



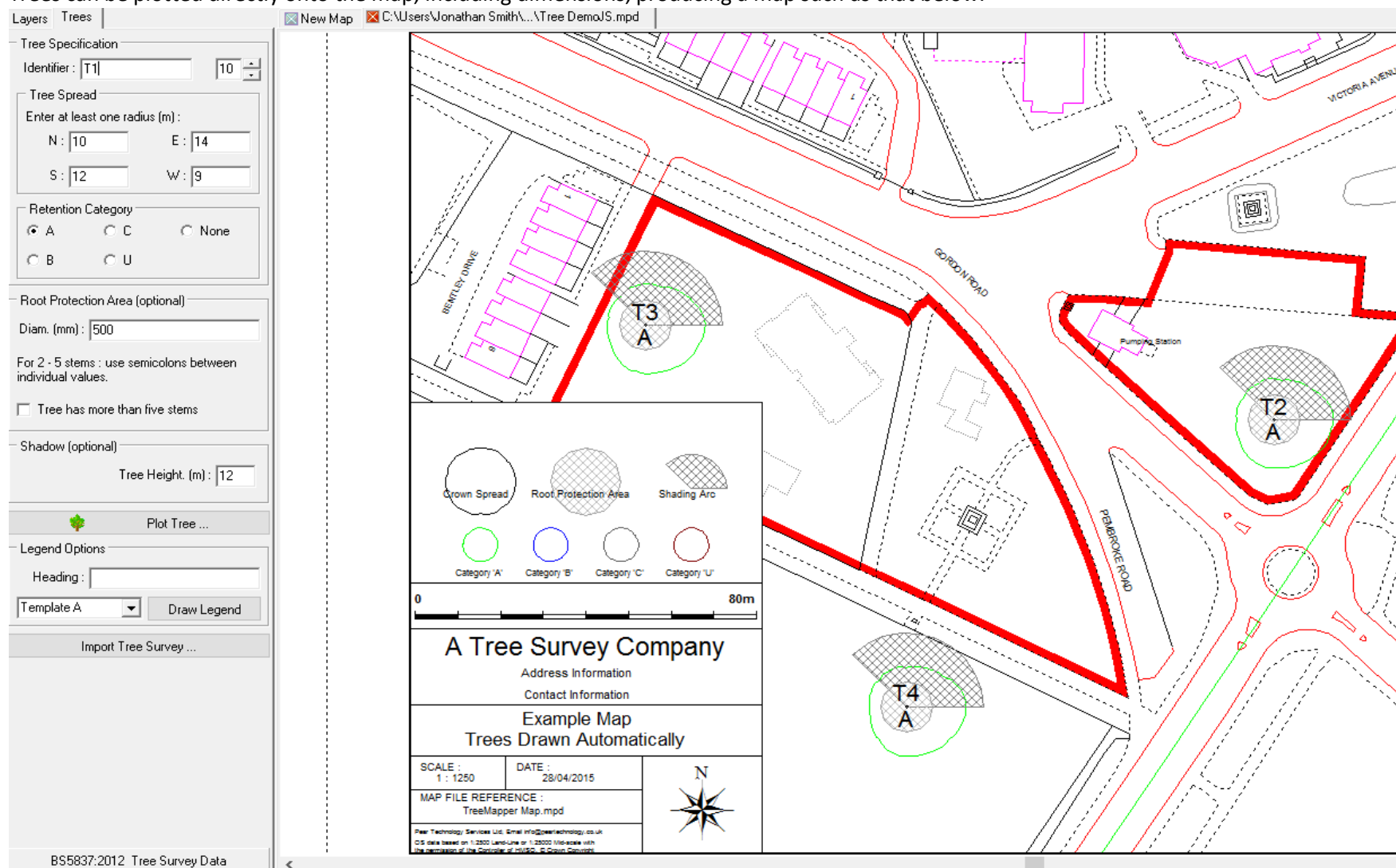
Pear Technology for
Arboricultural and Forestry
Mapping, Surveys and Management

