

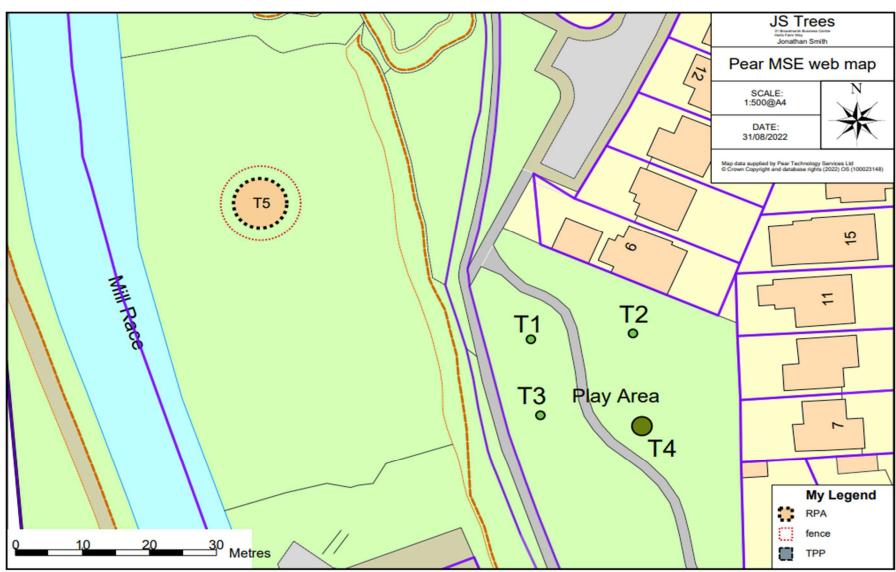
Software and services

Note: Training quoted is online, but is also available at Pear Technology offices or on site. The pricing below is indicative and Pear Technology will produce a quotation based upon your own requirements. Prices are plus VAT. Hardware incurs £25 delivery/insurance charge. **Leasing** may be available to limited companies, upon request.

Usage and Output		Requirements	Software Costs	Technical support
1. Web mapping	Pear MapShop Editor	Browser based	Free with	Annual
			PearMapShop	Technical support
2. Subscriptions	PearGIS	W10/11	£395pa	Included
	Pocket GIS survey software, unlimited surveys	Android	£295pa	Included
	OTISS survey and reporting see www.otiss.co.uk	Android app and web browser	From £300pa	Included
3. "Basic"				
producing BS 5837 maps	PearGIS – links data to map, imports external web data		£995	
from recording/marking up	Uses Ordnance Survey Master Map or VML data, "topo"	Minimum 2 hours online	£190	
maps for individual	maps, CAD drawings, scanned paper maps:	training		
properties in the field.	Import/export .mpd, .dxf, .shp,.mif, .kml (Google Earth),			
No hand held device for	raster (.jpg, .bmp)			
data capture/surveys in the	Edit map –			
field	Add trees to BS 5837, or icon or as groups of trees	Annual technical		£195pa
	Produce map of just area required, add title box and	support/software updates		
This is insufficient to lease	legend			
	Print to pdf or paper		Total £1,380	
	PT Mapper Pro – £100 less than PearGIS	PT Mapper Pro	£895 one off	£170pa
4. Field Data Capture	As above, plus performance of field data surveys for	As above, plus Pocket GIS	As above plus	
using own Android	BS5837, General Survey, VTA, Assets, lines and areas		PoGIS £650 one off	
device (phone or	plus free option to modify/create surveys	training	£145	
tablet)	£235pa inc. tech support or £650 one off	Use your own Android/W 10		£125pa
- PocketGIS		device.		
	ORuse OTISS : <u>www.otiss.co.uk</u>	Pear Technology can supply	Total £2,300 one off	
- OTISS	OTISS can be used in conjunction with PearGIS	hardware – see below.	From £300pa	
5. As above plus	As above, plus tree management and reporting facility	As above, plus	As above plus	£100pa
analysis, reporting	using TreeMinder. TreeMinder analyses the data	TreeMinder,	£300 one off	
and themed map	collected during survey and produces reports according	training	£95	
production	to criteria selected.	technical support	Total £3,000	

Pear MapShop Editor – free – just pay for OS map data

Simple web based mapping. Uses Ordnance Survey MasterMap data, to which text, points, lines and polygons can be added.



1. OTISS

OTISS comprises an android app for data collection, with data synchronised to the OTISS web site, allowing collaborative working.

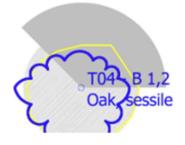
Pricing is by annual subscription and is proportionate to usage, from £300pa. Output can be imported into PearGIS, if required.

BS 5837 Surveys

OTISS supports BS5837:2012, "Trees in relation to design, demolition and construction – Recommendations". OTISS greatly assists consultants to carry out surveys and prepare tree

protection reports on planned developments.

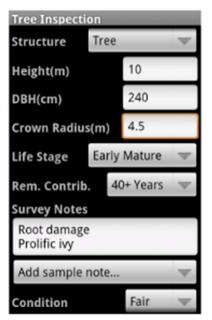
- Complete BS5837:2012 survey form.
- On-site data collection and photos using the BS5837 Survey app on your Android mobile phone or tablet.
- collection ing the ey app on nobile et.
- Automatic calculation of RPA, shadows, etc
- Web based tools for further data updates and refinements.
- Colour coded icons BS 5837 retention categories.



Tree Safety & Risk Assessment

OTISS saves time and improves accuracy when carrying out general Tree Safety surveys or Tree Risk Assessment.

- Customised survey forms for each client.
- Risk Assessment: ISA 2013, Matheny & Clark, THREATS and more.
 Automatic calculation of risk categories.





