

# Tracerco Personal Electronic Dosimeter Product Training



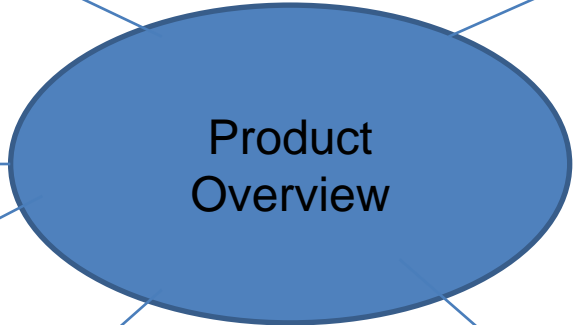
# Content

- Readings screen
- Menu options
- Alarms & Functions
- DoseVision software
- Data
- Service & maintenance

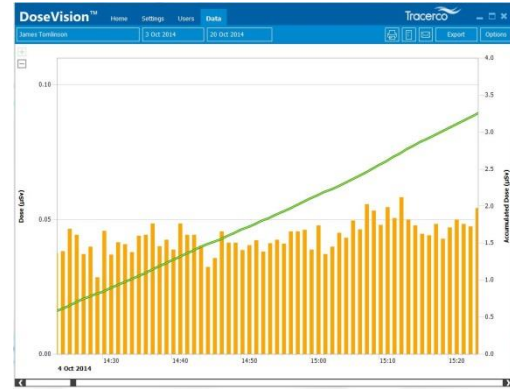


# PED Family overview

Personal electronic dosimeter to monitor active real time radiation dose received by the worker



Logs dose received to product memory for data interpretation using the Dosevision software



