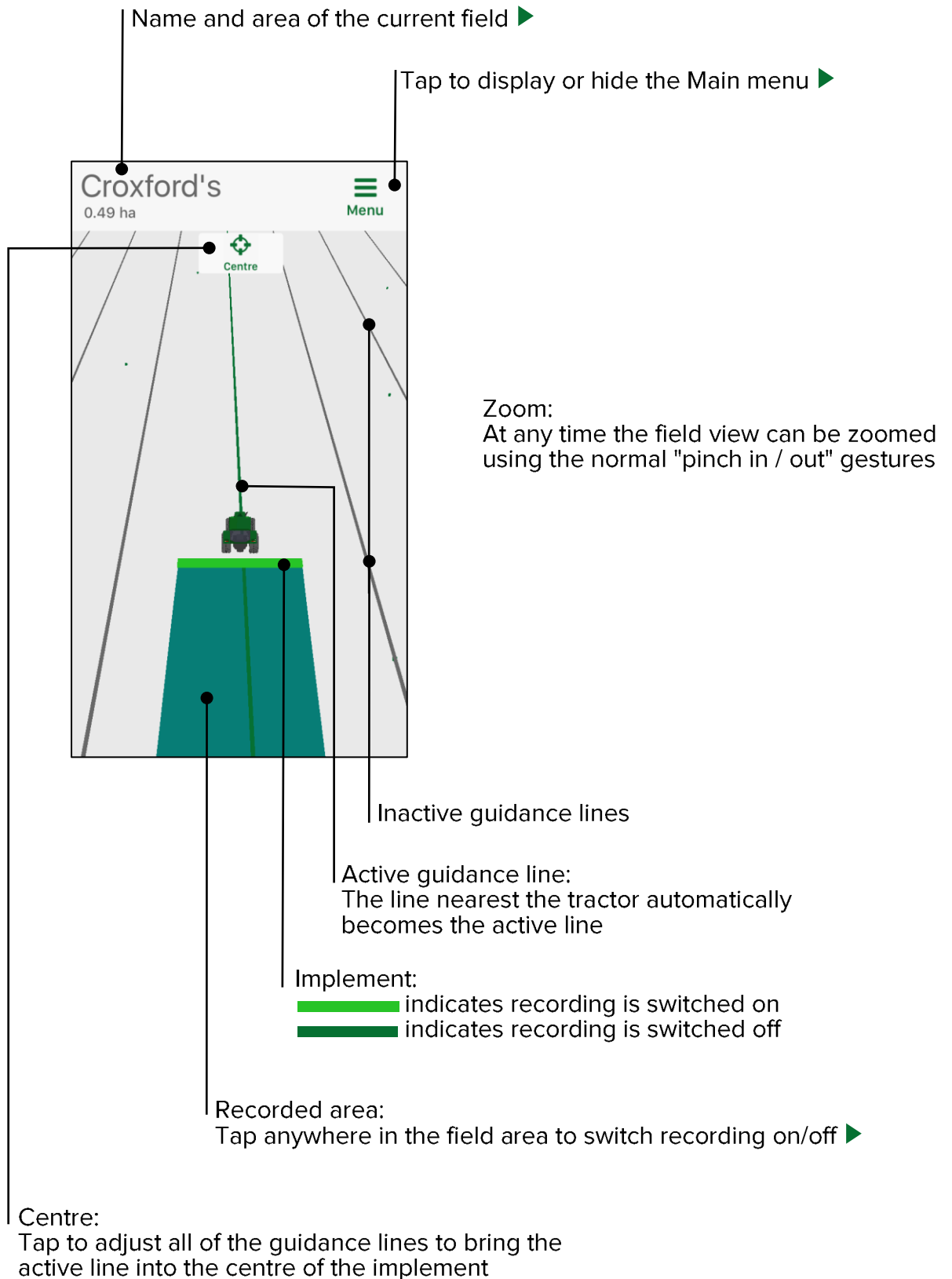
**LED brightness:**  
Set to Dim for working in low light conditions.  
Set to Bright for normal daytime conditions

