



**Registers
of Scotland**
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Land and property titles in Scotland by country of origin as at 31 December 2021

Methodology

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1 Methodology

From the data extracted as part of the snapshot taken at 31 December of each year, each unique title is allocated to one location category only based on the supplied address of the proprietor at the time of registration with RoS. There are five possible location categories that a title could be allocated to based on the town/county/country field of the supplied address: Scotland, England, Wales, Northern Ireland and outwith UK.

Where a title is shared by more than one owner/tenant, those with a non-UK element are allocated to the outwith UK category. Where there is no outwith UK element, the title is allocated to Scotland, England, Wales or Northern Ireland in that order according to the countries represented in the owners'/tenants' addresses, e.g. if Scotland is not represented, but both England and Wales are then it will be allocated to England.

Any title within the outwith UK category that includes more than one proprietor with an outwith UK address has been classified to the first outwith UK address listed on the title, e.g. if there were two proprietors, the first from France and the other from Italy, the title would be classified to France.

New registrations and certain changes to existing registrations over the previous 12 months are reviewed and incorporated to present the latest snapshot. If, as part of this review, a title cannot be classified to a geographic location then it is placed in the pot of titles where the proprietor address is unable to be classified. This pot will also include those titles that cannot be classified to a geographic location when the data is initially extracted from the Land Register for the snapshot as at 31 December of each year. For the snapshot extracted at 31 December 2021, any title which could not be classified to a geographic location has been manually searched and a geographic location (Scotland, England, Wales, Northern Ireland and outwith UK) has been attached, although an address cannot be identified in all cases.

The outwith UK titles were then further classified by type of proprietor, interest, local authority, land classification, urban rural classification and area (further information provided below). The maps shown in figure 10 were made with [Natural Earth](#) (free vector and raster map data).

UK Titles outwith Scotland

While it has been possible to allocate all addresses at the country level, some are incomplete and so cannot be easily allocated to a specific local authority or included within the region analysis. In addition, we do not currently hold address data for Northern Ireland in our mapping systems and so Northern Ireland addresses cannot be allocated at the region level. Out of 96,724 titles, 96,713 titles were included in this analysis.

Titles with an English or Welsh (E&W) owner address are identified from textual Land Register information.

Address details of these owners based in England and Wales are matched to OS AddressBase Core, and geocoded information assigned. Pattern matching and textual language tools are then used to update and edit any non-matching addresses to obtain the missing spatial information. When matching on full address is still not possible, matches are made on postcode, street, locality and then town level. Any non-matching addresses at this stage are discarded.

The title seed point for the associated title is then spatially intersected with other spatial datasets to obtain further attributes (e.g. which local authority the title is located in, what the sg_2015_16 2fold urban/rural classification is). The region is also assigned in this way however this was only possible for those which were registered to England or Wales. Addresses registered as Northern Ireland were not assigned a region in the same manner. Following a QA process, these addresses, when possible, were confirmed as being in Northern Ireland and subsequently allocated this region.

Classification of UK titles outwith Scotland by region / local authority

The title polygons are retrieved by title number.

Area analysis is conducted on titles with Registered status (Draft, Cancelled, Closed or Amalgamated titles are therefore excluded from the analysis). Previously registered titles with a pending application are treated as registered. This means that the spatial/area analysis reflects the interests which still existed on the snapshot date. Interests which were present at the start of the reporting year, but ceased to exist in the course of the year, are not included in the area calculations from this point onwards.

The Unique Property Reference Number (UPRN) assigned to each of the addresses were grouped by E&W Regions to identify the most common region in which the owners of titles in each Local Authority came from.

Using the UPRNs once more, it was possible to derive the number of titles involved in transactions in each local authority from an England and Wales owner address.

Land use classification

RoS records six land use classes: residential, commercial, land, agriculture, forestry and other. The land use classification is provided by the submitting agent on the RoS application form when an application for registration is submitted. Classification is made on the primary land use of the plot of land. Further information on the six land use classes can be found [here](#).

Urban rural classification

The Scottish Government urban rural classification 2016¹⁶ was attached to all titles with an owner address outwith the UK using the 2-fold classification as shown in Figure 20.

Figure 22: Scottish Government urban rural 2-fold classification 2016

Classification	Class name	Description
2-fold	Urban areas	Settlements of 3,000 or more people
	Rural areas	Areas with a population of less than 3,000 people

The urban rural classification given to each title was calculated by overlaying the title seed point (a point marker used to identify the position of a Land Register title on the Ordnance Survey base map) with the Scottish Government's urban rural classification 2016. Each seed point was classified with the values of the 2-fold classification extracted from the underlying urban rural classification polygon. Further information on the Scottish Government's urban rural classification is available [here](#). Scottish Government figures were used for the urban land area of each local authority¹⁷.

Titles by area (and further information on experimental statistics status)

The area of each UK title outwith Scotland and each outwith UK title is calculated using Land Register polygon data contained in the RoS Geographic Information System (GIS) instead of the textual area information submitted during the registration process.

A polygon is a closed geometric shape, which represents the mapped extent and location of a title, or part of a title, in the Land Register.

A title could include a bundle of rights, not just ownership rights but also other rights such as access rights. All polygons associated with each title is used in the area analysis, not just ownership polygons. This is because the right associated with each title polygon can only be determined with absolute certainty by manually referring to the description of the property in the title information held on the Land Register.

In addition, due to the way some types of properties are mapped in two dimensions, it is not always possible to calculate the exact area of ownership even where the polygons which delineates ownership is identified. For example, for flatted properties the entire building footprint is mapped for each title contained within the building.

Area calculations may therefore be an overestimate of areas that are owned by owners with an address outwith the UK or owners with a UK address outwith Scotland.