Detects gamma and x-ray radiation between energy range 33 keV to 1.3 MeV



\*Intrinsically safe



Robust & waterproof



Accurately measures dose rates up to 100mSv/hr and accumulated dose to 10 Sv

\*PED-IS only

# Readings Screen

Peak Reading/  
Task Dose

Stay Time

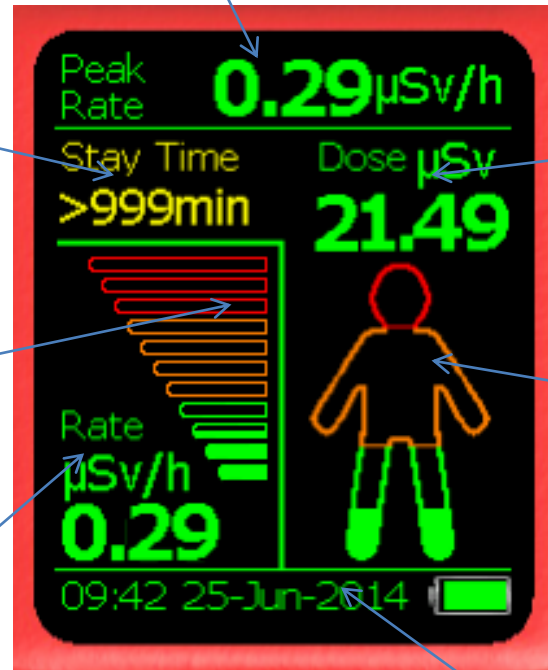
Dose

Dose rate graph

Dose man

Rate

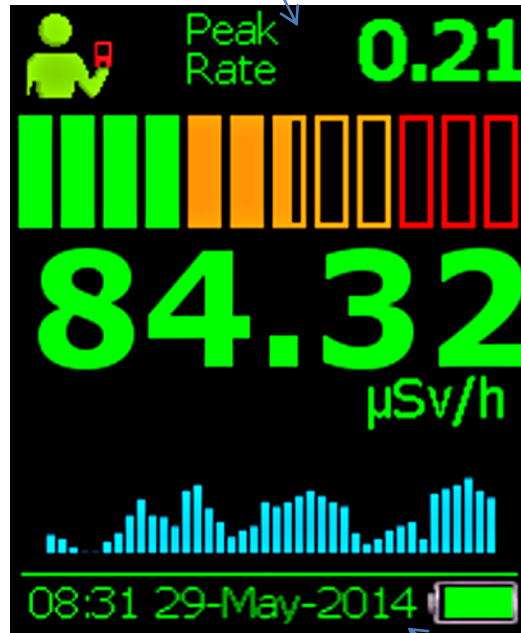
Status bar



# Readings Screen PED+ Handheld Survey Mode

Peak Reading

Dose rate graph



Dose Rate

Dose rate trend graph

Status bar

# Menu Options PED-IS/Blue

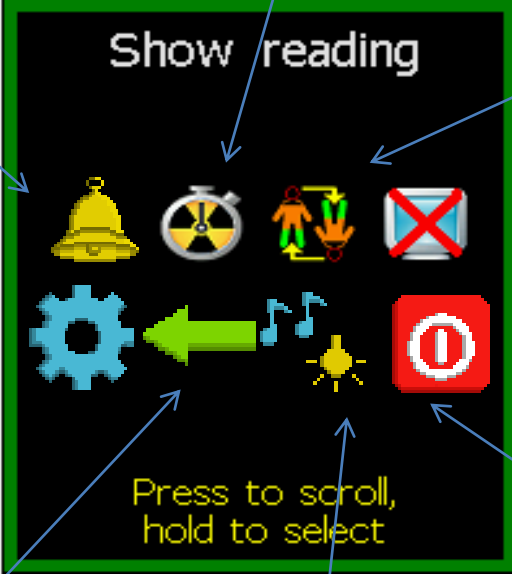
Alarm levels

The task menu

Flip the screen

Enter the settings menu

Choose the screen saver

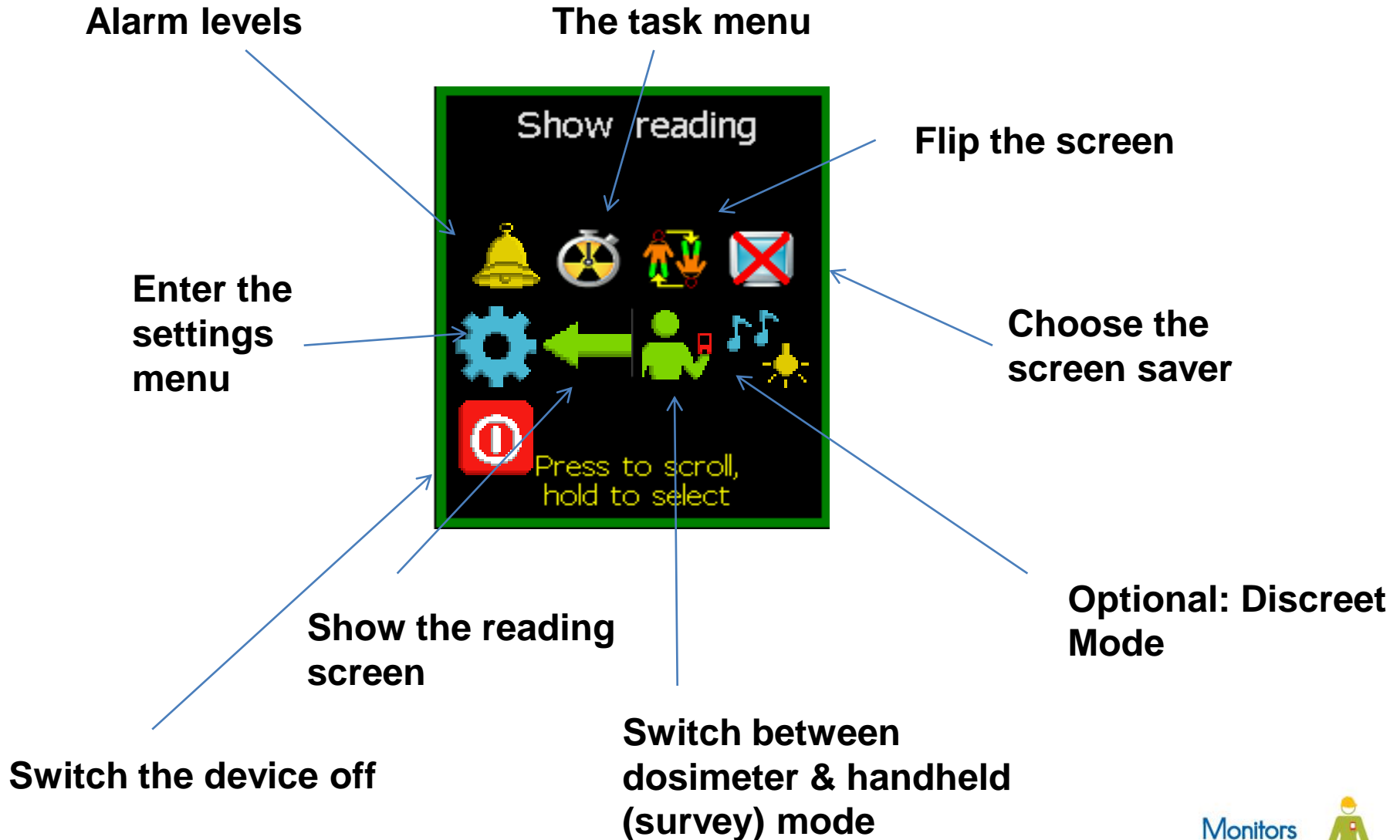


Show the reading screen

Switch the device off

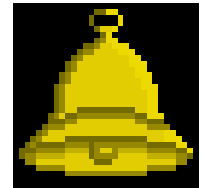
Optional: Discreet Mode

# Menu Options PED+



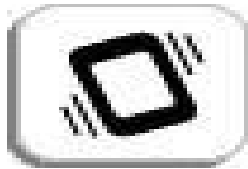
# Alarms

- The Tracerco PED range have 4 alarms for dose and dose rate

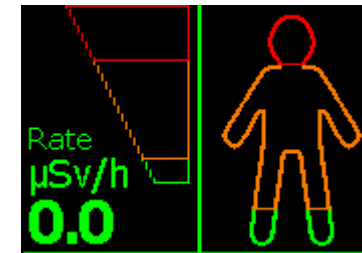


Audible - bleeper

Vibrational – activated at preset thresholds



Visual (1) – traffic lights

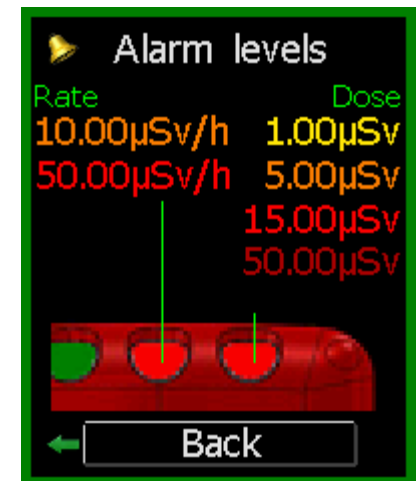
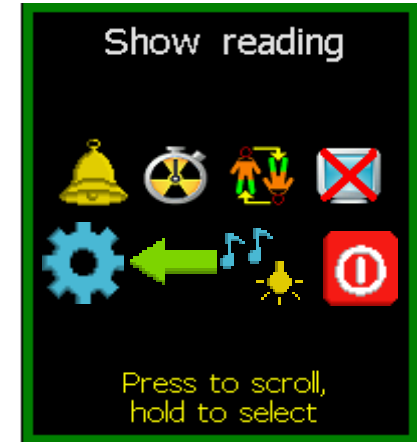


Visual (2) – Dose man & bar graph



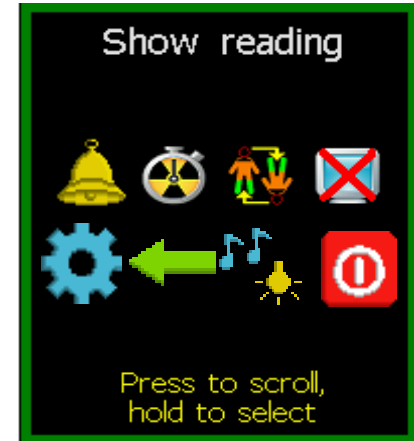
# Alarms

- PED-IS/Blue/PED+ - option for 2 or 4 alarm thresholds: yellow, amber, red, crimson adjustable via DoseVision software according to operator local rules
- Long press to acknowledge audible alarm to silence and stop vibration, lights will continue to flash if alarm level is exceeded



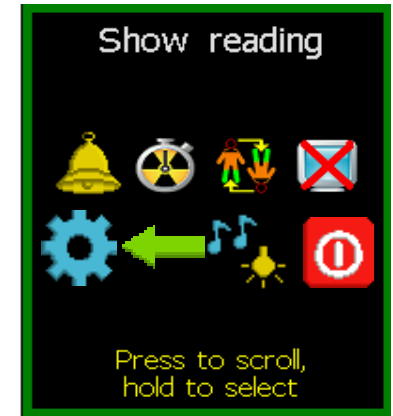
# Task Function

- Allows operator to monitor their dose and peak rate over a particular time period or task they are undertaking
- Operator can record infinite number of tasks in between downloading data to PC
- Tasks can be viewed on the PED on site and by using DoseVision software
- Task data can be reviewed on the device by selecting the task number



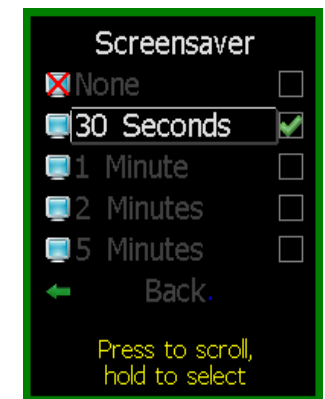
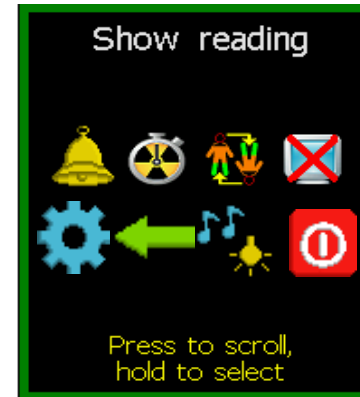
# Flip screen & position on body

- Flip the screen for further enhanced screen view
- Attached the PED to belt or top pocket most suitable position for logging radiation dose exposure to body



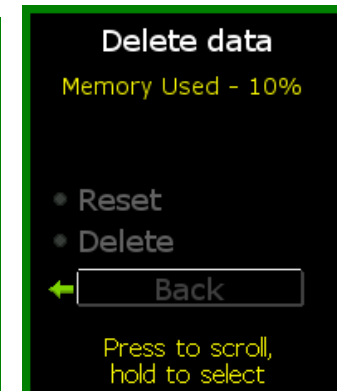
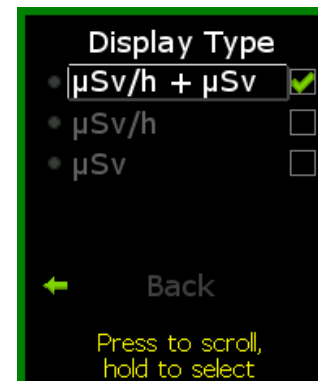
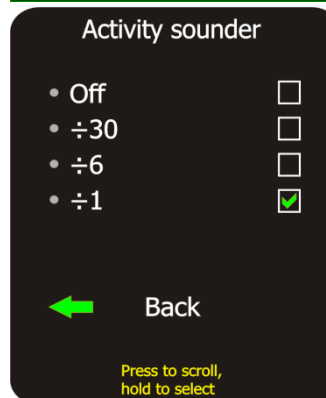
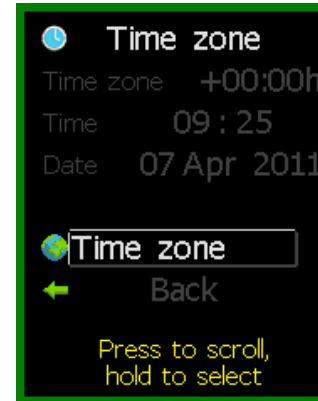
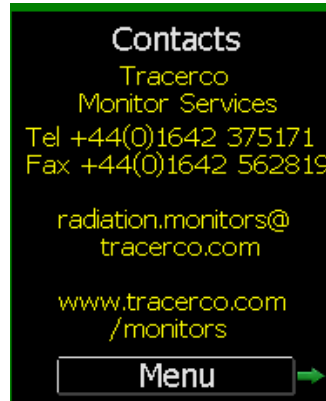
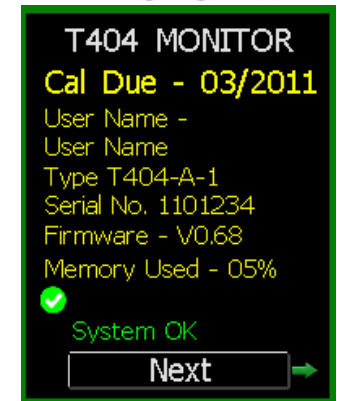
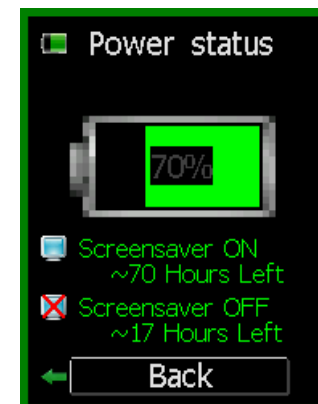
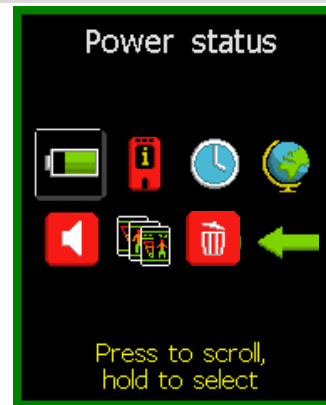
# Screen saver

- The Tracerco PED range utilises a rechargeable Li-ion battery
- 300 hours battery life continuous use in screen saver mode
- 30 hours continuous use in full screen mode
- Best practice to use screen saver