**iCloud sync:**  
Switch ON to enable the onTrak.Cloud service (see section 4.8)

**Connected device information:**  
Firmware version / MAC address

## 3.2 Features of the onTrak app (iPhone®)

### 3.2.1 iPhone® Home screen



## 3.2.2 iPhone Main menu

The screenshot shows the main menu of the onTrak application on an iPhone. The menu items are as follows:

- onTrak device**: Shows Bluetooth status (connected) and battery level (84%).
- GPS signal**: Shows the status of the GPS signal, indicated by three dots representing 8 or more satellites in use (good fix).
- Implement width**: Shows the current implement width in use (6.0 ...).
- Speed**: Shows the current speed (3.1 mph).
- Area covered**: Shows the total area covered while recording has been switched on (1.95 ac). A 'Reset' button is visible next to the area value.
- A/B Line set**: Tap to display or hide the A/B line setting controls.
- Boundary Set**: Tap to display or hide the Boundary setting controls.
- Implement set**: Tap to display the implement setting controls.
- Open**: Tap to open a previously saved field.
- Settings**: Tap to go to the Settings screen.

Additional callouts explain the status indicators:

- Status of the onTrak device:**
  - Bluetooth icon indicates Bluetooth connected.
  - Battery icon indicates battery level (84%).
- Status of the GPS signal:**
  - Three dots indicates 8 or more satellites in use (good fix).

### 3.2.3 iPhone Settings screen

The screenshot shows the iPhone Settings screen for the onTrak application. The settings are as follows:

- Back:** Tap to apply the new settings and return to the Home screen.
- Simulation mode:** Tap to switch on/off a simulator to exercise the app.
- On-screen onTrak device:** Tap to switch on/off a graphic of the onTrak device on the Home screen.
- Area units:** Set the units used to measure field size and area covered. Options: Ha, acres.
- Speed units:** Set the units used to measure speed. Options: km/h, mph.
- Guidance sensitivity:** Slide the control left to reduce the sensitivity. Slide the control right to increase the precision.
- LED brightness:** Set to Dim for working in low light conditions. Set to Bright for normal daytime conditions.
- iCloud sync:** Switch ON to enable the onTrak.Cloud service (see section 4.8).
- onTrak Device Connected:** Connected device information: Firmware version / MAC address. (Firmware Version 6.8 E3 12 A8 36 66 42)
- Footer:** Agricision-Limited.OnTrak Version 3.1. For user guide, help and general enquiries visit [www.agricision.co.uk](http://www.agricision.co.uk)

## 4 Using the onTrak system

### 4.1 Getting Started

These simple steps are all that is required to use the onTrak system for basic guidance:

- ⊕ Switch on the onTrak device and place it on the tractor bonnet ►
- ⊕ Launch the onTrak app on the iDevice ►
- ⊕ Set the implement width ►
- ⊕ Wait for the screen and the green centre LED on the device to indicate that the app and the device are connected ►
- ⊕ Wait for the screen to indicate that there is a suitable GPS signal ►
- ⊕ Set the A/B line ►
- ⊕ Follow the guidance LEDs ►

## 4.2 Implement Settings

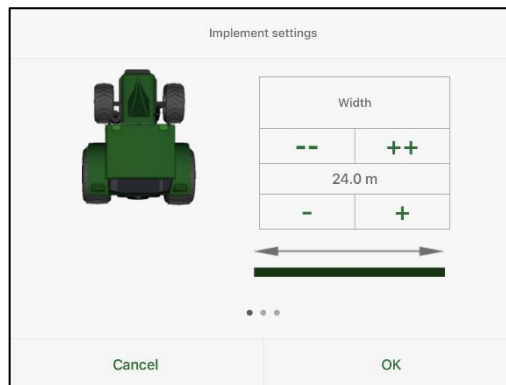
### 4.2.1 Setting the Implement Width

The implement width is a basic setting of the onTrak system. It is used to:

- ⊕ Determine the spacing between the guidance lines
- ⊕ Calculate the area covered while recording
- ⊕ Mark the outside of the field when recording the boundary

To set the implement width:

- ⊕ Tap **Implement set** in the main menu to show the implement settings. The first setting displayed is the implement width control:



- ⊕ Tap **--** to reduce the width in 1 metre steps
- ⊕ Tap **-** to reduce the width in 10 centimetre steps
- ⊕ Tap **++** to increase the width in 1 metre steps
- ⊕ Tap **+** to increase the width in 10 centimetre steps
- ⊕ Tap **OK** to confirm the new width setting or
- ⊕ Tap **Cancel** to exit without saving


The implement width can be changed at any time without affecting the recorded data. When the width is changed, the guidance lines move to the new spacing. Only the A/B line remains where it was.