Pear Technology for Arboriculture, Forestry and Ecology Mapping and Management

Software and services			
Note: Training quoted is online, but is also available at Pear Technology offices or on site.			
Usage and Output		Requirements	Costs
1. Basic producing BS 5837 maps from recording/marketing up maps for individual properties in the field and updating PT Mapper Pro. No hand held device for data capture/surveys in the field This is insufficient to lease	PT Mapper Pro – Uses Ordnance Survey Master Map or VML data, “topo” maps, CAD drawings, scanned paper maps: Import/export .mpd, .dxf, .shp,.mif, .kml (Google Earth), raster (.jpg, .bmp) Edit map – Add trees to BS 5837, or icon or as groups of trees Measure distances, areas. Add lines, shapes, text, additional map layers . Produce map of just area required, add title box and legend Print to pdf or paper	PT Mapper Pro Minimum 1.5 hours online training Annual technical support/software updates	£850 £112.50 140pa Total £1,102.50
2. Field Data Capture - using own Android device (phone or tablet) Lease costs £49/month Plus initial £413	As above, plus performance of field data surveys for BS5837, General Survey, VTA, Assets, lines and areas plus free option to modify/create surveys Pocket GIS Windows 10 version available from January 2017.	As above, plus Pocket GIS Android version*, technical support and training. This assumes you are using your own Android device. Pear Technology can supply hardware – see below.	As above plus £600 £110pa £75 Total 1887.50
3. As above plus analysis, reporting and themed map production Lease costs £75/month Plus initial £592.5	As above, plus tree management and reporting facility using TreeMinder. TreeMinder analyses the data collected during survey and produces reports according to criteria selected. MapLink enables “theming” of the map eg immediately shows by colour, trees requiring urgent work or forestry areas coloured to show felling year, species, grants etc	As above, plus MapLink and TreeMinder, training technical support	As above plus £800 £105 £170pa Total 2962.50

1. Basic – PT Mapper Pro only. £1,102.50

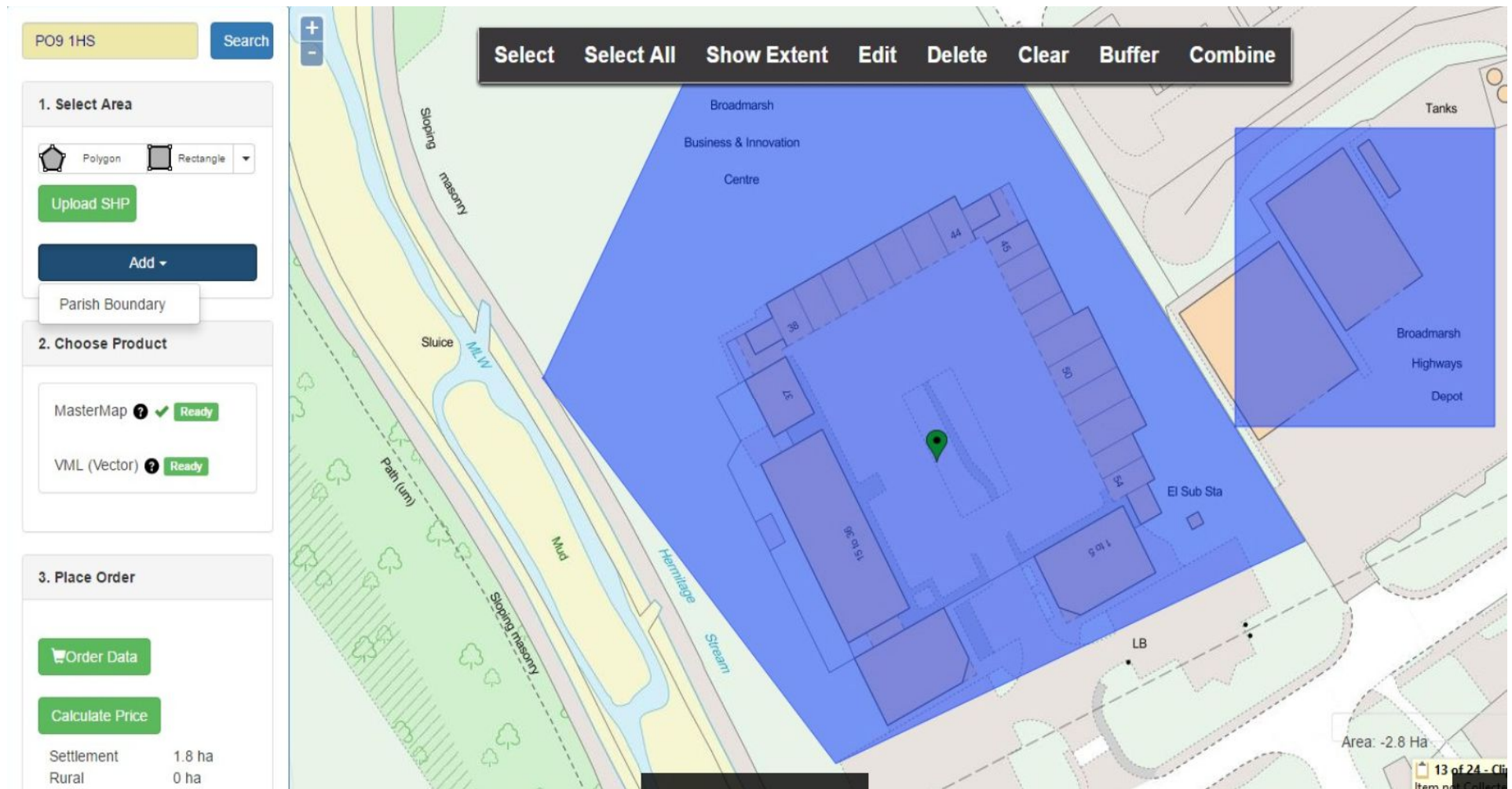
Trees can be plotted directly onto the map, including dimensions, producing a map such as that below.