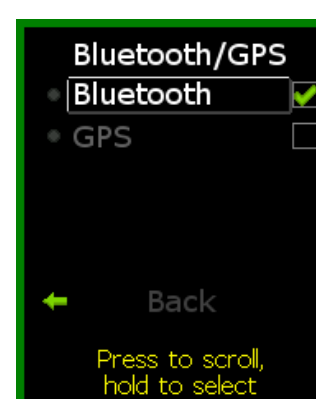
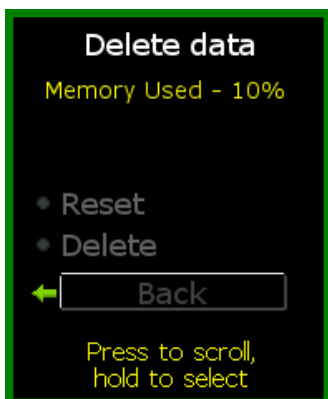
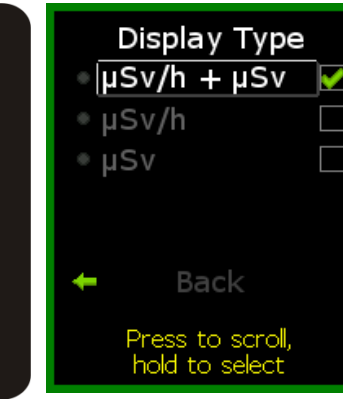
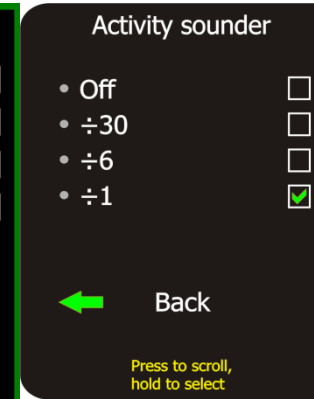
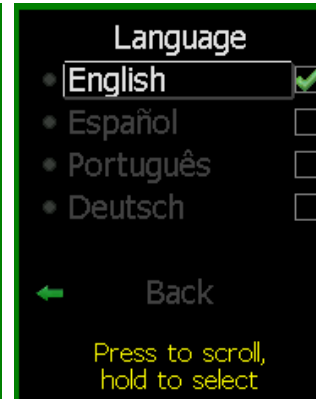
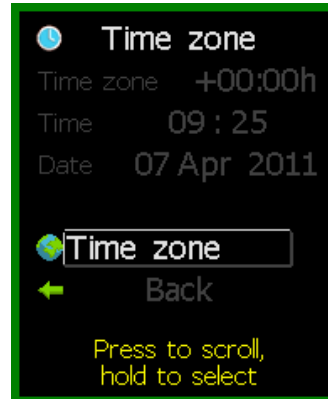
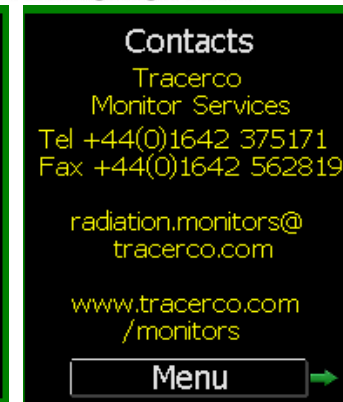
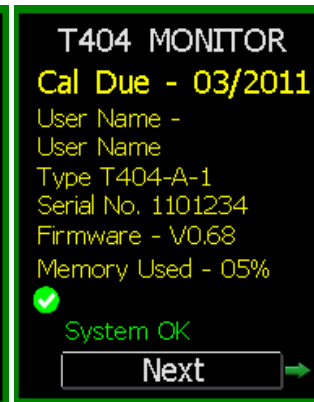
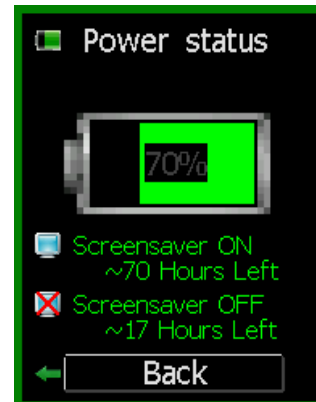
# Settings & Status – PED-IS/Blue

- Power status
- Monitor Details – unique ID, serial number, firmware version and memory indication, contact information for Tracerco
- Time Zone option
- Language – 9 options
- Activity Sounder – Typical 12 cpm. Manage ‘click’ event interval
  - ÷ 1 = ‘click’ every time a radioactive particle is detected.
  - ÷ 30 = ‘click’ interval of about 2.5 minutes.
- Readings screen menu type: accumulated dose & dose rate, dose rate only, accumulated dose only
- Device log reset (to 0) or delete (wipe entirely)



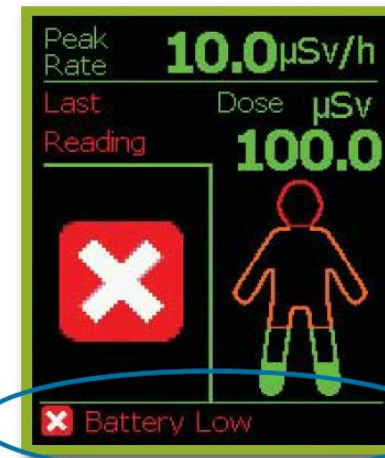
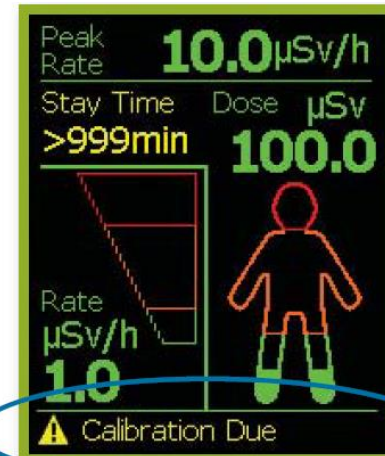
# Settings & Status – PED+

- Power status
- Monitor Details – unique ID, serial number, firmware version and memory indication, contact information for Tracerco
- Time Zone option
- Language – 9 options
- Activity Sounder – Typical 12 cpm. Manage 'click' event interval
  - $\div 1$  = 'click' every time a radioactive particle is detected.
  - $\div 30$  = 'click' interval of about 2.5 minutes.
- Readings screen menu type: accumulated dose & dose rate, dose rate only, accumulated dose only
- Device log reset (to 0) or delete (wipe entirely)
- Bluetooth/GPS, toggle on or off



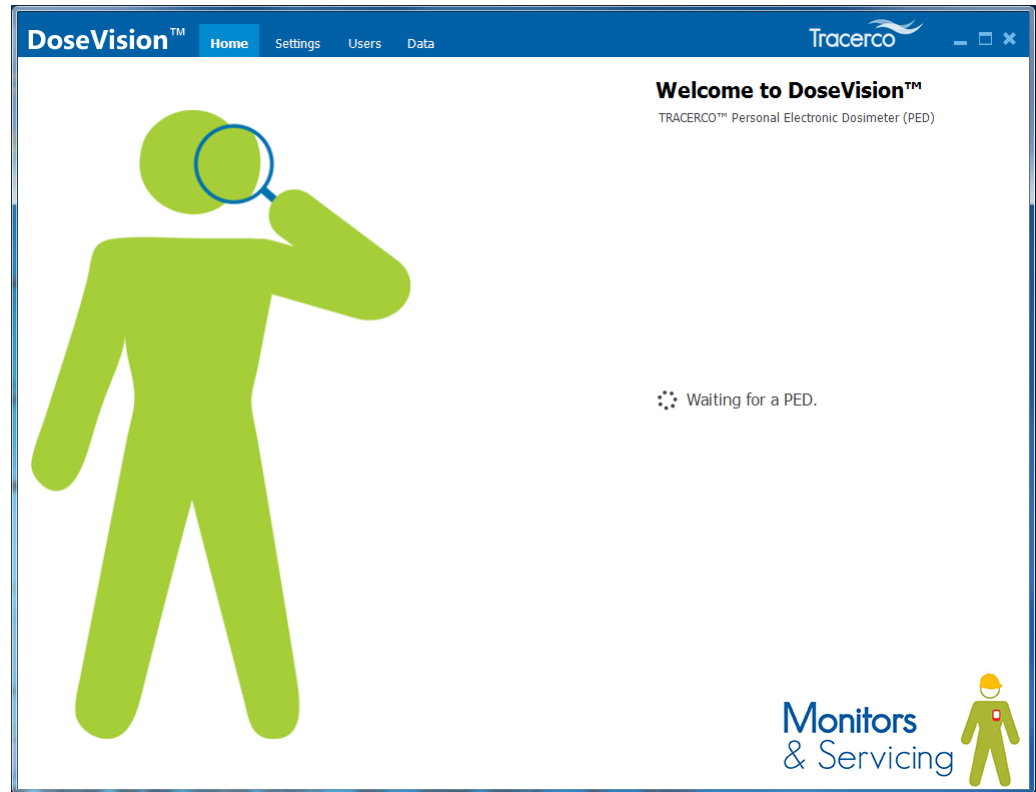
# Errors & recovery actions

- Self diagnostic displays any errors on screen
- System check light – green change to red
- Status warning message – attention required but PED will continue to function
- Critical malfunction warning – PED no longer operating accurately



# Dosevision software

- FREE with the PED including all updates via the Tracerco website [www.tracerco.com/monitors](http://www.tracerco.com/monitors)
- Install from CD or website
- Compatible with windows XP, Vista and 7
- PED communicates via dock and usb PC connection





- PED Information
- Get Dose Data
- Clear Dose Data

The screenshot displays the DoseVision™ software interface. The top navigation bar includes 'Home', 'Settings', 'Users', 'Data', and a notification icon with a red '2'. The main content area is divided into two sections. On the left is a large image of a black Tracerco PED device. The device's screen shows the following data: 'Pico Tasa 22.06 μSv/h', 'Tiempo >999min', 'Dosis μSv 1.57', 'Tasa μSv/h 0.00', and the date/time '10:50 05-Ene-2016'. On the right, the 'PED Information' section lists 'PED Assigned to: James PED+ Demo1' and 'Serial Number: 1560027'. Below this information are two blue buttons: 'Get Dose Data from PED' and 'Clear Dose Data on PED'. The bottom right corner of the interface features the 'Monitors & Servicing' logo with a green worker icon.

# Settings

# of Alarms  
(2 or 4)

Set Alarm  
levels and  
units (eg:  
mSv, Sv)  
for dose  
and dose  
rate

Enable pop-  
up alarm  
messages  
(PED+ only)

Edit pop up messages  
(PED+ only)

Set logging options

The screenshot shows the 'Settings' page of the DoseVision application. The page is divided into several sections:

- Alarm Options:** Includes radio buttons for '2 Dose Alarms' and '4 Dose Alarms', a checked checkbox for 'Alarm Messages', and input fields for alarm levels: Yellow Dose Alarm Level (1000.00  $\mu\text{Sv}$ ), Amber Dose Alarm Level (1500.00  $\mu\text{Sv}$ ), Red Dose Alarm Level (2000.00  $\mu\text{Sv}$ ), Crimson Dose Alarm Level (250000.00  $\mu\text{Sv}$ ), Amber Dose Rate Alarm Level (1.50  $\mu\text{Sv/h}$ ), and Red Dose Rate Alarm Level (2.00  $\mu\text{Sv/h}$ ). Each level has a corresponding color-coded bar and a message icon.
- Logging Options:** Includes radio buttons for 'Intelligent Logging' (selected), 'Periodic logging (60 sec)', 'Periodic logging (30 sec)', 'Periodic logging (10 sec)', and 'Periodic logging (5 sec)'. It also has a message icon.
- Handheld Mode:** Includes a checked checkbox for 'Allow Handheld Mode' and a 'Set Admin Password' button.
- PED Options:** Includes checked checkboxes for 'Allow Discrete Mode', 'Allow Peak and Dose Reset', 'Allow Log Reset', and 'Allow Screen Select', and an unchecked checkbox for 'Allow Calibration Reminder'.
- Dose Units:** Includes radio buttons for 'mRem' and 'μSv' (selected).
- Time Setting:** Includes a 'Set PED Time' button.
- DoseVision™ Configuration:** Includes buttons for 'Select Data Folder' and 'Language'.
- Footer:** Includes 'Version: 3.1.5', 'Firmware version: 1.5', an 'Upgrade Firmware' button, and the 'Monitors & Servicing' logo with a person icon.