OTISS continued

Maps & Drawings

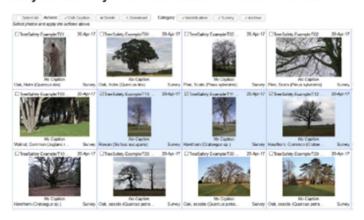
We provide; OpenStreet Map, Google Street and Aerial Maps.

You can upload site or topography plans, CAD drawings, PDFs, Ordnance Survey Mastermap, and georeferenced maps. Plot directly onto the uploaded maps.



Photos

Take photographs of issues and work required as you survey. Review them on the website.



Reports

Predefined and customised PDF and Excel charts and data tables for you to incorporate into your final report.

Ref	Species	Description & Targets	Measurements	Survey Notes	Condition	inspected	Inspect Period
G10	Hawthorn (Crataegus sp.)	Boundary hedge.	Height (m): 9 Crown Radius (m): 3 DBH (cm): 40 Life Stage: Mature Life Exp.: 40+ Years	Good growth. Spreading into verges. Fungal bodies on some trunks.	Good	24-Mar-2014	3 Years
G11	Sycamore (Acer pseudoplatanus)		ntion	Life Stage		12-Apr-2017	1 Year
101	Oak, Holim (Querous flex)	13%	■A ■8	13% Ear Mi	bure	17-Feb-2014	2 Years
102	Pine, Scots (Pinus sylvestris)	12%	=C ≡U	■ Yo	ung	17-Feb-2014	2 Years
103	Walnut, Common (Juglans regia)	On busy roundabout	Crown Radius (m): 6.5 C6H (cm): 240 Life Stage: Early Mature Life Exp.: 40+ Years	Root damage Prolific ivy	Fair	24 Feb-2014	1 Year
T10	Rowan (Sorbus aucuparia)	Roedside	Height (m): 6 Crown Radius (m): 2 DBH (on): 20 Life Stage: Young Life Exp.: 30+ Years	Cankers/Galls/Burls on trunk. Leaning trunk. Prolific Ivy on trunk.	Fair	24-Mar-2014	1 Year

Create your own Excel templates with colours, fonts, columns, etc. OTISS will fill in the data.

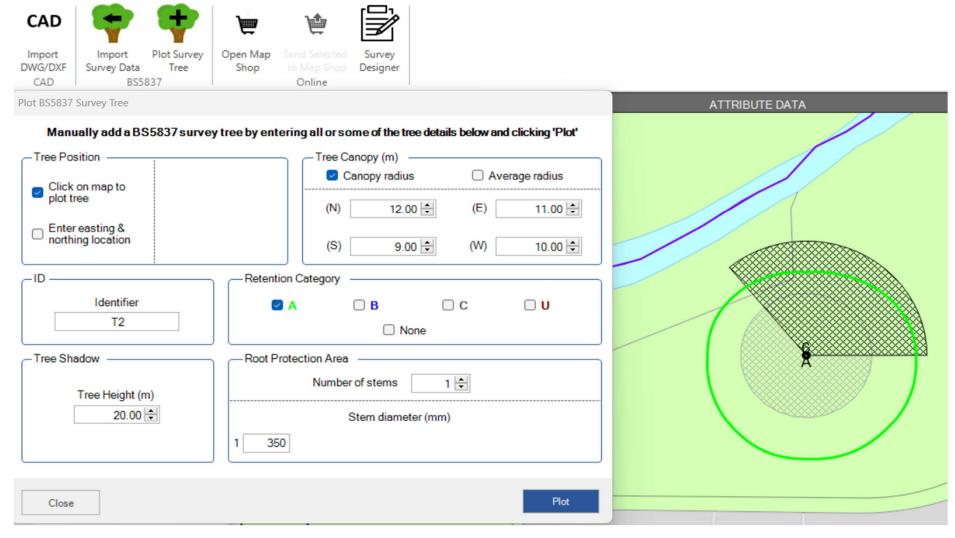
Pricing

This is an online service, there is no software to install or maintain on your PCs. Consultants pay an annual subscription for the use of the system.

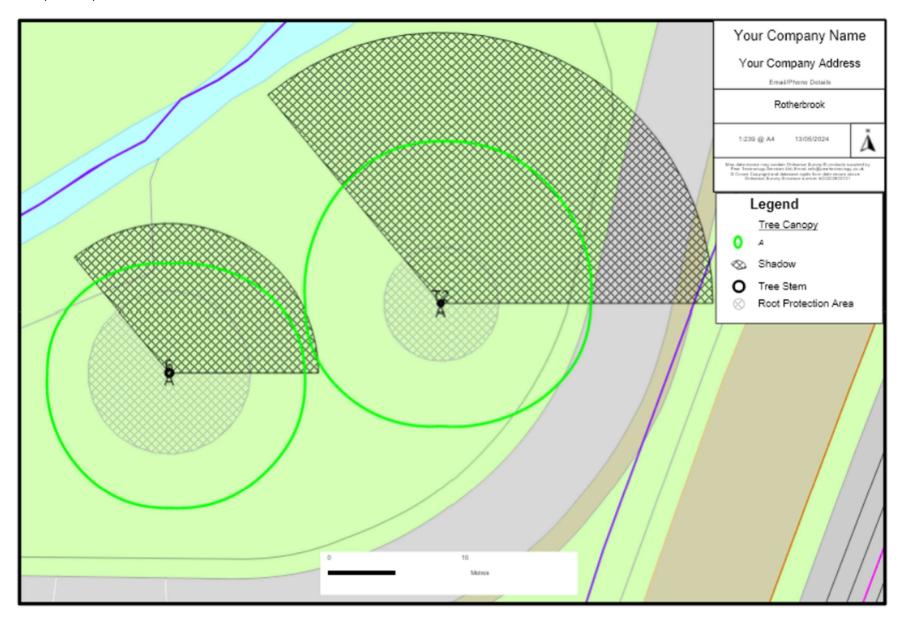
Separate subscriptions are needed for the BS5837 and Tree Safety modules. See our website for full details.