PT Mapper Pro does much more; see <http://www.peartechnology.co.uk/products/ptmapper/>

Map Purchase

Pear Technology is an Ordnance Survey partner, and as such can supply OS maps as required, or PT Mapper Pro can import “topos” from CAD. You can order required maps by outlining an area in Google Earth and emailing it to Pear Technology for a quote. In 2017, it will be possible to select your required map, using Pear Technology MapShop. This enables you to outline an area, get a quote, order, download and open in PT Mapper Pro. See screenshot below.



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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 (www.bluesky-world.com), see below



2. Field Data Capture – Using PocketGIS software £1,887.50

Export map from PC to mobile device. Use GPS to locate position of tree. Tap position of tree on map to open survey and follow survey instructions. Most fields are drop down or numerical entry, for speed and accuracy.

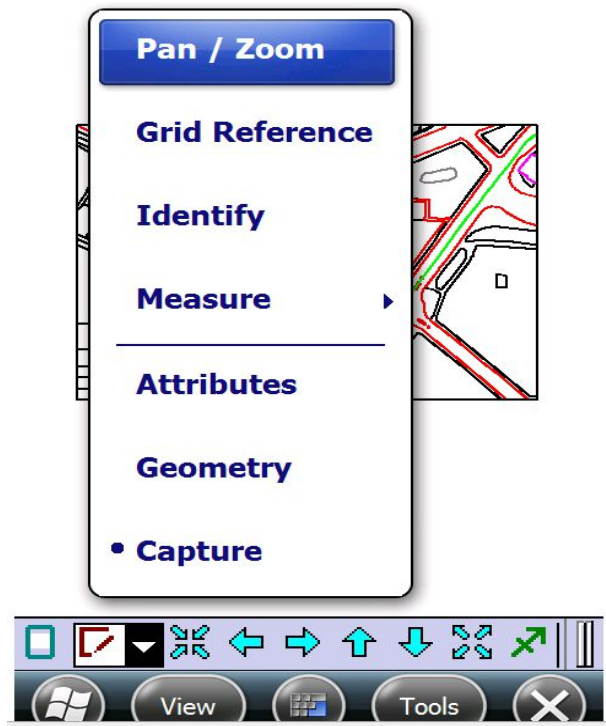
The result created is a .csv or spreadsheet file. This can then be imported to create a map like that above, but with accurately plotted trees.

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

Existing surveys include:

BS5837, General Survey, Risk Assessment Survey, lines and areas, assets.

Or create your own survey.



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Risk Assessment Survey - Sample Screenshots

PocketGIS

PocketGIS View Tools

RA Survey V110

RA Survey V110

Tree Type

Common Name

Latin Name

Genera and Species

Cabbage Tree

(Not Set)

A Group

A Hedgerow

A Woodland

Alder

Apple

Ash

Bay

Beech

Birch

Bladdemut

Box

Buckthorn

Cabbage Tree

Carolina Allspice

Catalpa

Cedar

Chilean Firebush

Chinese Cedar

Chinese Privet

RA Survey V110

Measurements

Height (m)

Stems

Stem Dia (mm)

Spread Radius (m)

Maturity

Likely Bat Habitat

Yes No Unknown

Prev Next

RA Survey V110

RA Survey V110

Work Category 1

Work Item 1

Time 1

Relating to (1)

Recommendation 1

(Not Set)

Cable brace

Coppice

Cut back growth

End weight reduction

Fell

Formative prune

Further inspection

Ivy

No action

Pollard

Protection

Prune

Raise low canopy

Reduce crown(s)