Annotations with blue arrows point to specific elements: '# of Alarms (2 or 4)' points to the '4 Dose Alarms' radio button; 'Set Alarm levels and units (eg: mSv, Sv) for dose and dose rate' points to the 'Yellow Dose Alarm Level' input field; 'Enable pop-up alarm messages (PED+ only)' points to the 'Alarm Messages' checkbox; 'Edit pop up messages (PED+ only)' points to the message icon next to the 'Intelligent Logging' option; and 'Set logging options' points to the 'Logging Options' section header.

# Settings

Admin password: prevent adjustment

Select DoseVision language and data storage folder

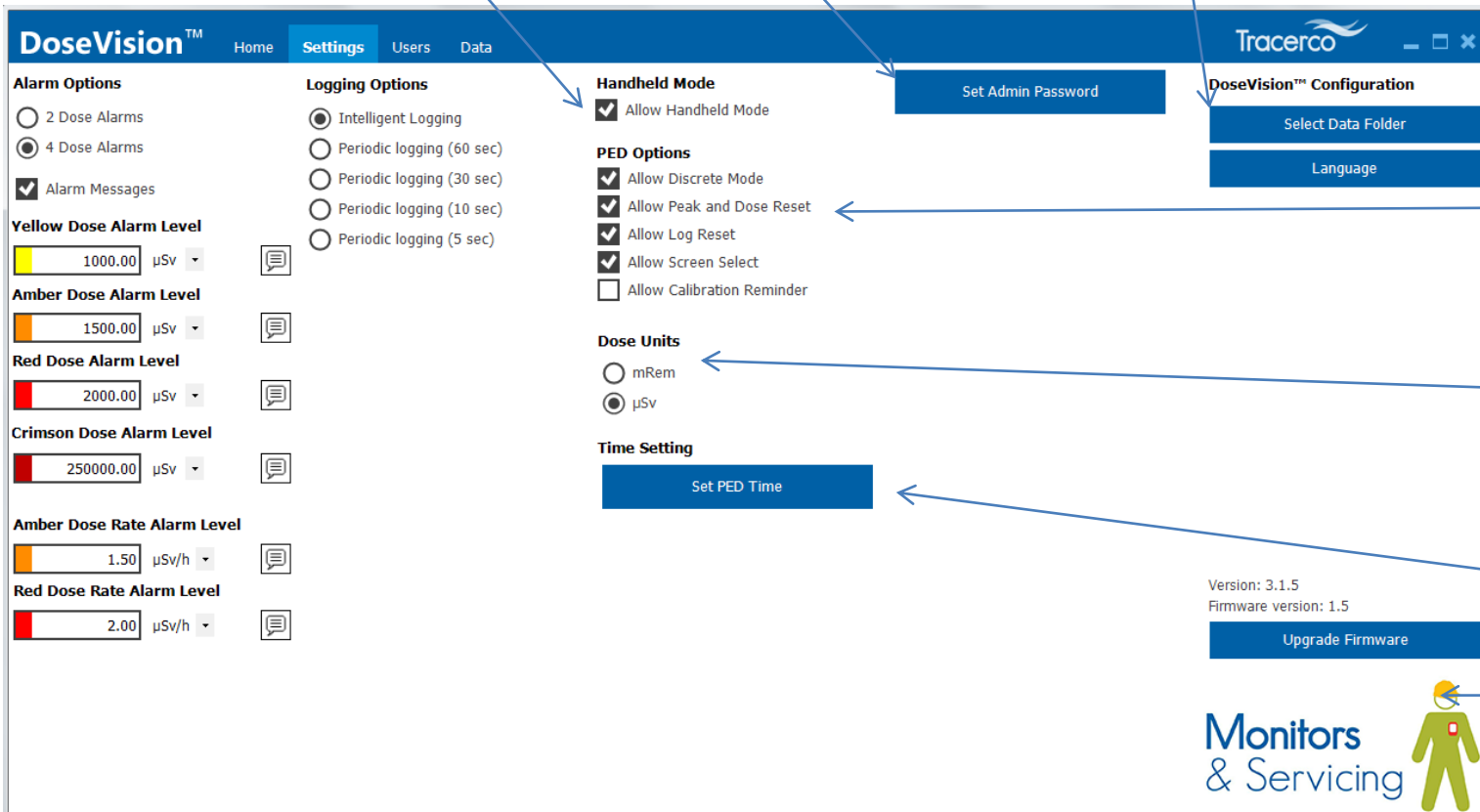
Enable PED+ survey mode

Enable features:  
-Discreet mode  
-On device log reset and delete  
-Screen selection on device  
-Calibration reminder

Adjust PED dose units (US or RoW)

Set PED time

Upgrade device firmware



The screenshot shows the DoseVision™ Settings page with the following sections and annotations:

- Alarm Options:** 2 Dose Alarms (selected), 4 Dose Alarms, Alarm Messages (checked).
- Yellow Dose Alarm Level:** 1000.00  $\mu\text{Sv}$
- Amber Dose Alarm Level:** 1500.00  $\mu\text{Sv}$
- Red Dose Alarm Level:** 2000.00  $\mu\text{Sv}$
- Crimson Dose Alarm Level:** 250000.00  $\mu\text{Sv}$
- Amber Dose Rate Alarm Level:** 1.50  $\mu\text{Sv/h}$
- Red Dose Rate Alarm Level:** 2.00  $\mu\text{Sv/h}$
- Logging Options:** Intelligent Logging (selected), Periodic logging (60 sec), (30 sec), (10 sec), (5 sec).
- Handheld Mode:** Allow Handheld Mode (checked).
- PED Options:** Allow Discreet Mode (checked), Allow Peak and Dose Reset (checked), Allow Log Reset (checked), Allow Screen Select (checked), Allow Calibration Reminder (unchecked).
- Dose Units:** mRem (selected),  $\mu\text{Sv}$  (selected).
- Time Setting:** Set PED Time button.
- DoseVision™ Configuration:** Select Data Folder button, Language button.
- Admin Password:** Set Admin Password button.
- Version:** 3.1.5, Firmware version: 1.5, Upgrade Firmware button.
- Monitors & Servicing:** Logo with a green person icon.

Annotations with arrows point to the following elements:

- Admin password: prevent adjustment (points to Set Admin Password button)
- Select DoseVision language and data storage folder (points to Select Data Folder and Language buttons)
- Enable PED+ survey mode (points to Allow Handheld Mode checkbox)
- Adjust PED dose units (US or RoW) (points to  $\mu\text{Sv}$  radio button)
- Set PED time (points to Set PED Time button)
- Upgrade device firmware (points to Upgrade Firmware button)

# Settings

- Popup Alarm messages (PED+ Only)

Three programmable lines of text to appear when dose and dose rate limits are reached.

The screenshot displays the DoseVision™ Settings application interface. The main window has a blue header with 'DoseVision™' and navigation tabs for 'Home', 'Settings', 'Users', and 'Data'. The 'Settings' tab is active, showing various configuration options:

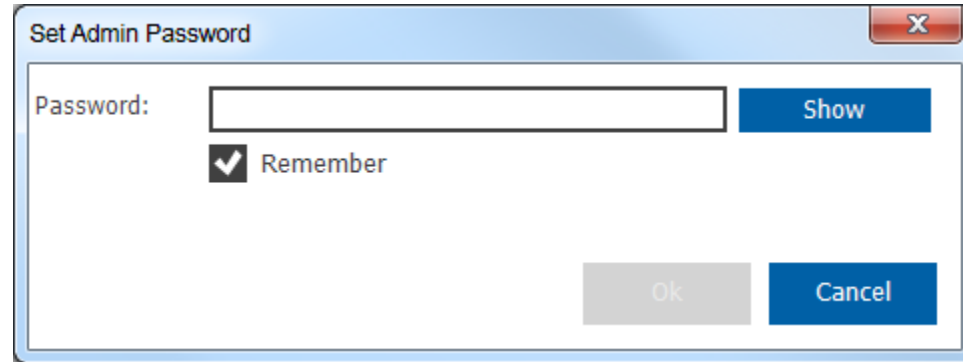
- Alarm Options:** Radio buttons for '2 Dose Alarms' and '4 Dose Alarms' (selected). A checked checkbox for 'Alarm Messages'.
- Yellow Dose Alarm Level:** Input field with '1000.00' and unit 'µSv'.
- Amber Dose Alarm Level:** Input field with '1500.00' and unit 'µSv'.
- Red Dose Alarm Level:** Input field with '2000.00' and unit 'µSv'.
- Crimson Dose Alarm Level:** Input field with '250000.00' and unit 'µSv'.
- Amber Dose Rate Alarm Level:** Input field with '1.50' and unit 'µSv/h'.
- Red Dose Rate Alarm Level:** Input field with '2.00' and unit 'µSv/h'.
- Logging Options:** Radio buttons for 'Intelligent Logging' (selected) and 'Periodic logging' with durations of 60, 30, 10, and 5 seconds.
- Handheld Mode:** Checked checkbox for 'Allow Handheld Mode'.
- PED Options:** Checked checkboxes for 'Allow Discrete Mode', 'Allow Peak and Dose Reset', and 'Allow Log Reset'.
- Dose Units:** Radio buttons for 'mRem' and 'µSv' (selected).
- Time Setting:** A button labeled 'Set PED Time'.
- Buttons:** 'Set Admin Password' and 'Upgrade Firmware'.
- Configuration:** 'DoseVision™ Configuration' section with 'Select Data Folder' and 'Language' buttons.