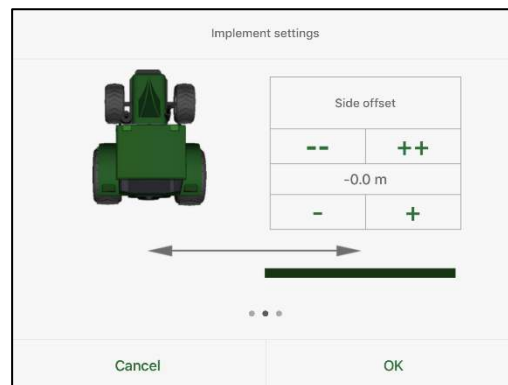


## 4.2.2 Setting the Side Offset

The side offset can be used to set the distance from the centre line of the tractor to the centre line of the implement. It is used for example when the implement is an offset mower or a side-discharge muck spreader. This setting does not affect the guidance function of onTrak, because guidance is always aligned to the centre line of the tractor - it only affects where the recorded area appears relative to the tractor.

To set the Side Offset:

- Tap  in the main menu to show the implement width setting, then swipe the width setting to the left to display the side offset control:




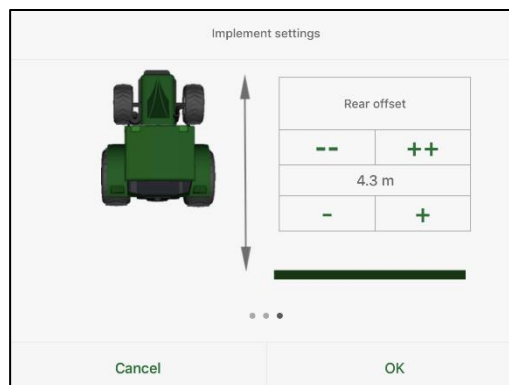
- Use the controls to adjust the side offset as for the implement width
- Positive settings represent offset to the right of the tractor. Negative settings represent offset to the left. If the implement is directly in line with the tractor, set the side offset to zero.

## 4.2.3 Setting the Rear Offset

The rear offset can be used to set the distance from the point on the bonnet of the tractor where the onTrak device is fitted, to the working line of the implement. It is used for example for spraying or spreading, when the working area may be a long way behind the tractor and it is important to record the covered area in the correct position relative to the GPS location of the onTrak. It is also important if the onTrak screen is used to judge when to start / stop the implement when crossing the headland mark.

To set the rear Offset:

- 
 Tap **Implement set** in the main menu to show the implement width setting, then swipe the width and side offset settings to the left to display the rear offset control:



- Use the controls to adjust the rear offset as for the implement width
- Positive settings represent offset to the rear of the tractor bonnet. Negative settings represent offset to the front. The default value of 4 metres represents a typical distance from the bonnet-mounted onTrak to an implement mounted on the 3-point linkage.

With some implements, for example sprayers or single mowers, it is quite clear where the working line is, and the rear offset can be set accordingly. But for spreaders there is no distinct line, and the spread pattern should be assessed to estimate the average rear offset. And for some implements, for example front/side or triple mowers, there may be more than one working line and a position mid-way between them should be used.

## 4.3 Setting an A/B line

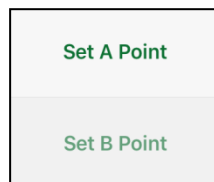
The A/B line is a basic concept of the onTrak system:

- ✦ The A/B line is the reference line from which all of the guidance lines are positioned, spaced out parallel to the A/B line at the implement width.
- ✦ You can create an A/B line wherever you like in the field, but normally you will choose a line parallel to the longest straight section of the field boundary.
- ✦ You can set the A/B line at the same time as recording the boundary if you want to.
- ✦ You can record the work done at the same time as setting the A/B line if you want to.