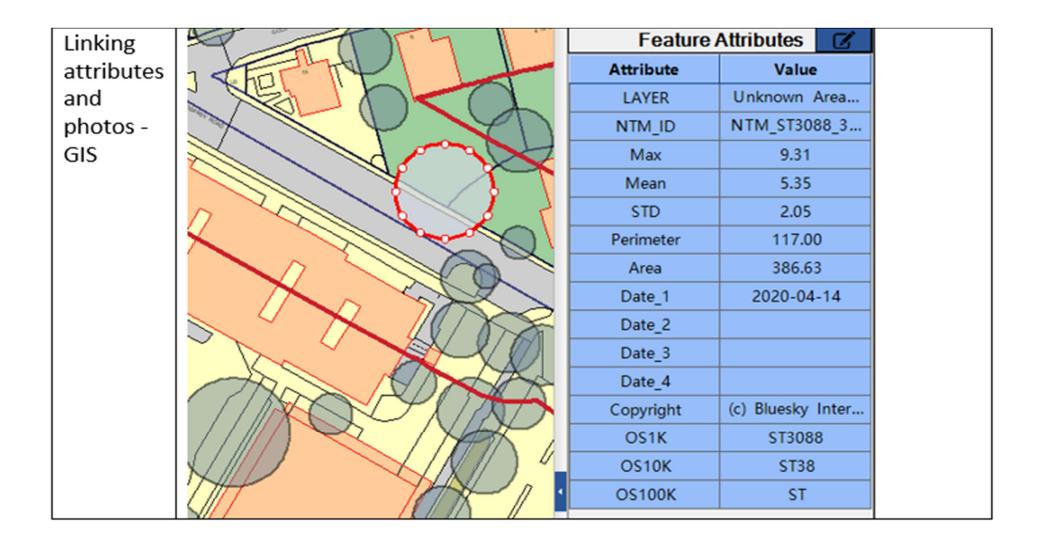
PearGIS

PearGIS can be used in conjunction with OTISS or PocketGIS surveys and can import/export to/from and all main GIS software. It is good for importing and exporting CAD data and also enables the linking of data attributes, external data sources and can incorporate WMS (web mapping service) map feeds, such as from British Geological Survey, DEFRA and other sources. Phase 1 functionality exists and UK Hab and BNG are to follow. For BS5837 plotting, see below.

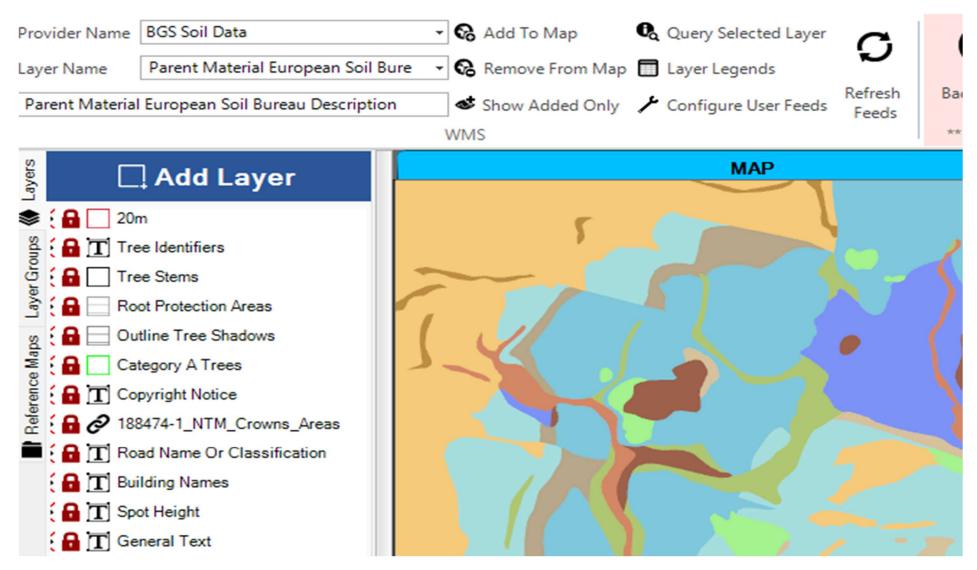


BS5837 print to pdf from PearGIS:

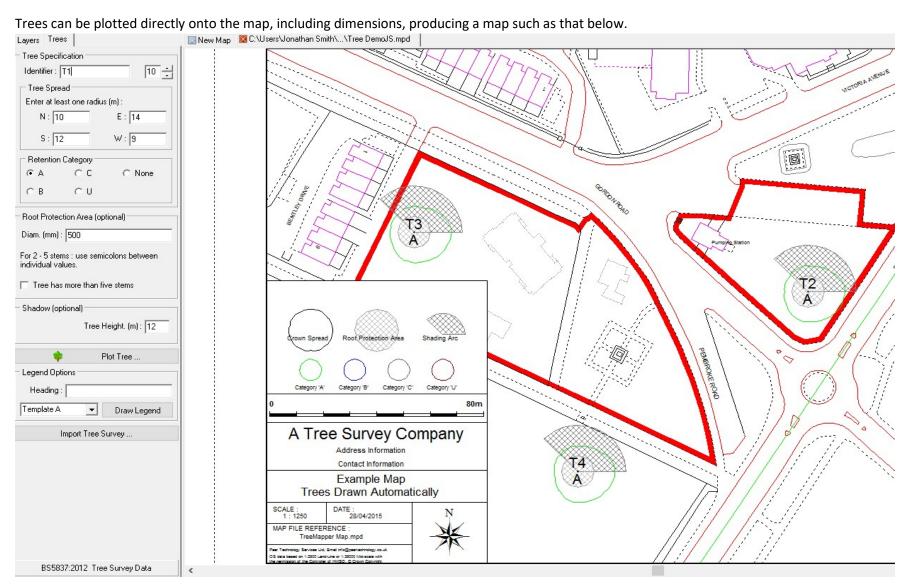




Web map feeds, such as British Geological Survey and DEFRA



If using PT Mapper Pro only.