An 'Edit Alarm Message' dialog box is open, titled 'Red Dose Rate Alarm Level'. It contains three text input fields labeled 'Line 1', 'Line 2', and 'Line 3'. The values entered are 'Example.....', 'Popup.....', and 'Message.....'. 'Ok' and 'Cancel' buttons are at the bottom.

Version: 3.1.3  
Firmware version: 1.3

# Set Admin Password

- Set Password
- Locks out Options
- Stops Dose being deleted
- Stored on PC
- Get Admin Access
- Get Forgotten Password



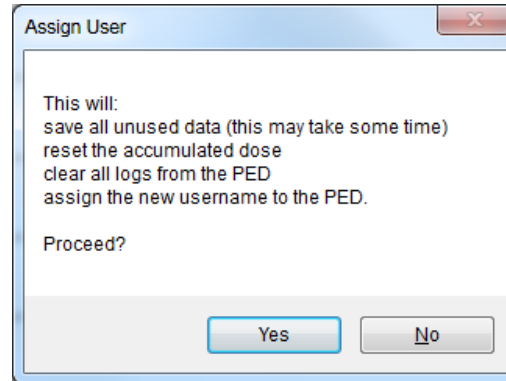
The image shows a Windows-style dialog box titled "Set Admin Password". It features a "Password:" label followed by a text input field. To the right of the input field is a blue "Show" button. Below the input field is a checked checkbox labeled "Remember". At the bottom right of the dialog are two buttons: a grey "Ok" button and a blue "Cancel" button. The dialog has a standard Windows window border with a close button (X) in the top right corner.

# Users

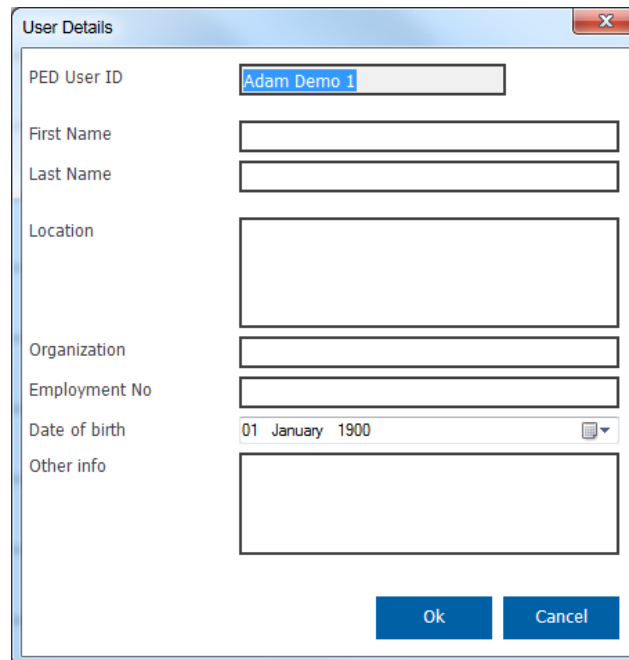
- List of Current Users
- Add User
- Assign User to PED
- Details
- Graph
- Delete
- Create a Report

DoseVision™		Home	Settings	Users	Data	Tracerco		
Add User						Report		
<b>Adam Demo 1</b>	Date Range: 29 Oct 2012 - 14 Jan 2013	Assign To PED	Details	Graph	Delete			
<b>Ann</b>	Date Range: 26 Feb 2013 - 14 Mar 2013							
<b>Donna Chapman</b>	Date Range: 13 Feb 2013, 15:00 - 15:00							
<b>Exhibition 2</b>	Date Range: 22 Nov 2012 - 6 Feb 2013							
<b>Exhibition 3</b>	Date Range: 28 Mar 2012 - 8 Mar 2013							
<b>Rebecca</b>	Date Range: 17 Oct 2012 - 19 Jan 2014							
<b>Rental G17</b>	Date Range: 13 Feb 2013, 14:56 - 16:18							
<b>Steve</b>	Date Range: 14 May 2013, 10:50 - 13:37							
<b>T Partington</b>	Date Range: 20 Mar 2013 - 14 May 2013							
<b>Test User</b>	Date Range: 14 Jan 2013, 16:53 - 16:53							
<b>Trial T55</b>	Date Range: 3 Sep 2012 - 13 Feb 2013							
<b>Trial T87</b>	Date Range: 13 Feb 2013, 15:03 - 15:03							
<b>User 1</b>	Date Range: 1 Jan 2010 - 12 Jan 2014							

- Assign User to PED – downloads data to user file and clears data from device



- Details



A "User Details" form with a close button (X) in the top right corner. The form contains the following fields:

- PED User ID: Adam Demo 1
- First Name: [Empty text box]
- Last Name: [Empty text box]
- Location: [Empty text box]
- Organization: [Empty text box]
- Employment No: [Empty text box]
- Date of birth: 01 January 1900 (with a calendar icon)
- Other info: [Empty text box]

At the bottom right are "Ok" and "Cancel" buttons.

- Generate Report
- Select Dates
- Format – HTML/RTF
- Select Users
- View as document, email as document

Generate report

Start date  
27 December 2013

End date  
27 January 2014

Report format  
 RTF  
 HTML

Select users

- Adam Demo 1
- Ann
- Donna Chapman
- Exhibition 2
- Exhibition 3
- Rebecca
- Rental G17

View Email Cancel

Generate report

Please wait while the report is generated.