To set the A/B line:

**A/B**

- ✦ Tap **Line set** to show the A/B line setting controls:



- ✦ Start driving across the field along the line where you want the A/B line to go.
- ✦ Tap **Set A Point**. The A point is marked on the screen **A**.
- ✦ Continue driving along the chosen line until you have nearly reached the headland
- ✦ Tap **Set B Point**. The B point is marked on the screen **B**.
- ✦ The guidance lines are shown on the screen, spaced out at the implement width, with the tractor on the green centre line.
- ✦ The centre green guidance LED lights brightly to indicate that you are on track. Follow the guidance LEDs to stay on track.


## 4.4 Recording the field boundary

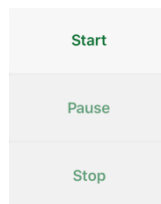
The onTrak system does not use the field boundary for guidance, and it is optional whether you wish to record the boundary or not.


The field boundary can be used to:

- ✦ Measure the area of the field
- ✦ Show a headland mark on the screen to tell you when to put the implement in and out of work ►

To record the field boundary:

- ✦ Tap  to show the boundary setting controls:




- ✦ Drive to a point half an implement width from the edge of the field
- ✦ Tap **Start**. The start of the boundary is marked on the screen 
  - (If you want to show the headland on the screen, for later use as a headland mark, or if you want to record the work done, switch on the recording by tapping anywhere in the field area ►)
- ✦ Drive round the boundary, in either direction, keeping the centre of the tractor half an implement width away from the edge of the field.
  - (If you want the A/B line to be parallel to part of the boundary, you can set it at any time as normal ►)
  - (At any point you can tap **Pause** to suspend the recording temporarily, for example to avoid an obstacle or to fill up with fertiliser or spray. Tap **Resume** when you want to continue recording.)
- ✦ When you have nearly got back to the point where you started, tap **Stop**. The boundary line is automatically completed, and the outer line is automatically used to calculate the field area, which is then shown at the top left of the screen.

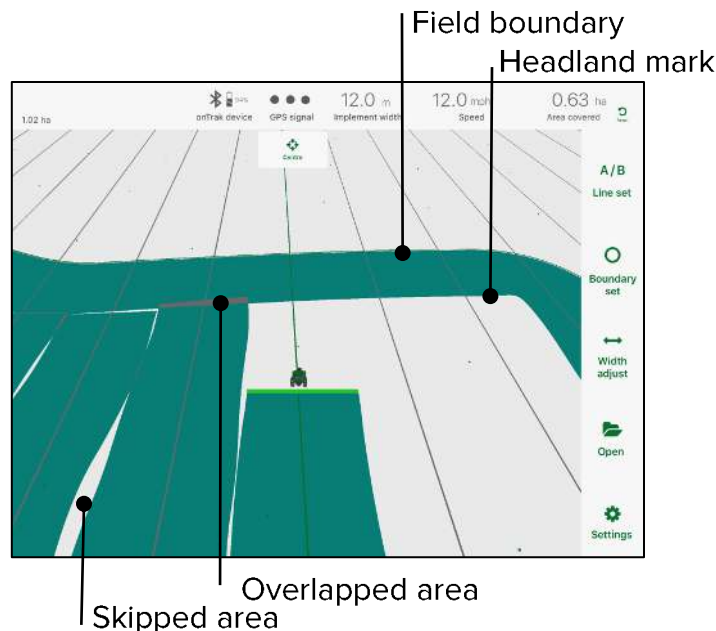
## 4.5 Recording the work done

Recording the work done can be very useful for:

- ⊕ Keeping field records ▶
- ⊕ Checking application rates
- ⊕ Providing evidence to clients ▶
- ⊕ Providing evidence to authorities of compliance with regulations (eg NVZ) ▶
- ⊕ Making a headland mark

To use the recording feature:

- ⊕ Tap the Home screen anywhere in the main field area to switch the recording on / off.
- ⊕ While recording, the implement bar colour changes to a light green.
- ⊕ While recording, the area behind the implement is coloured blue to show the work done.
- ⊕ Areas between recorded strips that have not been covered ("skips") are shown in white.
- ⊕ Areas that have been covered more than once ("overlaps") are shown in darker blue
- ⊕ The total area worked is shown at the top right of the screen.
- ⊕ Tap  to clear the recorded area from the screen and to reset the area covered to zero.