Reduce faulted limbs/stems

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


	I	J	K	L	M	N	O	(R,S,T)	U	VW	X	YZAAE(AADAIAI	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
1	Common	Latin Nam	Height	Stems	Stem Dia	(Spread Ra	Maturity	(B C D E)	Consequences	F (G H)	Vigour	J (I L) M N	CP Work Catego	Work Item 1	Time 1	Relating to	Work Cate	Work Item	Time 2	Relating to	Work Cate	Work Item	Time 3	Relating to
2	Grey Alde	Alnus inca	8	1	500	8	Mature	B A A A	Minimal	A A A	Good	E / A A A	(CA Cable brace	Check and/o	01:00	A Purpose of	Inspection and	Assessment						
3																								


3.TreeMinder and MapLink £2,962.50

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	E cm	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		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 Cypress	Cupressus macro	3	9.5	30	4	Semi-mature

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JS Any Street Anytown CVxx 1xx		Phone: 07593299752 Mobile: 07593299752 jsmith@peartechology.co.uk		Sample Company Name Big Blue House 123 Any Road Anytown West Eastfordshire AT34 2BB	Phone: 01234 909090 Mobile: N/A N/A
Tree Survey Work Analysis Summary					
Tree Summary	Common Name	Species	No of Trees of each Type		
	Common Beech	<i>Fagus sylvatica</i>	1		
	Common Lime	<i>Tilia europaea</i>	2		
	Common Oak	<i>Quercus robur</i>	3		
	Mountain Ash	<i>Sorbus aucuparia</i>	1		
	Red Oak	<i>Quercus rubra</i>	1		
	Scots Pine	<i>Pinus sylvestris</i>	1		
	Total Number of Trees		9		
Work Summary	Work Description		Total Hours	No of Trees Requiring Work	
	Reduce crown(s)	By 30%	04:00	1	
	Remove	Faulted branch/limbs		1	
		Major dead wood	12:00	3	
		Minor dead wood	06:00	2	
		Unspecified	01:00	1	
	See Comment	See Comment	04:00	1	
		Unspecified		1	
Total Hours			27:00		

BS5837:2012 Tree Survey												Sample Company Name			
Client: Sample Client												Big Blue House 123 Any Road Anytown West Eastfordshire AT34 2BB Phone: 01234 909090			
Project: New BS5837															
Survey Date: 16/08/2012 - 09/06/2014															
Surveyor: Sample Surveyor															
Tree and Tag No	Hght (m)	Stems		Crown		Age	RP A (m ²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC				
Species		No	Ø (mm)	Spread (m)	Clear (m)										
NewBS03 Tg002															
European White Elm <i>Ulmus laevis</i>	21	2	1345 (Eq)	N 6 E 6 S 6.4 W 6.1	4.1 3 3 3 4	M	A: 707 R: 15	Good	C: Good S: Ivy B: Good	Ivy :: Sever/remove ivy	A1.2				
NewBS02 Rm v001															
Copper Beech <i>Fagus sylvatica 'Purpurea'</i>	12	1	123	N 3 E 3 S 3 W 3	5 OM 5 5 5 5		A: 6.8 R: 1.47	Dead	C: Poor S: Ivy B: Poor	Fell :: Fell and remove stump(s) Potentially unsafe	U n/a				
NewBS01 Tg0012															
Cedar of Lebanon <i>Cedrus libani</i>	7.9	2	1256 (Eq)	N 7.1 E 6.3 S 6.8 W 6.9	8.1 8.1 8.1 7.9 7.9	SM	A: 707 R: 15		C: S: B:						
Age Classifications: N Newly planted EM Early Mature Y Young M Mature SM Semi-mature OM Over Mature												Condition: C Crown S Stem B Basal area		Stems: Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition	