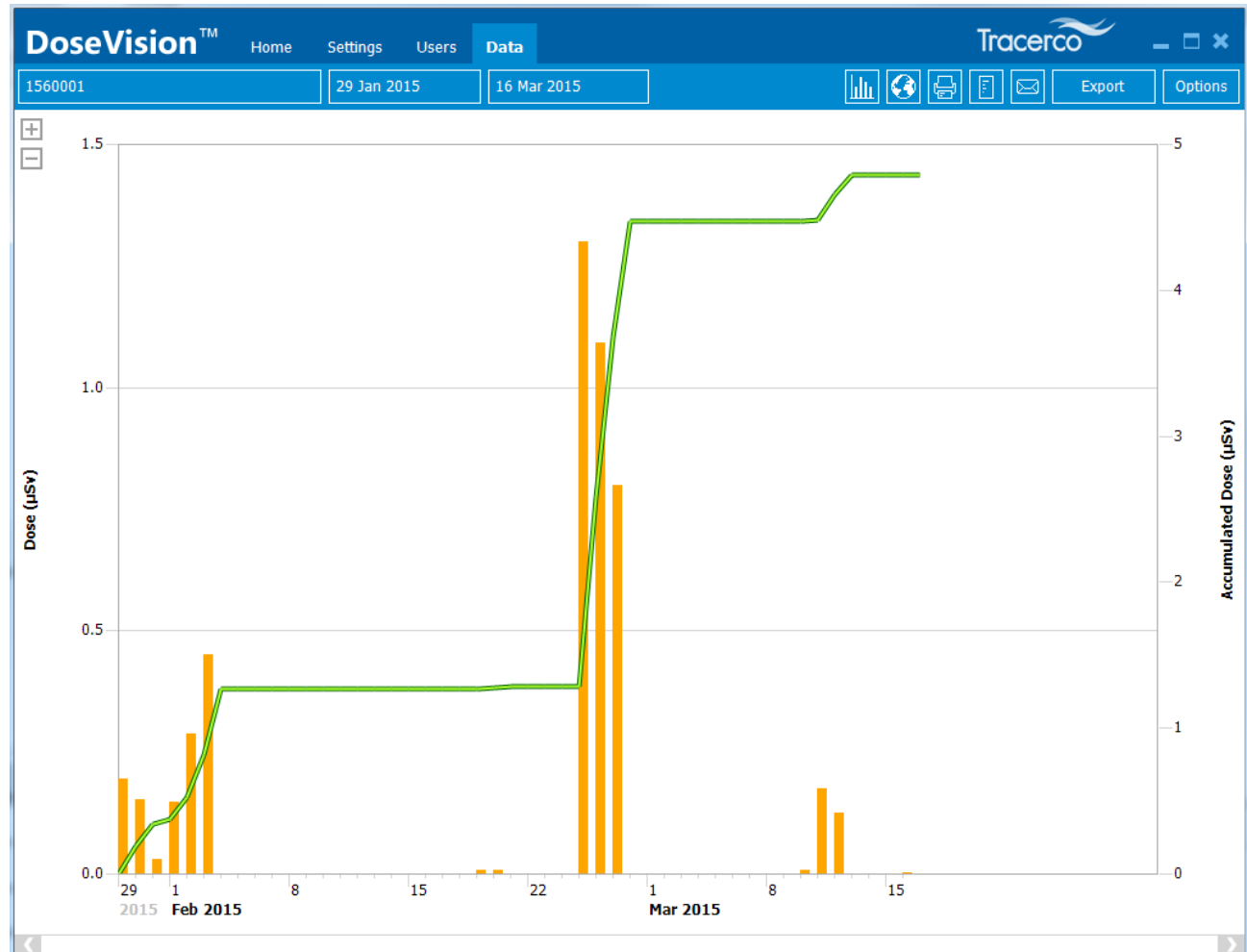


# Reports

TRACERCO PED RADIATION EXPOSURE REPORT  
REPORT CREATION DATE: 27/01/2014

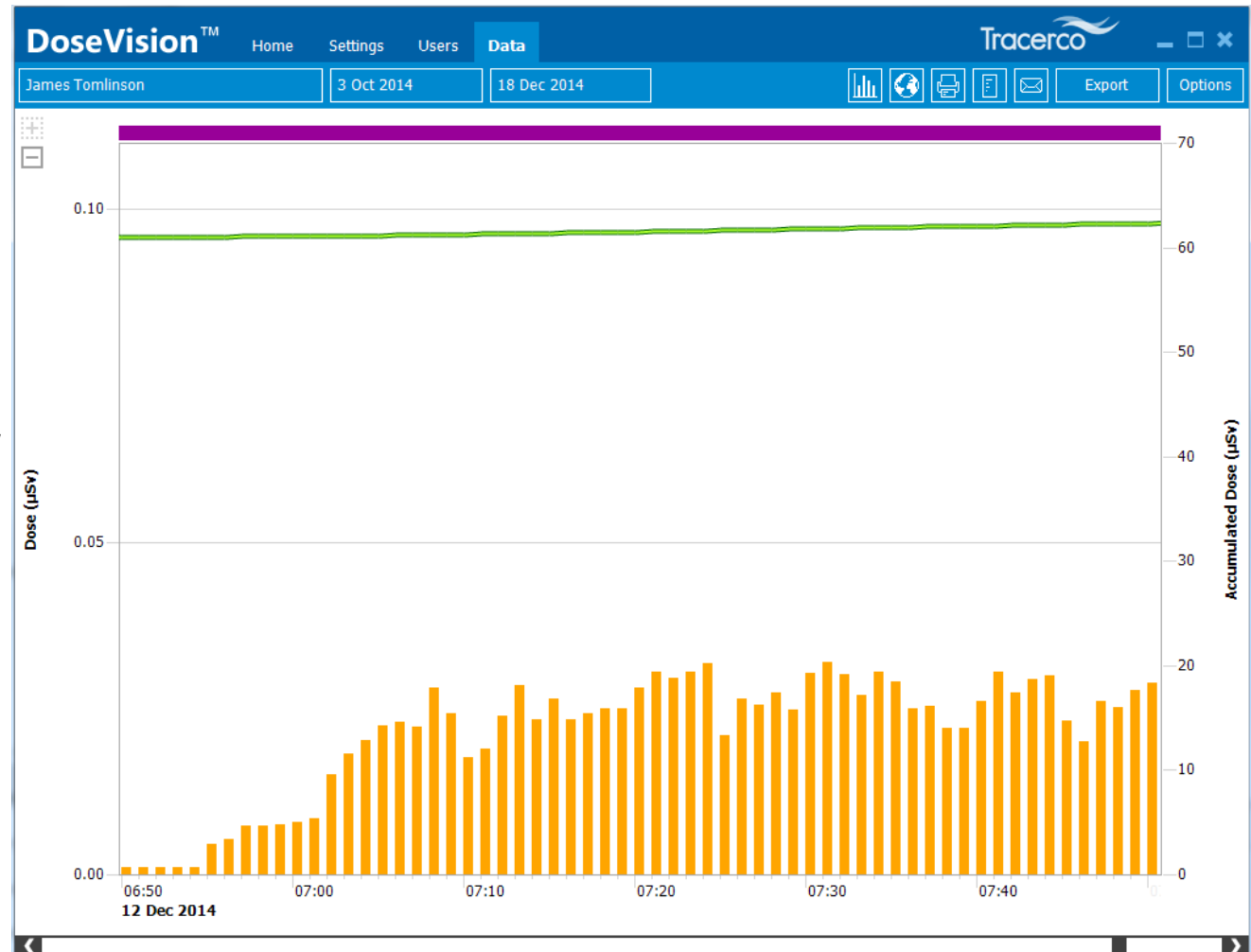
PED USER NAME	FULL NAME	ORGANISATION	MONITORING PERIOD			CUMULATIVE DOSE TOTALS mSv		DATE OF BIRTH	EMPLOYEE REFERENCE
			START DATE	END DATE	DOSE <sub>Hp</sub> (10) (mSv)	YEAR TO DATE	LIFETIME RECORD		
ADAM DEMO 1	-	-	27/12/2013	27/01/2014	0.00	0.00	0.02	-	-
ANN	-	-	27/12/2013	27/01/2014	0.00	0.00	0.02	-	-
DONNA CHAPMAN	-	-	27/12/2013	27/01/2014	0.00	0.00	0.00	-	-
EXHIBITION 2	-	-	27/12/2013	27/01/2014	0.00	0.00	0.01	-	-
EXHIBITION 3	-	-	27/12/2013	27/01/2014	0.00	0.00	0.01	-	-
REBECCA	-	-	27/12/2013	27/01/2014	0.04	0.04	0.04	01/01/1900	-
RENTAL G17	-	-	27/12/2013	27/01/2014	0.00	0.00	0.00	-	-

- Select User
- Changes Dates
- Viewing Options
  - Graph
  - Map view
- Print
- Reports
- Email
- Export
- Options



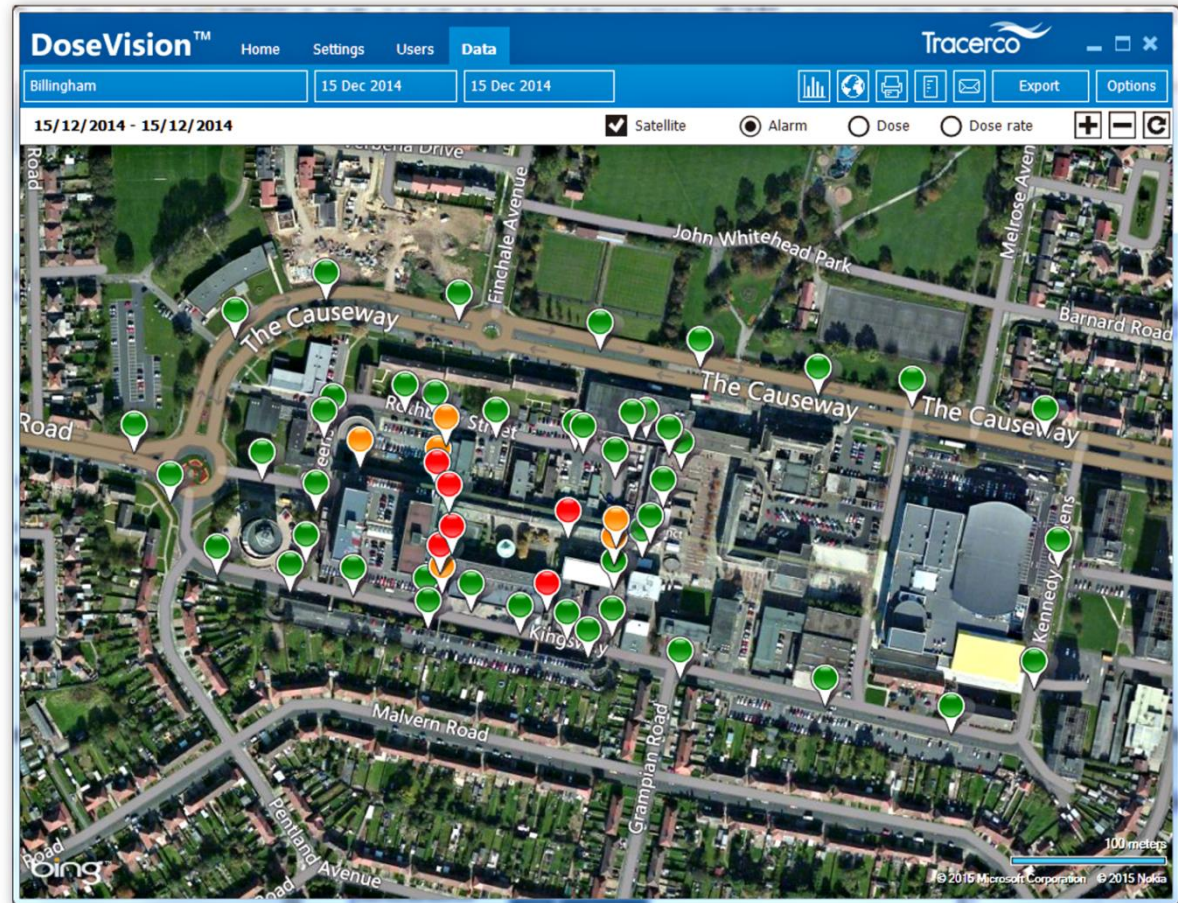
# Data - Graph

- Review minute level data by drilling into the graphical bars
- Click the purple bars at the top of the screen to view specific task data