### NOTE

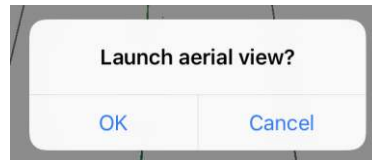
Recording is only possible when driving forwards. When reversing, recording is automatically paused until driving forwards again. If you are driving forwards, but the onTrak incorrectly shows that you are reversing, correct this error state by tapping the screen to start recording.

To export the recording in order to save a permanent record:

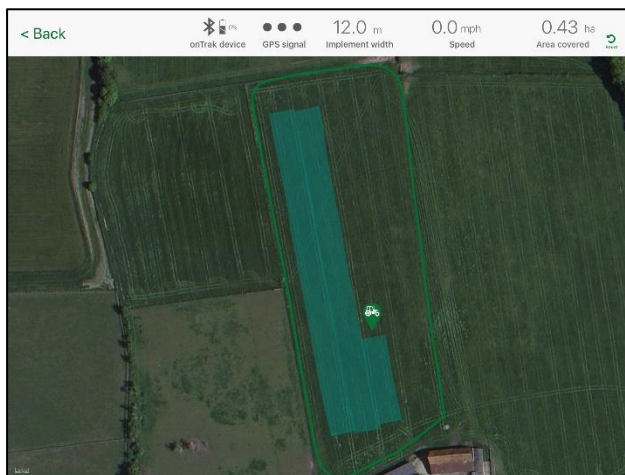
- ⊕ Zoom the screen to display the whole field or area required ►
- ⊕ Capture a screenshot (Press the Power button and the Home button simultaneously) and save / send it as required.

## 4.6 The Aerial View

Zooming fully out will cause the following message to be displayed:



Tap OK to display a satellite view of the current location:



- ⊕ The tractor symbol shows the current location of the onTrak. Tap the tractor symbol to display its Latitude and Longitude. This is continuously updated while in aerial view.
- ⊕ The green line shows the recorded boundary (if any).
- ⊕ The blue shaded area shows the recorded coverage (if any) at the time the aerial view was launched (not continuously updated while in aerial view).
- ⊕ The view can be zoomed and panned using normal screen gestures.

To make a permanent record, capture a screenshot (Press the Power button and the Home button simultaneously) and save / send it as required.

### NOTE

The satellite view is only available when the iDevice has Internet access. If no Internet access is available in the field, the satellite view can be displayed later when the iDevice next connects to a Wi-Fi or data network.

## 4.7 Saving and opening fields






At any time, but normally when you have finished a field, the field data can be saved for later use. Data stored can include:

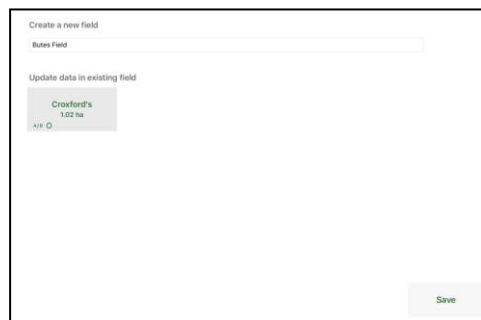
- ⊕ Field boundary
- ⊕ A/B line


To save field data:

- ⊕ Tap  or  to start the next field. The saving controls are displayed:




- ⊕ Tap  to continue.
  - (Tap  to quit the field without saving, or  to go back.)
- ⊕ The screen shows a list of the previously saved fields. Each field record shows the data that it contains - A/B line  and/or Boundary .



- ⊕ Tap **Update data in existing field** to merge the new field data with that already saved, or **Create a new field** to make a new record.
- ⊕ Tap  to save the new data

To open or delete a previously saved field:

- ⊕ Tap  **Open** in the main menu. The fields are listed with the nearest ones to your current location automatically recognised.
- ⊕ Tap the required field. The guidance lines are calculated from the saved A/B line and the current implement width.
- ⊕ To delete a field, touch and hold any field. When released, all of the field icons wobble. Tap the X that appears in the top right of the field that you want to delete.