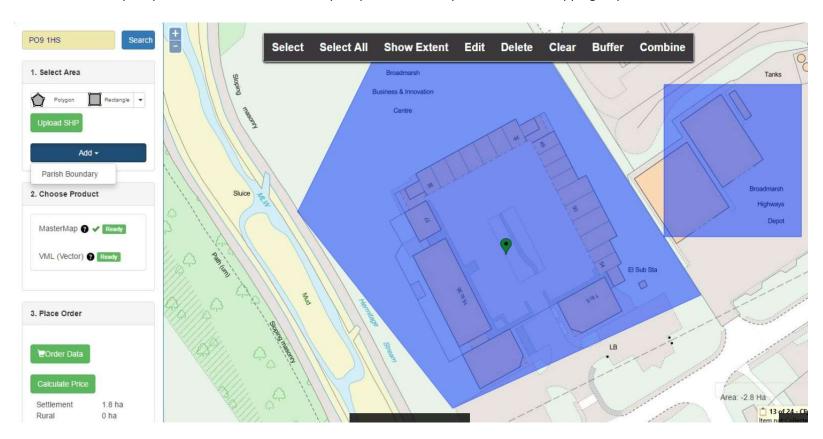


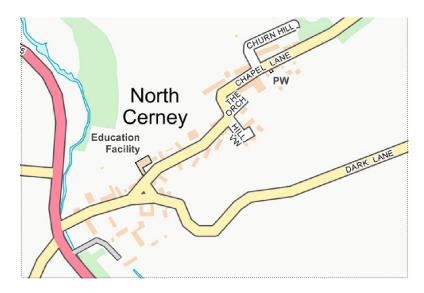
Pear MapShop – OS data purchase (if required) and web mapping option, including from OTISS link.

Pear Technology is an Ordnance Survey partner, and as such can supply OS maps as required, or PearGIS can import "topos" (.dxf) from CAD.

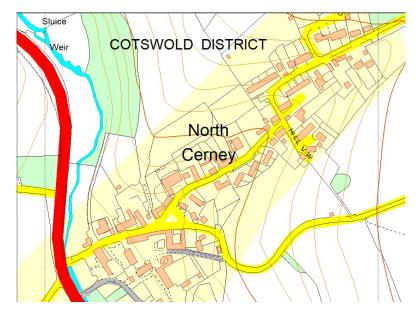
Select your required map, using Pear Technology MapShop. This enables you to outline an area, get a quote, order, download and open in PearGIS. See screenshot below.

The first hectare of MasterMap data costs c. £22, subsequent hectares c. £8. For larger sites, OS VML (Vector Map Local) may be suitable and costs c. £32 for 100 hectares. Pear MapShop also includes free use of MapShop Editor for simple, web based mapping requirements.





Free OS map

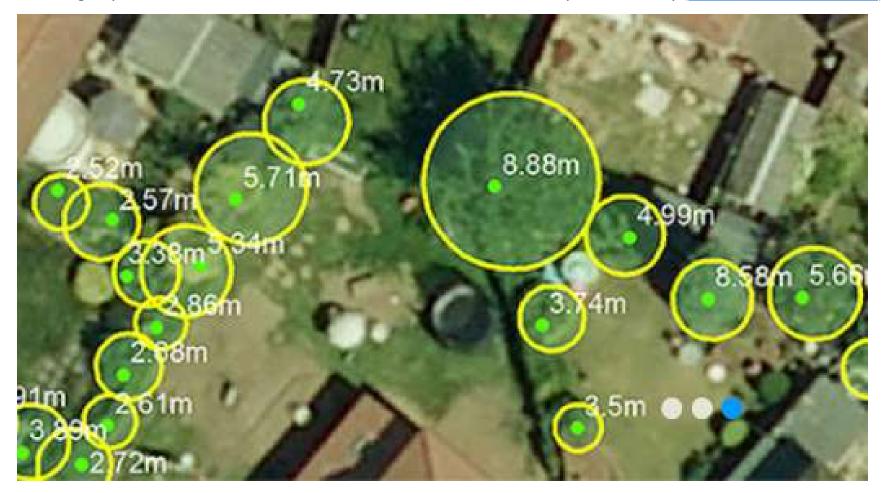


North Ce

Ordnance Survey MasterMap

You can also import a variety of other map data, for use with the map, including:

Land Registry, SSSI, flood areas, ancient woodland and National Tree Map from Bluesky (<u>www.bluesky-world.com</u>), see below



The NTM data gives you the position, height and crown spread for every tree over 3metres high. That data can be imported into a survey template, so that **before you even get to site, the survey is partly done!** National Hedgerow Map also available.

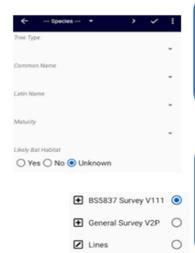
3. Field Data Capture - Using PocketGIS software. PocketGIS licence £650 one off or £295pa.

OTISS similar but sync's to OTISS web site.