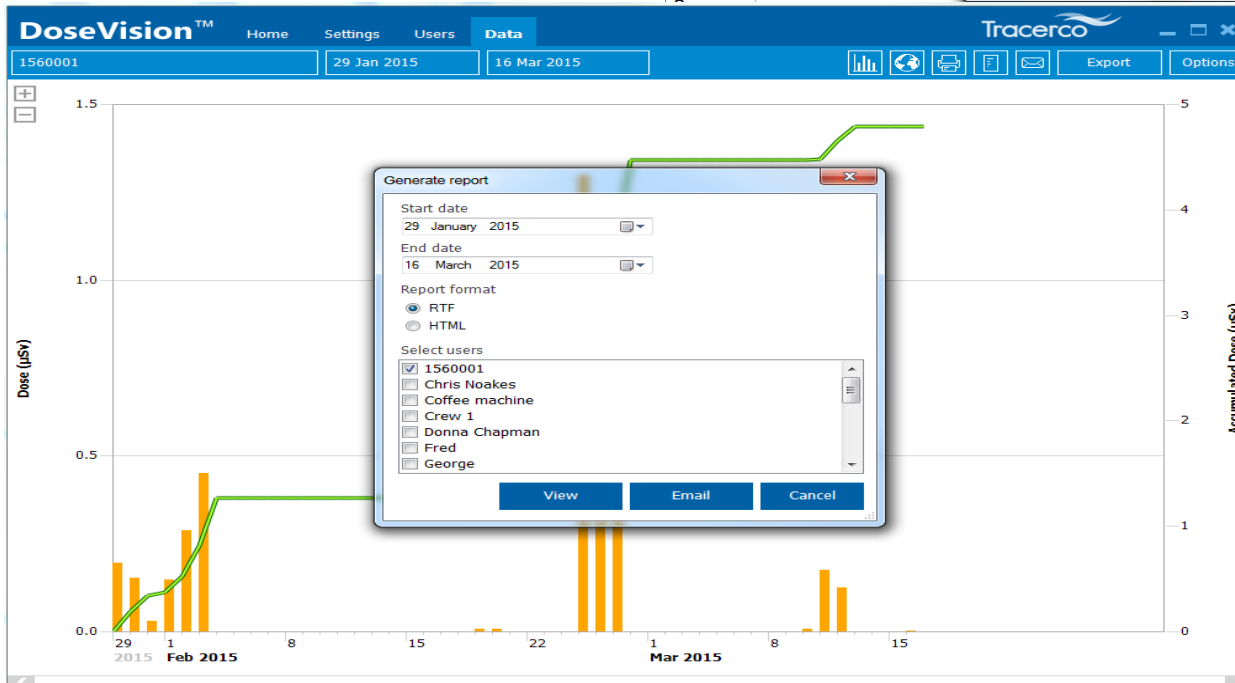
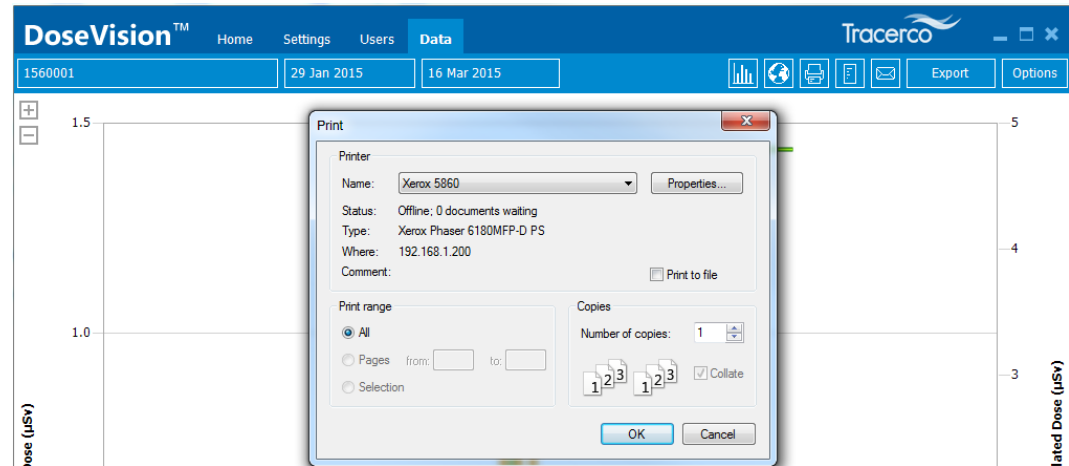
# Data – Map (GPS) view

- Data will only be available for PED+ devices with GPS mode enabled
- Map view will only be available when internet access is available
- Adjust the date range
- Select Alarm View, Dose View or Dose Rate View
- Zoom in or out and refresh the map view



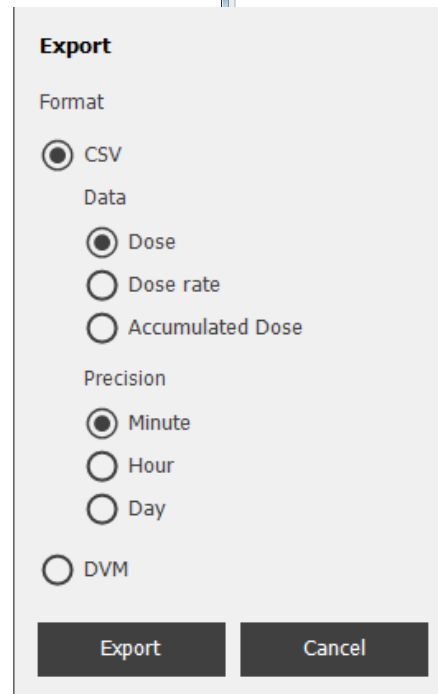
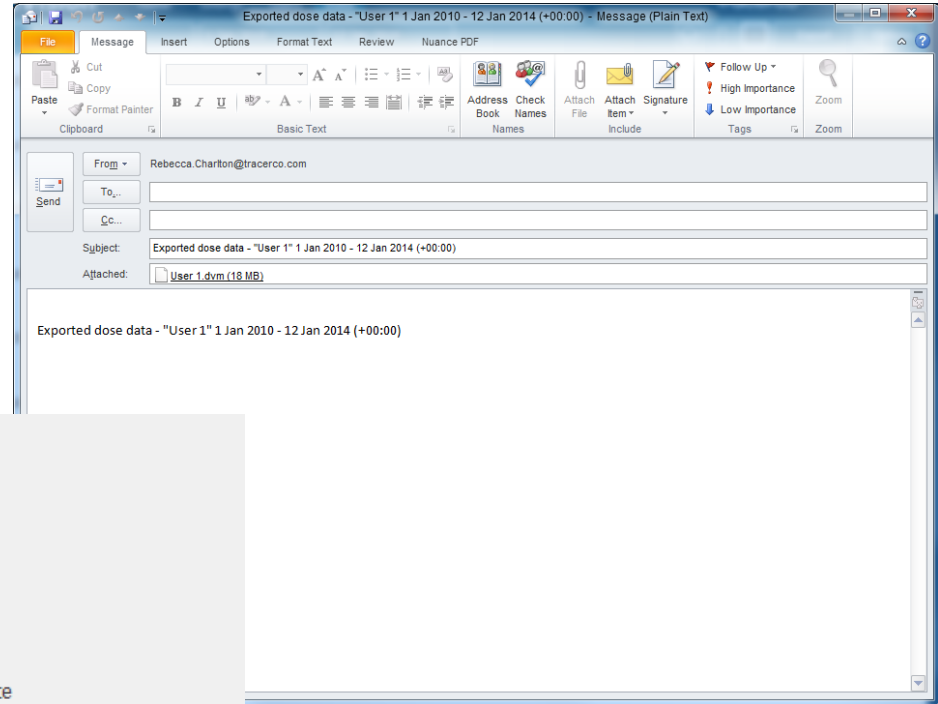
# Data – Print, Report

- Print graphical information
- Generate reports for multiple users over a selected date range



# Email and export

- .CSV
- Export Options
- Open in Excel
- DVM – Export or Email



# Viewing Data - Options

- Dose
- Average Dose Rate – received in each time period in bar chart form
- Peak Dose Rate – highest dose rate received in between data downloads
- Units – view in  $\mu\text{Sv}$  or mRem
- Time Zone
- Tasks – View Task Data
- Accumulated Dose –only when viewing 'Dose'
- Dynamic Axis

### Options

Graph

Dose

Average Dose Rate

Peak Dose Rate

Units

$\mu\text{Sv}$

mRem

Time Zone +00:00

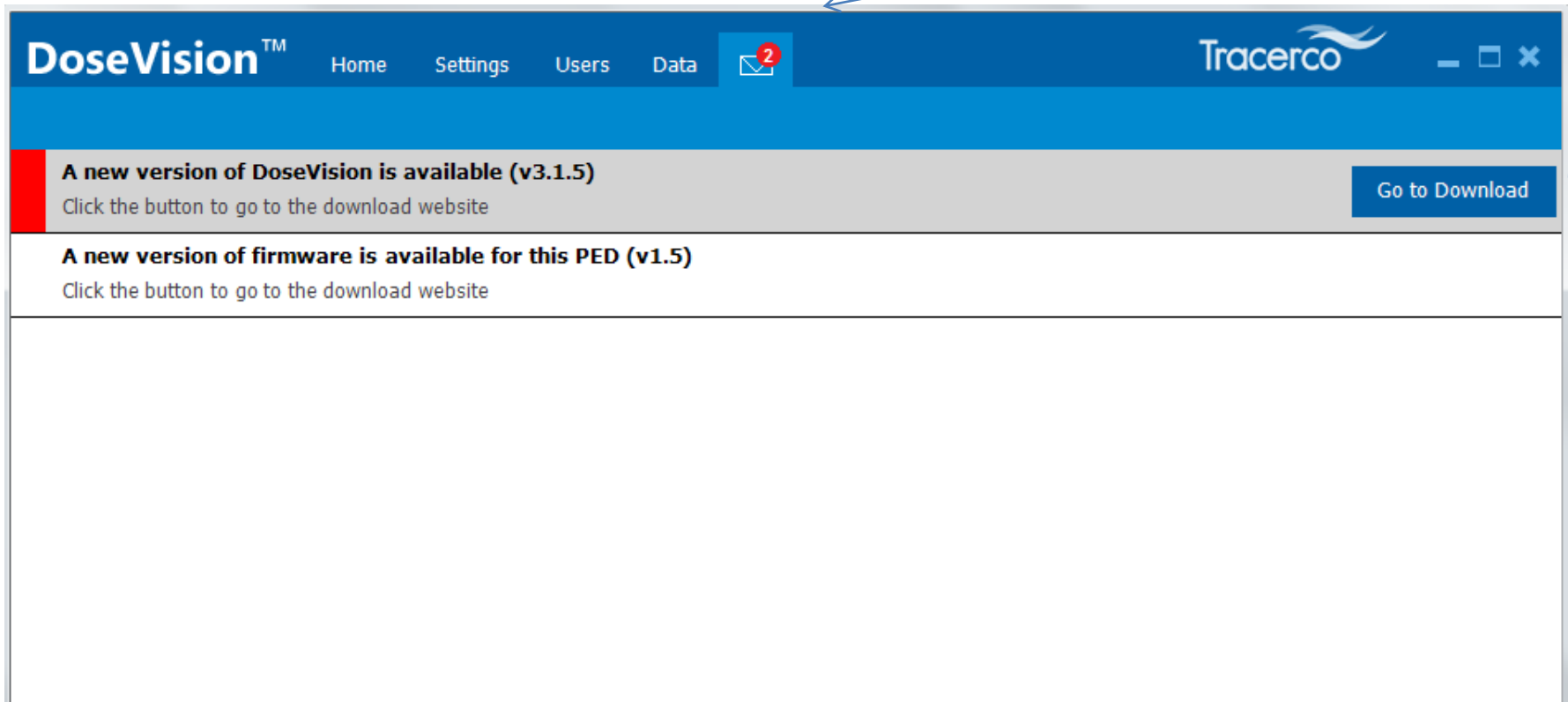
Tasks

Accumulated Dose

Dynamic Axis

# Message – Update Available

- A notification will inform you if an updated version of the DoseVision software or PED firmware is available for the device you have connected