To refresh the field list, swipe down the screen.

## 4.8 onTrak.Cloud

onTrak.Cloud is a data storage service provided by Agricision Ltd. It allows you to:

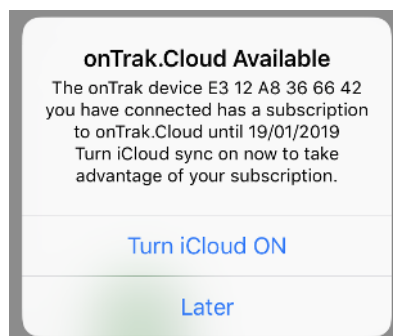
- ✦ Store your saved field data, from any onTrak device that is registered to you, in your own iCloud account
- ✦ Open any field on any of your devices
- ✦ View and use your field data in many computer applications like Google Earth and Gatekeeper.
- ✦ Create fields in your computer (using Google Earth for example) and then open them in any of your onTrak systems

onTrak.Cloud is an optional subscription service. Every new onTrak device comes with a free of charge time-limited subscription. During the trial period, all of the onTrak.Cloud facilities are available. At the end of the trial period please contact Agricision Ltd to purchase a full subscription. If you decide not to purchase a subscription, the data that you saved to your account during the trial period will be retained in your account and you will be able to access it, but you will not be able to add new field data from your onTrak device.

### 4.8.1 Using onTrak.Cloud with a new device

In order to use onTrak.Cloud with a particular onTrak device, the device's unique identification number (MAC address) has to be registered to your account. This registration happens automatically when the onTrak device connects to the app for the first time. Internet access is required for this registration and we recommend that you connect your device for the first time while you are connected to a Wi-Fi or data network.

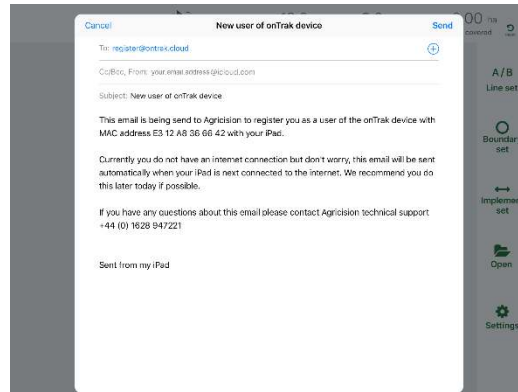
If the iDevice has Internet access when the app connects to a new onTrak device, the following message is displayed:



If you want to take advantage of the onTrak.Cloud service, tap **Turn iCloud ON**. This causes your iDevice to be synchronised to your iCloud account and your new onTrak device to be registered. (If you tap **Later** you can turn iCloud on at any time in the Settings menu - see section 3.1.2 / 3.2.3)

If the iDevice has no Internet access when the app connects to a new onTrak device, an email will be prepared and will be sent to Agricision later when the iDevice next connects to a Wi-Fi or data network:





Tap **Send** to continue with the registration process.

### 4.8.2 Using field data with onTrak.Cloud

Whenever the iDevice has Internet access and iCloud is switched on, all of the field data in the app will remain synchronised to your account. So when you connect any of your registered onTrak devices, you will be able to:

- ✦ Open any of your fields and use the saved A/B line and boundary.
- ✦ Save new A/B and boundary data to new field names or as updates to existing fields.
- ✦ Save recorded coverage automatically, and view it later.

Field data can be accessed using a PC, MAC or iOS device with the iCloud Drive app or in iCloud.com. The drive contains an onTrak folder which in turn may contain the following sub-folders:

- ✦ Folders with a 12-digit alphanumeric name like CC9205FC4FC5 contain the field data that was generated by the onTrak device with that identification. The data is in the form of .kml which is a standard file format used by most computer mapping software.
- ✦ “Coverage” contains .kml files showing the recorded coverage, organised by date and time. To view the data, open any file using a mapping programme like Google Earth.
- ✦ “Fields data” contains the A/B and boundary data for your fields in the format used by onTrak.