- 1.Source map CAD drawing or OS map data. If OS, option to download from Pear MapShop.
- 2.Once survey data received from hand held, import as .csv or .shp





◆ VTA1

Export surveyed data as .csv, .zip for photos or .shp for lines/areas, by email atttachment, uploading to web storage, or using USB cable.

Collect survey data on site.Use GPS for location if applicable. Connect Geode to hand held by bluetooth for greater accuracy.

Open map in PT Mapper or PearGIS. Export map and selected survey templates to .zip file.

Transfer .zip file to hand held, by email atttachment, uploading to web storage, or using USB cable



Lines and Areas V109 ○
 Phase1_Areas_V5 ○

OTISS shares survey data via OTISS web site

Export map from PC position of tree. Tap

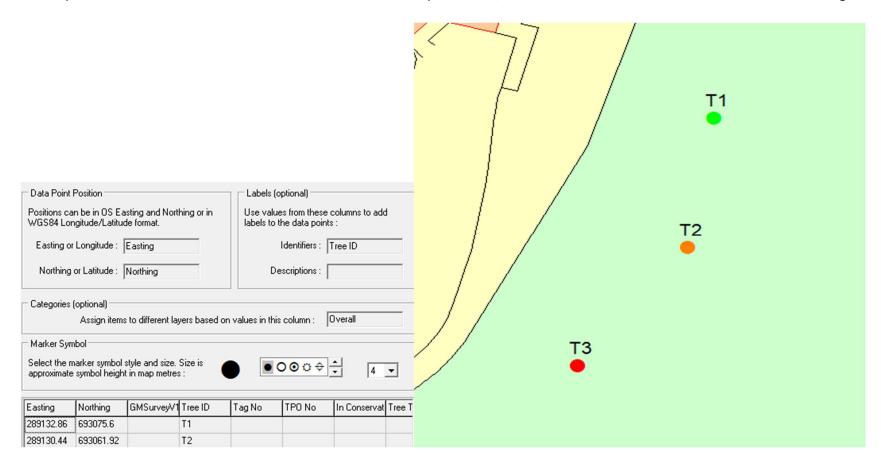
to mobile device. Use GPS to locate position of tree on map to open

survey and follow survey instructions. Most fields are drop down or numerical entry, for speed and accuracy.

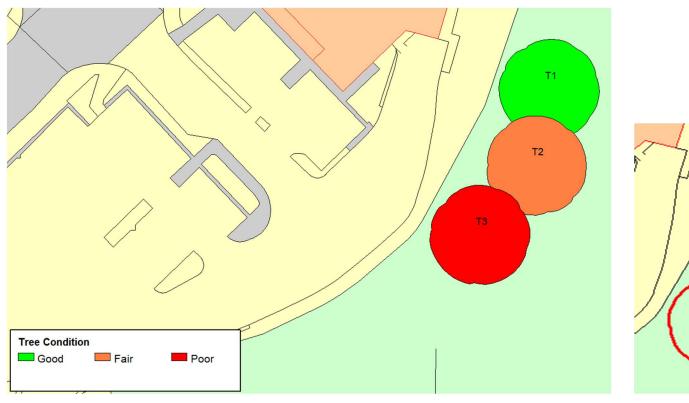
The result created is a .csv or spreadsheet file. This can then be imported to create a map like that above, but with accurately plotted trees.

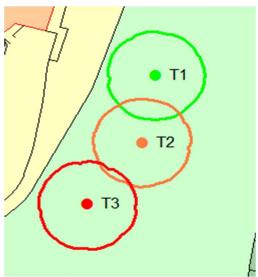
The spreadsheet created can be used as the basis or appendix of reports.

The map can show a black marker and tree ID, colour coded marker plus tree ID, or include the tree crown to scale and coloured according to risk, as below.



....or import as if a BS5837, to show canopy as below.

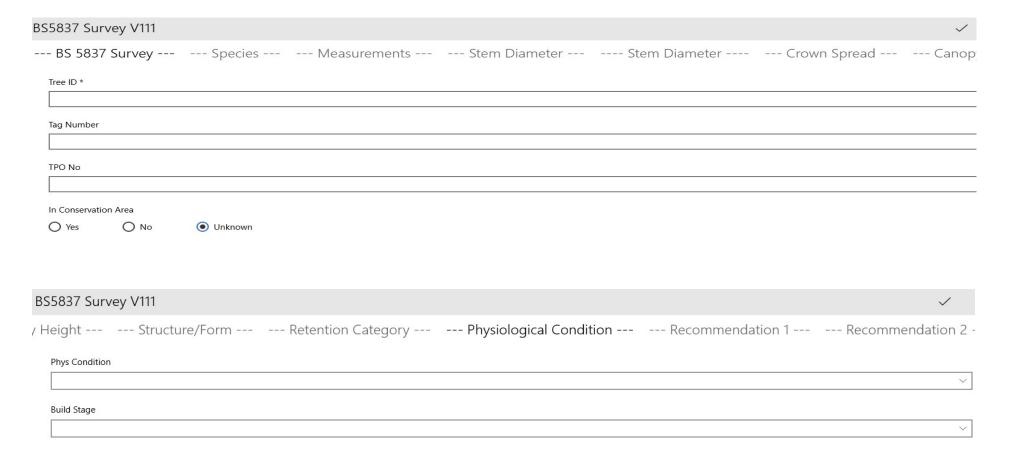




Surveys

Existing, free surveys include BS5837, General Survey, lines, areas and assets. Additional free surveys include: VTA; THREATS, TEMPO; W-TEMPO; Ash; Mortgage; bracken; reptiles; bats. The surveys can include photographs, can use voice to text and also voice recording.

You can also revise these or create your own survey.