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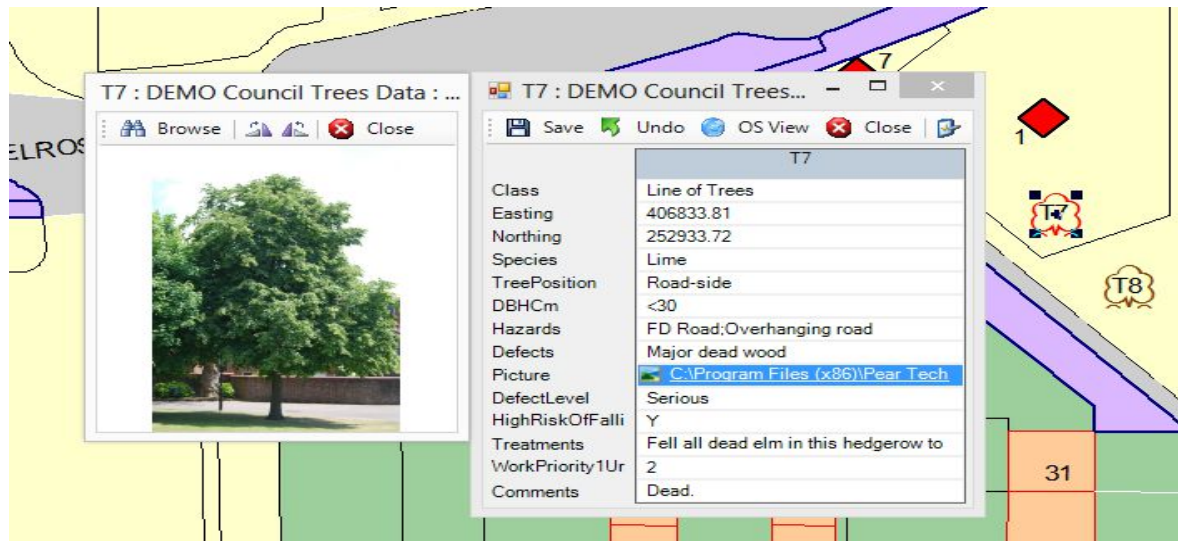
MapLink

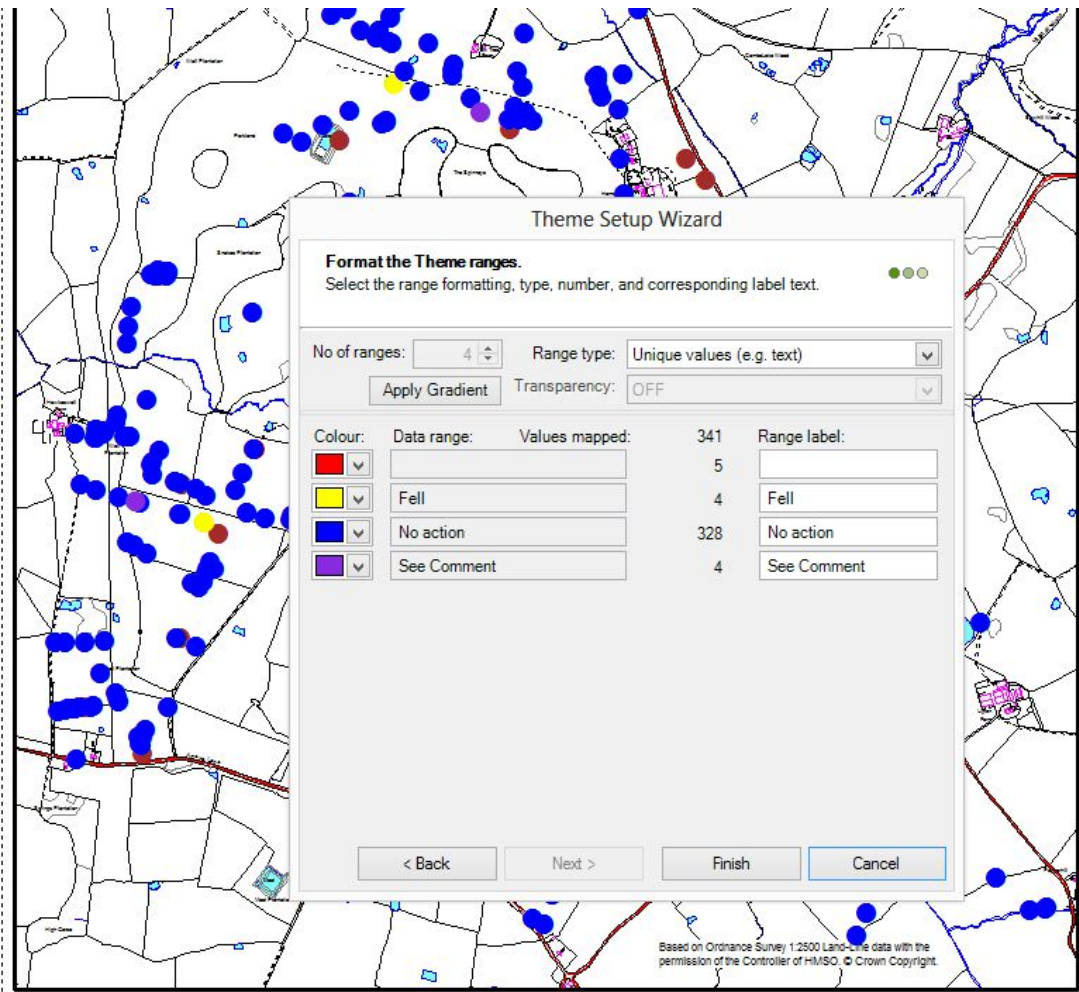
MapLink links the underlying data (eg that gathered whilst surveying in the field) and represents that data on the map, thus visually highlighting the distribution of trees according to the criteria chosen eg