### 4.8.3 Privacy

Any onTrak device that is registered to you can access your field data. So be aware that if you lend out your onTrak, the borrower will be able to access the field data in your iCloud account (but not any other part of your account).




AgriCision Ltd have access to all users' field data for the purposes of administration and maintenance. We will never use or share your data without your permission.

By using onTrak.Cloud you acknowledge and agree to the above.

## 4.9 Using the simulator

The simulator is a useful tool to help you become familiar with the app without the need to connect it to an onTrak device.

To use the simulator:

- ✦ Tap  **Settings** in the main menu
- ✦ Tap  next to "Simulation mode" to switch the simulator on/off
- ✦ Tap  **< Back**
- ✦ Tilt the iDevice forward / backward to control the forward speed
- ✦ Tilt the iDevice left / right to simulate tractor steering.
- ✦ Operate the app as normal.

## 4.10 Using the Demo onTrak device

A graphic of a virtual onTrak device can be displayed on top of the field area. This can be useful:

- ✦ While using the simulator for evaluation or training
- ✦ To view the guidance LEDs if the only place the real device can be mounted is out of sight, on a machine with no bonnet (eg a combine or self-propelled sprayer).

To display / hide the virtual device:

- ✦ Tap  next to "Demo onTrak device" in the Settings menu.

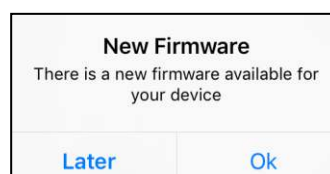
## 4.11 Updating the software

Visit the app store regularly to take advantage of updates issued by AgriCision. The app software and the onTrak device firmware can both be updated by downloading the latest version of the app.

### NOTE

Always keep the device firmware up to date as old firmware may be incompatible with the latest app version.

Whenever the app connects to an ontrak device that contains out of date firmware it displays this message:



Make sure the device's battery has plenty of charge, then tap **Ok** and follow the on-screen instructions to load the new firmware into your onTrak device.

## 5 Specification

onTrak application	The onTrak application is available free from the Apple App Store
Operating system requirements	Apple iOS 9.0 and later
Working units	Hectares, acres, mph and km/h
Bluetooth communication	To communicate with the onTrak device the iOS device must support Bluetooth 4.0. The following Apple Devices are compatible with the onTrak system: iPhone 4s, 5, 5c, 5s, 6, 6 Plus, SE, 6s, 6s Plus, 7, 7Plus, 8, 8Plus, X iPad, 3 <sup>rd</sup> , 4 <sup>th</sup> , 5 <sup>th</sup> and 6 <sup>th</sup> generation, mini, mini 2, mini 3, Air, Air 2, Pro - iPod Touch 5th Generation
Power	LI-ION 3.7V 2050mAh 7.59Wh battery Minimum 24 hour autonomy from full charge 5.0 V USB charge 5 hour charge time Battery life expectancy - 80% of initial capacity after 400 charge / discharge cycles
Enclosure	The enclosure is rated at IP54 using the International Protection Marking, IEC standard 60529
Temperature	Storage        -20°C to +45°C Operating     -20°C to +60°C Charging       0°C to +45°C
Position receiver	GPS/QZSS L1 C/A, GLONASS L10F BeiDou B1I, Galileo E1B/C SBAS L1 C/A: WAAS, EGNOS, MSAS, GAGAN 10Hz update rate 80 <sup>th</sup> percentile 15min, Pass to Pass accuracy <30cm
Operating ranges	Min speed 1km/h Max speed 80km/h Min implement width setting 0.1m Max implement width setting 40m
Dimensions	Unit weight 0.75 kg 240mm x 150mm x 90mm With package and accessories 1.1 kg 250mm x 170mm x 110mm
Certification	Agricision onTrak complies with the following EU directives:  Directive 2014/53/EU (Radio Equipment) Directive 2014/35/EU (Safety) Directive 2014/30/EU (EMC) Directive 2011/65/EU (RoHS) Directive 2006/66/EC (Battery) Directive 2012/19/EU (WEEE)