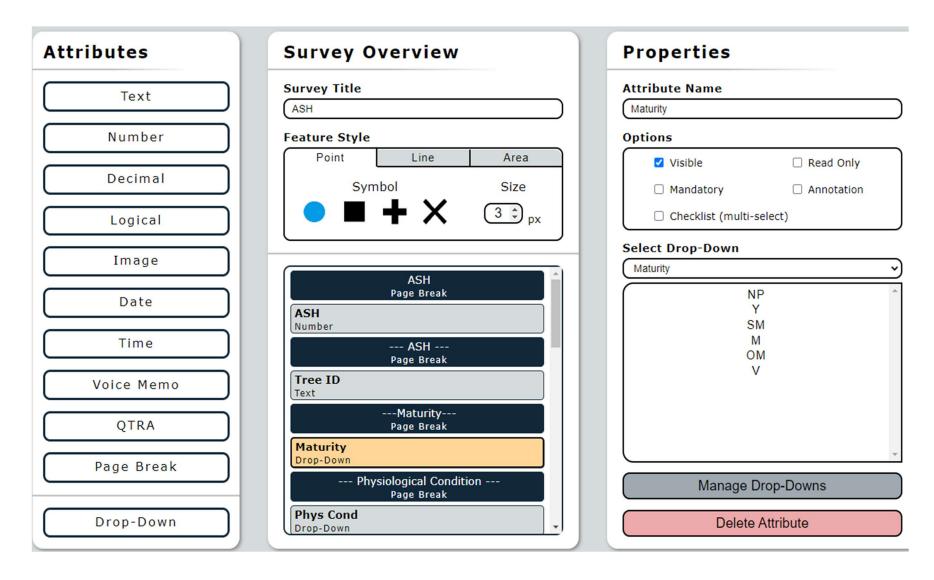


The result of the survey is a spreadsheet, example below.

Tree ID	Species	Maturity	Phys Cor	nc Defects	Recommendations Comments	Priority
T1	Common oak	M	Good	Dead branches	Crown clean	6 months
T2	Silver birch	SM	Fair	Bifurcated stem	Prune	3 months
T3	Common ash	Y	Poor	Bifurcated stem	Cable brace	1 month

Maturity	Phys Cond	Defects	Recommendations
M	Good	Minor deadwood	Crown Cleaning
SM	Fair	Dead branches;	Cut back growth
SM	Poor	Decay;Cavities;Fungal Bracket	Fell
	M SM	M Good SM Fair	M Good Minor deadwood SM Fair Dead branches;

Pear Survey Designer (free!), enables you to create or modify survey templates in PocketGIS. OTISS has its own survey creation function, see 2nd image, below.



OTISS survey creation

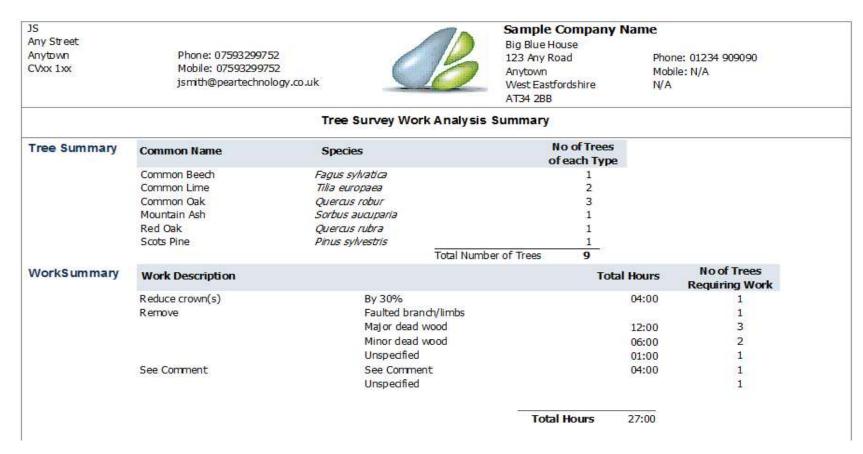
Fields on the Survey Form ? Help on how to use these features...