The screenshot displays the DoseVision software interface. At the top, a dark blue navigation bar contains the 'DoseVision™' logo on the left and the 'Tracerco' logo on the right. Between the logos are navigation links for 'Home', 'Settings', 'Users', and 'Data'. A notification icon (an envelope with a red '2') is positioned to the right of the 'Data' link. Below the navigation bar, a light blue horizontal bar spans the width of the interface. Underneath this bar, a notification area is shown with a red vertical bar on the left. The first notification reads: 'A new version of DoseVision is available (v3.1.5)' followed by the text 'Click the button to go to the download website'. A blue button labeled 'Go to Download' is located to the right of this notification. The second notification reads: 'A new version of firmware is available for this PED (v1.5)' followed by the text 'Click the button to go to the download website'. Two blue arrows point to the notification icon and the 'Go to Download' button respectively.



# Message – Update Available

- The Go to Download button will open a web browser to the software/firmware download location, click the links and follow the instructions to download the files

Tracerco  
Providing Insight Onsite

TRACERCO™ Personal Electronic Dosimeter (PED)

## Support Page

NEW Software and Firmware now available for the PED Family

Tracerco Dose Vision software version 3.1.5 is now available for download. New features include:

- Addition of new languages
- Calibration due reminder can be switched on and off on a PED

New firmware versions are also available for all 3 PED models, and are now available in either European Language or Asia Pacific language versions.

We recommend that you always use the most up to date version of firmware and software with your PEDs.

**Software Downloads**

- [Ver: 3.1.5](#)

**Firmware Downloads**

European language versions (English, Spanish, Portuguese, German, French, Dutch, Norwegian, Polish):

- [PED-IS firmware: v1.5 \(EU\)](#)
- [PED Blue and PED+ firmware: v1.5 \(EU\)](#)

Asia-Pacific language versions (English, Korean, Japanese):

Monitor FAQs  
For answers to common questions about our monitors click here.

# Message – Update Available

- Return to the “Settings” Tab and select the “Upgrade Firmware” button, then select the file of choice and click “Open” and follow the on-screen instructions to upgrade the firmware

The screenshot displays the DoseVision software interface. The top navigation bar includes 'Home', 'Settings', 'Users', and 'Data'. The 'Settings' tab is active, showing various configuration options. A file selection dialog box is open over the 'Settings' tab, showing a list of files on the Desktop. The file 'PED414v0105-00-EU.tfw' is selected. The dialog box has an 'Open' button highlighted with a blue arrow. Below the dialog box, the 'Upgrade Firmware' button is visible, also highlighted with a blue arrow. The interface includes sections for Alarm Options, Handheld Mode, PED Options, Dose Alarm Levels, Dose Rate Alarm Levels, and Logging Options.

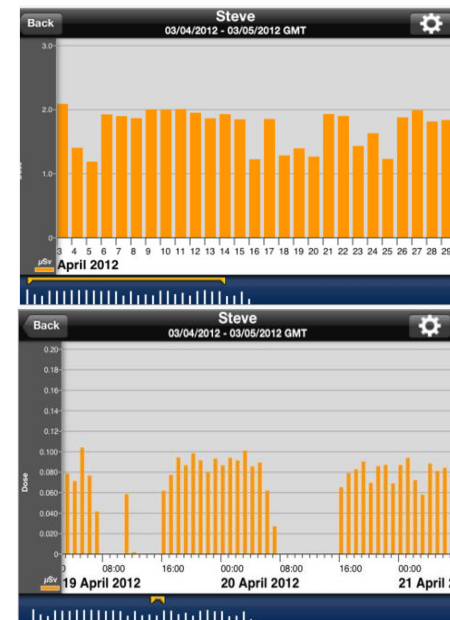
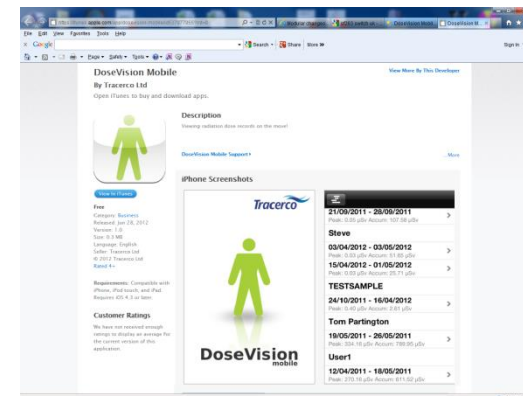
# What's new? – DoseVision mobile

- Viewing radiation dose records on the move!

The DoseVision mobile app allows users to view data files from the Tracerco Personal Electronic Dosimeter (PED).

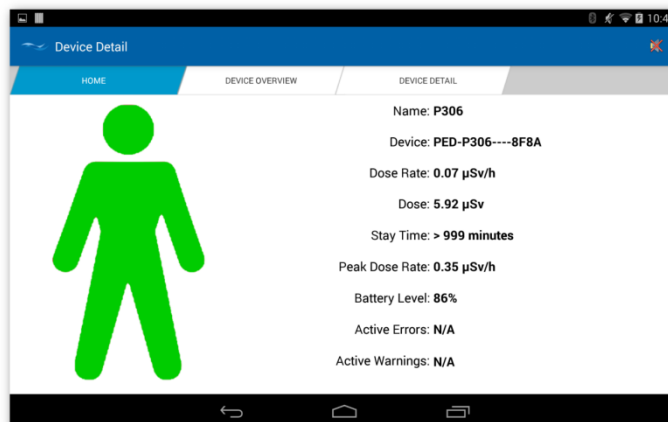
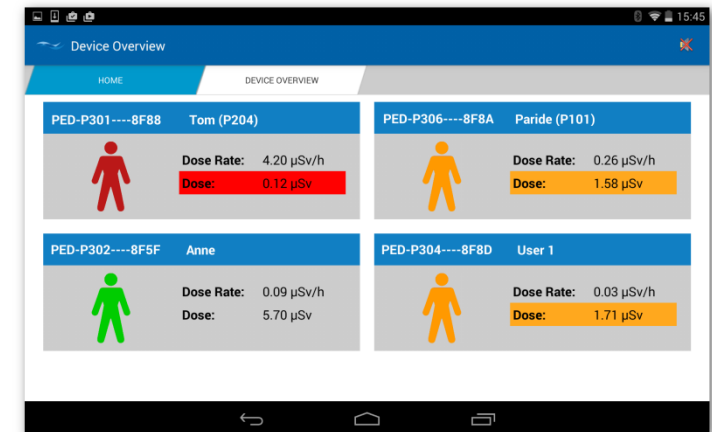
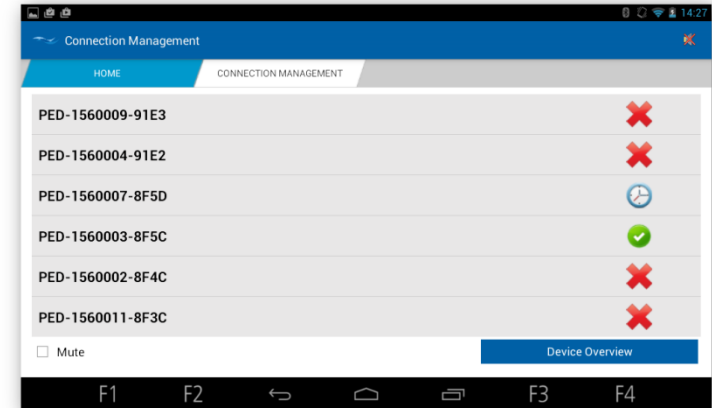
This app is particularly useful for company Radiation Protection Officers/Advisers that wish to view employee dose records while away from the office. The app will allow radiation workers that are concerned about their recorded doses to send the data files to an expert anywhere in the world for review.

- Assessing accumulated personal dose
- Viewing dose rate history
- Identifying times of peak dose rates
- Viewing user recorded "Task" periods
- Finger scroll through time periods
- Viewing data in uSv or mRem



# What's new? – DoseVision™ Live Software

- Allows remote access to PED+ devices via bluetooth
- Download the android platform based application from the Google Play store (<https://play.google.com/store/apps/details?id=com.tracerco.dosevisionlive>)
- Pair your PED+ device to a tablet or android phone running DoseVision Live
- Connect to the PED+ device via the application connection management tab
- Access real-time dose and dose rate data from up to 7 paired and connected PED+ devices



# PED Accessories

- Disposable anti-static sealed bag
- Travel charger
- Car charger
- Lanyards
- Clips
- Protective carry case
- Protective belt holster



# Service & Maintenance

- Tracerco have global service centres for all types of radiation monitoring equipment offering calibration, repair, Hazardous Area equipment service and hire
- Fast turnaround 3-5 working days or sooner
- Tracerco offer a range of intrinsically safe hand held survey and contamination monitors



# Thank you

[www.tracerco.com/monitors](http://www.tracerco.com/monitors)

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