- Where are the trees requiring urgent attention
- Tree species distribution
- Tree disease distribution
- Planting date distribution
- Felling date distribution
- Bat habitat
- Height

You can also:

- click on an individual tree to pull up the data related to that tree
- Connect an image or document to that tree record

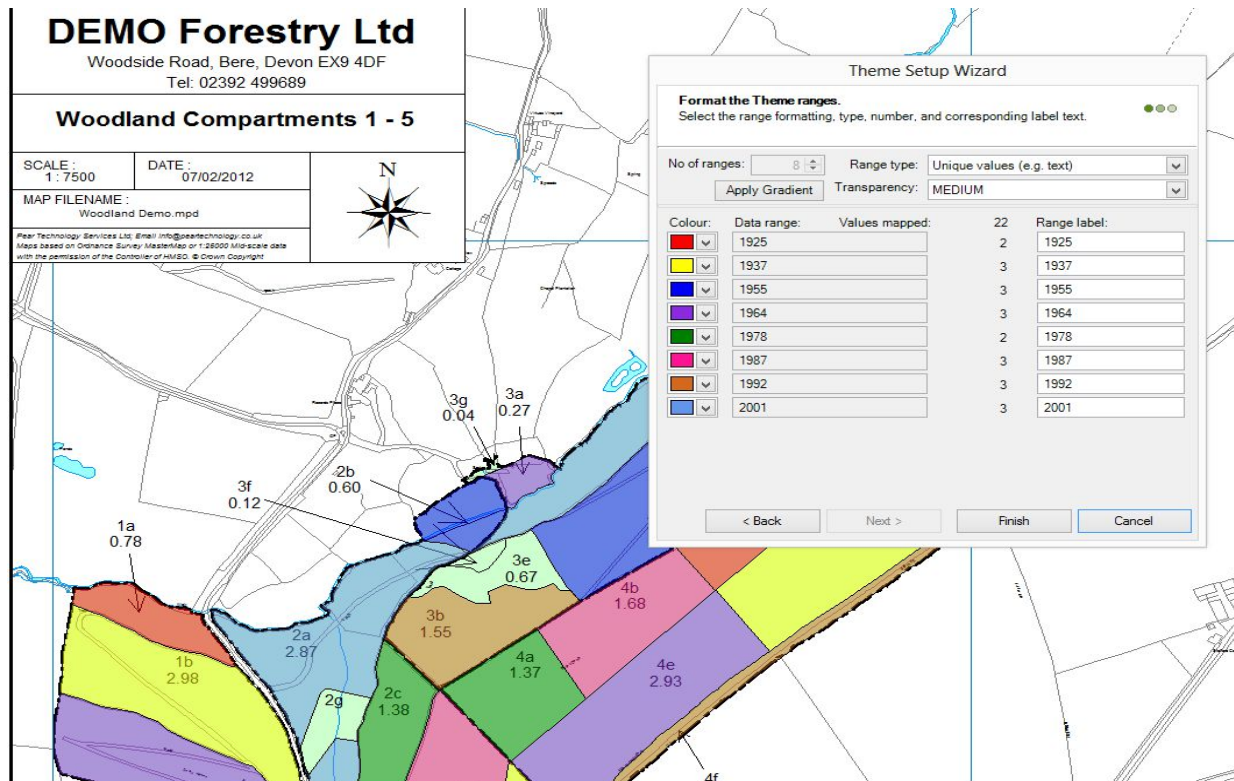




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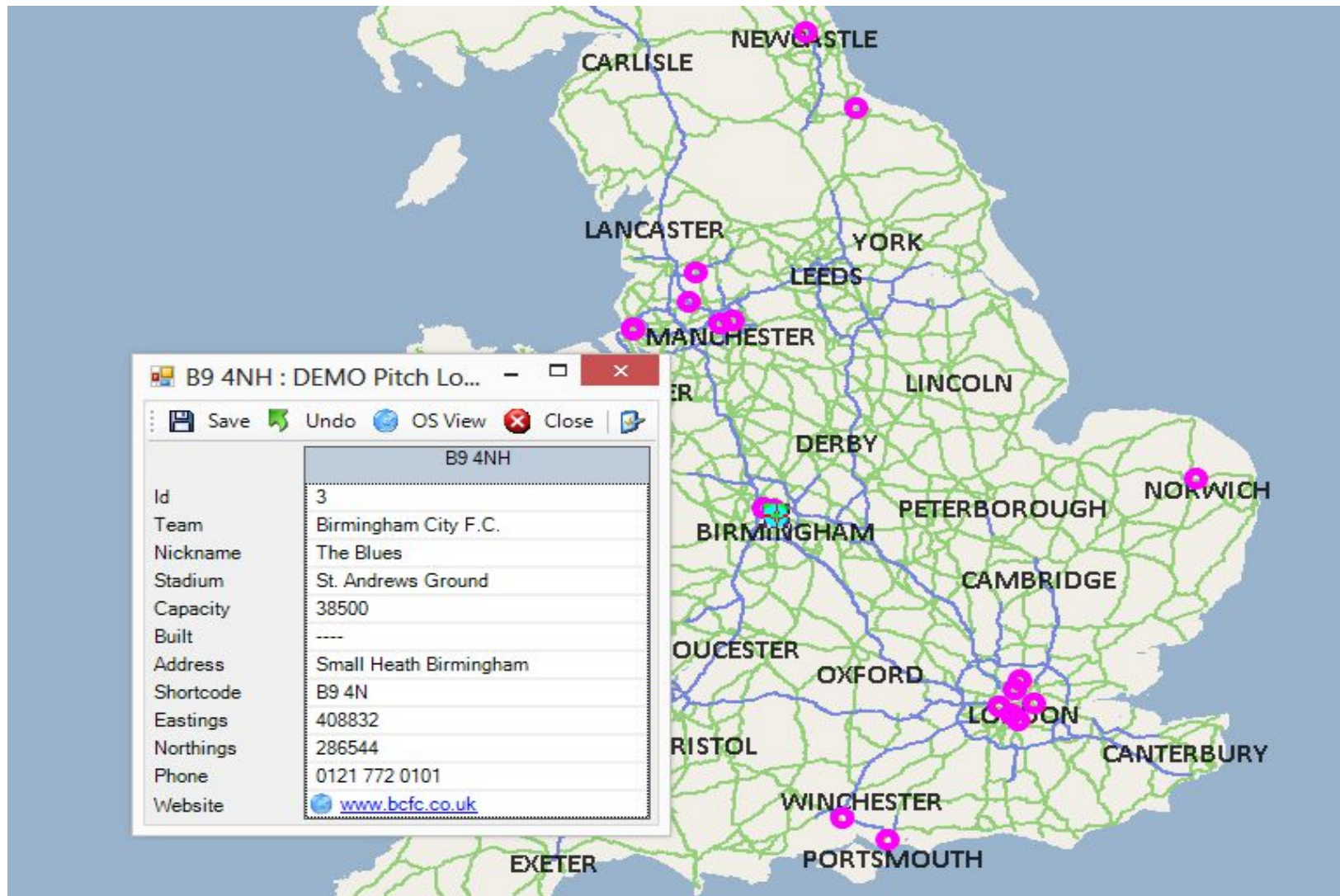
Maplink is very useful for forestry requirements in showing compartments and sub compartments by eg

- Species
- Maturity
- Planting date
- Felling date
- Grants applied for/won
- Soil ph