Search Seq		2					
Seq							View 1 - 49 of
	4			Field Id	Field Name	Status	Values
	1	1	+	reference	Reference	Mandatory	
	2	1	+	reference2	Other Reference	Visible	
	3	1	+	species	Species	Mandatory	
	4	1	1	variety	Variety	Visible	c.v.;Culinary Variety;Fasitigiata;Ornamental;Pendula;Purpurea;Variegata
	5	1	1	description	Description & Targets	Visible	Add description & targets;Owned by the estate.;Owned by neighbour.;
	6	1	1	structure	Structure	Mandatory	Tree=T;Group=G;Coppiced=C;Hedge=H;Multi-Stemmed=M;Pollard=P;S
	7	1	+	curved	Draw as curved shape.	Visible	Curved;Angular;
₽	8	1	+	location	Coordinates	Mandatory	
•	9	1	+	numStems	Num. Stems	Visible	1;2;3;4;5;10;15;20
<i>▶</i> 1	0	1	+	height	Height (m)	Visible	2.0;3.0;4.0;5.0;6.0;7.0;8.0;9.0;10.0;11.0;12.0;13.0;14.0;15.0;16.0;17.0;1
1	11	1	1	dbh	DBH (cm)	Visible	10;20;30;40;50;60;70;80;90;100;
1	2	1	+	crownRadius	Crown Radius (m)	Visible	1.0;2.0;3.0;4.0;5.0;6.0;7.0;8.0;9.0;10.0
<i>▶</i> 1	3	1	+	north	Radius North (m)	Hidden	1.0;2.0;3.0;4.0;5.0;6.0;7.0;8.0;9.0;10.0
● 1-	4	1	+	east	Radius East (m)	Hidden	1.0;2.0;3.0;4.0;5.0;6.0;7.0;8.0;9.0;10.0
<i>▶</i> 1	5	1	+	south	Radius South (m)	Hidden	1.0;2.0;3.0;4.0;5.0;6.0;7.0;8.0;9.0;10.0
<i>▶</i> 1	6	1	+	west	Radius West (m)	Hidden	1.0;2.0;3.0;4.0;5.0;6.0;7.0;8.0;9.0;10.0
1	7	1	+	lifeStage	Life Stage	Visible	Newly planted=N;Young=Y;Semi Mature=S;Early Mature=E;Mature=M;
2 1	8	1	+	lifeExpectancy	Life Expectancy	Visible	Dead=0;<10 years=9;10+ Years=10;20+ Years=20;30+ Years=30;40+
1	9	1	+	surveyNotes1	Failure Indicators	Visible	Add failure indicators;* Access;Low branches (3m) obstruct pedestria
2	20	1	+	surveyNotes2	Fungus	Visible	Add fungus;Cerioporus squamosus (Dryad's saddle);Collybia fusibes
2	21	1	+	surveyNotes3	Pests and Diseases	Visible	Add pests and diseases;Anthracnose of London Plane (Apiognomoni
2	22	1	+	pCondition	Physiological Condition	Visible	Good;Fair;Poor;Diseased;Dead;Not Recorded;
<i>▶</i> 2	23	1	+	sCondition	Structural Condition	Visible	Good;Fair;Poor;Collapsing;Decaying;Physical Defect;Not Recorded;
2	24	1	+	condition	Overall Condition	Visible	Good;Fair;Poor;Dead;Not Recorded;
2	25	1	1	riskFactor1	Failure Score	Visible	Imminent/Immediate=50;Probable/Soon=8;Likely, forseeable=2;Potenti
2	26	1	1	riskFactor2	Target Score	Visible	Very High=40;High=25;Medium=20;Low=15;Very Low=7;None=0;
2	27	1	+	riskFactor3	Impact Score	Visible	Severe=10;Moderate=6;Minor=4;Very minor=1;
	28	1	+	riskFactor4	Risk Score	Read-Only	
	Q		1	riskFactor5	Unused	Hidden	

Using Data collected using PocketGIS (not OTISS) in TreeMinder.

TreeMinder allows the user to focus on the data collected from the survey and produce a range of reports.

Easting	Northing	Height	ID	G Comment	Tag No	TPO No	Ecm	In Con	N cm	Tree Type	Common Name	Latin Name	Stems	Height (m)	Stem Dia (mm)	Spread (m	Maturity
363897.451	339167.123	101.65	93	Weak crown som	739		36389745	No	33916712	Prunus	Wild Cherry	Prunus avium	1	4	200	3	Semi-mature
363901.004	339171.517	113.45	94		741		36390100	No	33917151	Prunus	Wild Cherry	Prunus avium	1	8	290	2.6	Semi-mature
363903.059	339164.366	103.85	95		742		36390305	No	33916436	Prunus	Wild Cherry	Prunus avium	1	6	190	4	Semi-mature
363958.316	339135.988	104.15	96	Minor bark lift	743	1 1	36395831	No	33913598	Apple			1	6	190	2.5	Mature
363988.979	339181.651	103.85	97		744		36398897	No	33918165	Prunus	Wild Cherry	Prunus avium	1	7	230	3.6	Semi-mature
364001.586	339133.402	113.25	98	Canker in stem	745		36400158	No	33913340	Prunus	Wild Cherry	Prunus avium	1	7	270	4	Semi-mature
364000.449	339120.378	101.75	99	Some canker in s	746		36400044	No	33912037	Maple	Norway Maple	Acer platanoides	1	12	700	7	Semi-mature
364008.614	339072.209	105.35	100	No tag (nor on 74	747		36400861	No	33907220	Cupressus	Monterey Cypres	Cupressus macro	3	9.5	30	4	Semi-mature

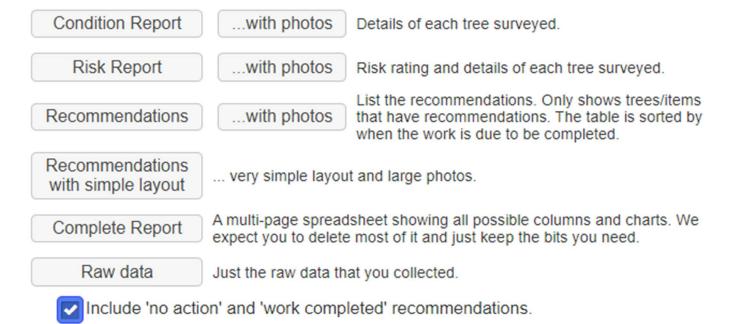


OTISS reports



Excel Reports

OTISS provides a range of pre-defined Excel reports. Select the required Site/Survey and setup any sorting, searching or filtering (on the main page) then click on the buttons below to create the Excel spreadsheets.



Once created, you can customise these reports using Excel. Then you can either (a) use Excel-> SaveAs-> PDF document, or (b) copy the tables and charts into your own reports.