Title polygons are retrieved for each UK title outwith Scotland and each outwith UK title and the area extent dissolved/aggregated by local authority to calculate area totals for each local authority as at 31 December 2021. The total land area for each local authority was calculated using the OS Open Data BoundaryLine Product. Some coastal title polygons extend beyond the boundaries of the BoundaryLine product and these areas are not assigned to any Local Authority. The total land mass covered by outwith UK titles is therefore more than the sum of the outwith UK title land mass assigned to each of the Scottish local authorities, and the total land mass covered by UK titles outwith Scotland is therefore more than the sum of the UK titles outwith Scotland land mass assigned to each of the Scottish local authorities.

¹⁶ Scottish Government urban rural classification 2016:

<https://www.gov.scot/publications/scottish-government-urban-rural-classification-2016/pages/2/>

¹⁷ Scottish Government: <https://www.gov.scot/publications/scottish-government-urban-rural-classification-2016/documents/>

Similarly, some title polygons extend beyond the boundaries of the Scottish Government's Urban Rural (2015-2016) dataset and these areas were not assigned an urban/rural classification. The total land mass covered by outwith UK titles is therefore more than the sum of the outwith UK title land mass classified as urban or rural, and the total land mass covered by UK titles outwith Scotland is therefore more than the sum of the UK titles outwith Scotland land mass classified as urban or rural.

In the Land Register, the polygons which make up a title can overlap with each other or with the polygons which make up other titles. The outwith UK titles contain overlapping areas with different interests (e.g. tenancy vs ownership). The total land mass covered by the outwith UK titles is therefore less than the sum of the outwith UK titles land mass classified as different interest categories, and the total land mass covered by UK titles outwith Scotland is therefore less than the sum of the UK titles outwith Scotland land mass classified as different interest categories.

Similarly, the total land mass covered by the outwith UK titles is less than the sum of the outwith UK titles land mass classified by country, and the total land mass covered by UK titles outwith Scotland is less than the sum of the UK titles outwith Scotland land mass classified by country/region.

The experimental statistics label has been used for these statistics because overall they remain subject to quality testing to meet user needs. Specifically, the method used to calculate the area of the outwith UK title and the UK title outwith Scotland is being tested by statisticians and GIS analysts at RoS and subject to further evaluation given the known limitations (particularly around isolating the area of ownership right). These methodological limitations, the testing and development, and the Land Register not yet being complete has meant that the experimental label has been used for this new output. The experimental statistics label will be reviewed in time for publishing the report next year.

Further information on experimental statistics is available [here](#).

1.1 Quality

The data used to produce this report is extracted from the Land Register, which is created from the information provided within applications for registration. The risk of inaccurate data being submitted, and of inaccuracies being created by errors in the land registration process, is inherent but is mitigated by:

- checks done by solicitors
- pre-application checks and reports provided by RoS prior to solicitors submitting applications
- RoS registration officers conducting registration checks
- RoS Quality Team undertaking quality checks
- RoS Land & Property Data Team undertaking quality assurance on the data

Both the Land Registration etc. (Scotland) Act 2012¹⁸ – which superseded the Land Registration Act (Scotland) 1979¹⁹ on 8 December 2014 – and the Land Reform (Scotland) Act 2016¹² impose statutory duties on the Keeper which govern the role RoS holds within the Scottish legal and economic framework.

One of the most significant changes in the approach to land registration made following the implementation of the Land Registration etc. (Scotland) Act 2012 was to put the main responsibility of the accuracy of data submitted to RoS within the remit of the submitting agent (usually the solicitor acting on behalf of the purchaser) rather than the Keeper. This provides increased reliability on the quality of data we can extract from the documents submitted for registration in the Land Register since these agents have a greater responsibility to ensure the integrity of the register.

Rules were applied to standardise the naming conventions within the outwith UK data. This was required primarily because of the different versions of country names provided by submitting agents within their applications for registration and because of spelling errors. In order to rectify this, country names were standardised to UN naming conventions, and rules were created around other common variations. For example, references to 'Dubai' or 'Abu Dhabi' in the country field were changed to United Arab Emirates, and references to the 'Channel Islands' were changed to the individual island name.

Before this year's release, the focus of this publication has been on outwith UK titles and as such this category has the higher level of quality assurance, which still stands. However, additional analysis has been conducted in this year's report to cover UK ownership outwith Scotland, therefore the UK based titles received additional quality checks after being extracted from the Land Register. Placement in a UK-based pot is dependent on the

¹⁸ [Land Registration etc. \(Scotland\) Act 2012](#)

¹⁹ [Land Registration \(Scotland\) Act 1979](#)

information received by RoS at the time of registration, in particular the entries in the relevant address fields. This information, as outlined above, is subject to various checks before extraction and extra quality checks but still has a lower level of quality assurance than that attached to the outwith UK title information.

Due to technical and legal issues, some titles within the Scotland category may have an owner whose address at the time of registration was outwith the UK but have not been identified as such (for example, titles registered in favour of companies before December 2014 when the country of incorporation was only provided on a voluntary basis).

The Land and Property Titles in Scotland by Country of Origin statistical release was first published in March 2018 (data as at 31 December 2017). In that release there were around 230,000 unclassified titles, accounting for 13% of all titles registered with an owner address. For the current snapshot (data as at 31 December 2021) the quality checks being made on the data mean that there are no unclassified titles in the data although, for titles with a UK owner address outwith Scotland, not all titles are able to be assigned to a geographic region (online table 16).

Further information on the general quality assurance processes in place for RoS data is available in the [Quality Assurance of Administrative Data](#) document, as published for the UK House Price Index. We would be grateful to users to continue to provide us with feedback on the quality and presentation of the data so we can continue to provide a product of the highest quality possible.