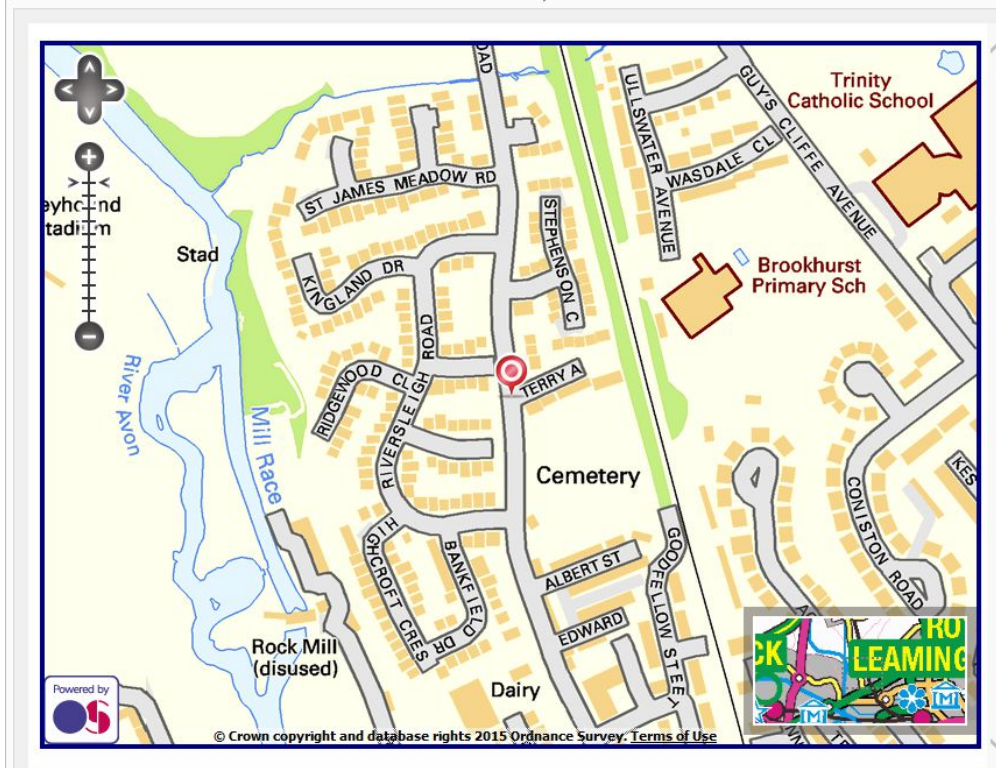
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Bonus: MapLink links to postcodes and comes with a UK Ordnance Survey map, so you could link and theme your client sites. The screenshot below is for football grounds around the country.



You can zoom in and then access street view level OS data via the internet, as below.

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4.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.

Android Pocket GIS can also be run on other Android phones and tablets. We are able to provide a trial copy of Pocket GIS, for use on these devices. From January 2017, Pocket GIS will be available to run on **Windows 10** phones, tablets and computers.

Leasing is an option for limited companies, subject to approval by Grenke Leasing. Prices are based on 3 year lease, 3 year warranty and are payable quarterly. There is an option to purchase for 5% of original price at end of contract.

Weekly hire of equipment is also a possible option. Prices are plus delivery and VAT. Hirer to pay return delivery.

Trimble 3B £100/week, Trimble TDC100 wifi £100/week Mio L135 £110/week Trimble T41CG from £150/week.

Leica Zeno 20, from £350/week, subject to availability. Please enquire.

PocketGIS software, required for performing surveys using hand held device,

Windows or Android, **£ 600** lease cost **£20/month**

Trimble TDC100, wifi version, Android, 5.3" 1200 x 720 screen, 2-5m GPS, 8mp camera , 8GB storage, IP67, 3yr wty

£995 lease cost **£32/month***

Trimble TDC100, 4G (phone/data) version, Android, 5.3" 1200 x 720 screen, 2-5m GPS, 13mp camera , 16GB storage, IP67, 3yr wty

£1,200 lease cost **£38/month***

Trimble T41 2-4m GPS 800 x 480 4.3" screen. Windows and Android options

£ 1100 lease cost **£41/month***

Trimble T41CG, Windows or Android options, **1-2 metre GPS**, 4.3" 800 x 480 touch screen, 8mp camera, IP68 (waterproof), "all day" battery,

£1,650 lease cost **£59/month***

Mio L135 10" Android tablet, ruggedized, IP67, 1280 x 800, 5mp camera, 2-5m GPS. For use with Pocket GIS Android

£ 1,100 lease cost **£41/month***

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GPS receivers, to improve positioning accuracy of tablet, with Bluetooth connection to tablet

Trimble R1 sub metre accuracy with (free) SBAS .

Bluetooth connection to phone/tablet

£2,100 lease cost **£73/month***

Other options available from £100

For **sub metre** accuracy positioning:

Trimble Geo7x, 4.2" screen, sub metre accuracy

£ by quotation

Leica Zeno 20

50 cm Accuracy (5cm option)

£ **5,100** lease cost **£ 172/month***

8mp camera, 4.7" screen

SmartNet subscription (40 Hours per month)

£ 500pa

Leica Zeno Professional

5 cm Accuracy

£ **5,700** lease cost **£ 190/month***

8mp camera, 4.7" screen

SmartNet subscription 5cm

£ 1,300 pa

5cm accuracy version, inc Pocket GIS, available to **hire** at **£ 350/week**

* Leases are payable quarterly