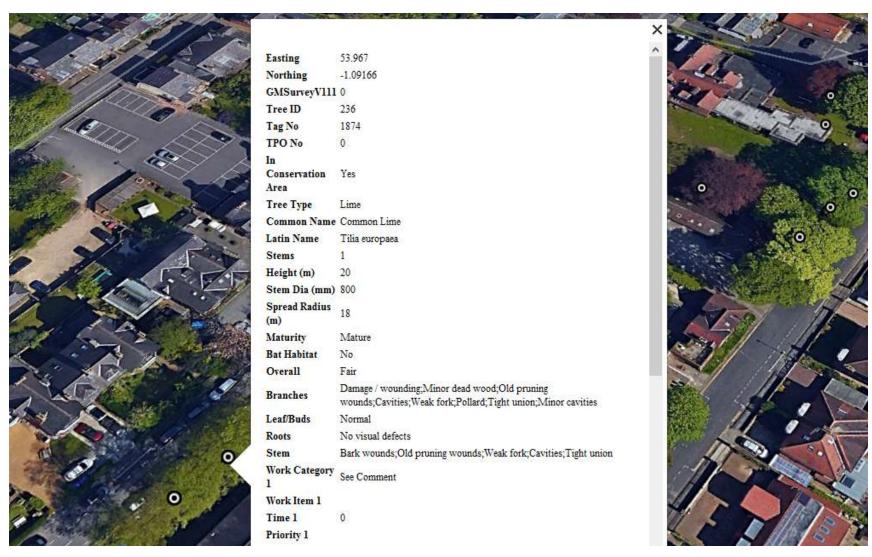
Alternatively, use the Excel Templates to tailor your own reports.

OTISS – sample output

	Tree Sur	vey Repo	rt						
	Client:	Pear Technolo	ogy Services Ltd					-	
	Site:	Example Site							
	Overall Condition	No. trees							
	Fair	4							
	Poor	1							
	Not Recorded	7							
	Total	12							
								-	
Ref.	Species		Description	Measurements	Survey Notes	Overall Condition	Threat Category	Inspect Period	Recommendations
Ref.	Not identified	11	Description	Measurements	Survey Notes				Recommendations
OG1a			Description	Measurements	Survey Notes			Period 1 Year	Recommendations
	Not identified (Not identified)		Description	Measurements	Survey Notes			Period	Recommendations
OG1a OG2a	Not identified (Not identified) Not identified		Description	Measurements	Survey Notes			Period 1 Year 1 Year	Recommendations
OG1a	Not identified (Not identified) Not identified (Not identified)		Description	Measurements	Survey Notes			Period 1 Year	Recommendations
OG1a OG2a OG3a	Not identified (Not identified) Not identified (Not identified) Not identified (Not identified (Not identified) Not identified		Description	Measurements	Survey Notes			Period 1 Year 1 Year 1 Year	Recommendations
OG1a OG2a	Not identified (Not identified)		Description	Measurements	Survey Notes			Period 1 Year 1 Year	Recommendations
OG1a OG2a OG3a OG4a	Not identified (Not identified) Not identified) (Not identified) Not identified (Not identified) Not identified (Not identified) Not identified (Not identified)		Description	Measurements	Survey Notes			Period 1 Year 1 Year 1 Year 1 Year	Recommendations
OG1a OG2a OG3a	Not identified (Not identified)		Description	Measurements	Survey Notes			Period 1 Year 1 Year 1 Year	Recommendations

Google Earth

Data collected can be linked to and shared via Google Earth



5.Hardware

Hardware available from Pear Technology for use with the above for tree surveys and field based data capture. We may be able to provide a trial and can certainly advise, based on your requirements.

Hardware prices include setup and support under warranty.

Pocket GIS Android can also be run on other Android phones and tablets. OTISS is an android app available from Google Play Store.

We are able to provide a trial copy of Pocket GIS, for use on these devices.

Leasing of hardware and software is an option for businesses and limited companies and subject to approval by Grenke Leasing.

Weekly hire of equipment is also a possible option. Prices are plus delivery and VAT. Hirer to pay return delivery. Hire hardware includes Pocket GIS or OTISS.

Trimble TDC600/TDC6/Archer 4 £175, Juniper Geode sub metre GPS £175/week each

PocketGIS software, required for performing surveys using hand held device, Android, £ 650 one off or £295pa inc technical support or

OTISS - android app free of charge from Google Play Store. Reporting& management of survey data via www.otiss.co.uk from £300pa inc TS



Juniper Archer 4, 6" screen, rain setting,

Android 14 up to 18, 2-4m GPS *

from £1375 Lease from £39/month

Options:

*sub metre GNSS pod (cost £825)

20 hour battery £124

Up to 5 year warranty

see separate price list from Pear

Lease as above, from £60/month

With sub metre pod and larger battery

£2,285

As above, but with 3rd year warranty and 3 years 3-8cm RTK £3,152

As above but 3 years 1-3cm RTK

£3,902



Optional GNSS Expansion Pod



30cm possible in open, with no ongoing cost. Lease from £49/month

GNS3S single L1 frequency **£1,710**

GNS3M capable of upgrade to multi frequency, with upgrade £2,313

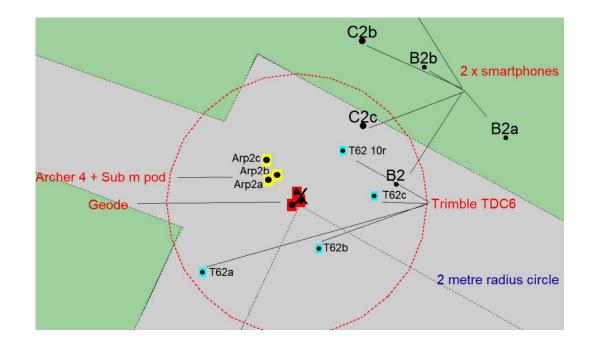
Multi frequency, L1,L2,L5 for use of Atlas correction service, £3,386

Athena RTK upgrade £1760

RTK2Go FoC

RTKF.net stated accuracy 2.5cm,

30 days over 12 months £300



Pear and OTISS for Arboriculture, Forestry and Ecology Mapping and Management						
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