

Open
Ownership



How to use Open Ownership's tools

A guide for data users analysing
beneficial ownership data



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Open Ownership Register

The Open Ownership Register combines over 24 million beneficial ownership records relating to more than 8 million companies and 9 million beneficial owners. It collects data from companies registered in Denmark, Slovakia, Ukraine, and the United Kingdom (UK), reconciling these national datasets with company data from Open Corporates. It then makes this data available for download after mapping it to the Beneficial Ownership Data Standard (BODS), with the aim of providing global, well-structured, linkable beneficial ownership data in order to search and investigate information on company ownership and control worldwide.

The Register allows users to search by a person’s name, a company name, or a company ID number.

Step 1. In the search box, input a person’s first name or surname, or an entity’s name or ID number



Step 2. Select the person or entity you are interested in

Who controls, influences, or benefits from a company?

prince of wales

1 Displaying results 1 - 10 of 41 in total

Transliterate

2 Legal entity 38

3 Person 3

4 United Kingdom 41

PRINCE OF WALES PUB LTD United Kingdom (2022-04-28 -)
1st Floor 2 Woodberry Grove, Finchley, London, N12 0DR

PRINCE OF WALES (T.WELLS) LTD United Kingdom (2013-07-30 -)
94 Brook Street, Erith, Kent, DA8 1JF

15 PRINCE OF WALES TERRACE LIMITED United Kingdom (2018-06-29 -)
62/63 Westborough, Scarborough, North Yorkshire, YO11 1TS

References show:

1. how many matching results the system contains based on your initial search;
2. how many legal entities contain a part of the search in their names;
3. how many people match the initial search;
4. the jurisdiction where the data was originally submitted.

In the example above, we can see that there are 38 legal entities containing our search, and three people with similar names. You can either click on “person” or “legal entity” to filter and only display the information you are interested in.

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The importance of unique identifiers

Open Ownership’s technical guidance recommends that publishers collect and publish beneficial ownership data on people and companies using unique identifiers. These are unique codes that distinguish one person from another. Each person should, correspondingly, be identified by a unique identifier in any identification scheme.

Even where there are misspelled names, unique identifiers help ensure that you can accurately connect a person to the companies over which they exercise ownership or control, permitting better analysis. Without unique identifiers, there is a danger that you might confuse people who have similar names or personal details.

Step 3: Display your interested page

If you choose a person, the Register will display all the entities in which that person has or has previously had interests in. In the left-hand side, you will find the person's address and where the data was ingested from.

The screenshot shows the profile page for WELUMKAMSIDI IKECHUKWU EJKEME. At the top, the name is displayed in large bold letters, with a 'British' flag icon and a 'Person' icon. To the right, it lists 'COUNTRY OF RESIDENCE: United Kingdom' and 'BORN: July 1993'. Below the name, there are navigation options: 'Transliterate', 'Report incorrect data', 'View as graph', and 'Download BODS JSON'. The main content area is titled 'Companies controlled by WELUMKAMSIDI IKECHUKWU EJKEME' and shows 'Displaying all 4 companies'. Two companies are visible: 'SPORTS LEVELS LTD' (United Kingdom, 2018-01-04 to 2019-06-11) and 'T&E MARKETING GROUP LTD' (United Kingdom, 2017-11-23 to 2020-03-03). The right-hand side of the page contains sections for 'ADDRESS: 39, Springfield Mount, London, NW9 0SH', 'PROVENANCE: UK PSC Register, Latest data: 2023-06-04', and 'MORE ON WELUMKAMSIDI IKECHUKWU EJKEME' with links to Google and OpenCorporates.

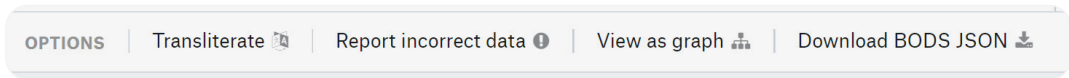
In the example above, we can see that there are 38 legal entities containing our search, and three people with similar names. You can either click on “person” or “legal entity” to filter and only display the information you are interested in.

The screenshot shows the 'Beneficial owners of VENULAR GROUP LTD' page. It lists two individuals: WELUMKAMSIDI IKECHUKWU EJKEME (British, Born July 1993) and COMOY MAURICE TURNER (British, Born July 1993). For WELUMKAMSIDI IKECHUKWU EJKEME, it shows 'Started on 2017-05-08' and 'Ownership of shares - More than 25% but not more than 50%'. For COMOY MAURICE TURNER, it shows 'Started on 2017-05-08' and 'Ownership of shares - More than 25% but not more than 50%'. The right-hand side of the page contains sections for 'ADDRESS: 39 Springfield Mount, London, NW9 0SH', 'INCORPORATION DATE: 2017-05-08', 'PROVENANCE: UK PSC Register, Latest data: 2023-06-04', 'CURRENT STATUS: Active', and 'PREVIOUS NAMES'.



Step 4: Select your desired action

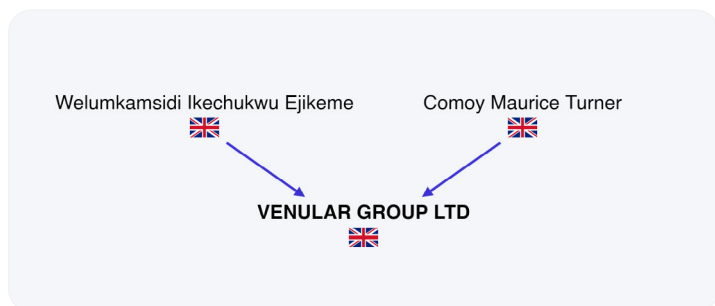
At the top menu, you can choose from a different set of actions:



- **Transliterate:** Check if the names of beneficial owners or companies can or should be transliterated into a different language.
- **Report incorrect data:** Open Ownership republished data from official sources and is not responsible for the data submitted or published by countries. If you spot incorrect data, you may report it and we will consider taking action to remove the data.
- **View as graph:** Visualise the ownership structure as a diagram.
- **Download BODS JSON:** Download the individual record data for the beneficial owner or company you are looking at in BODS JavaScript Object Notation (JSON) format.

View data as graph

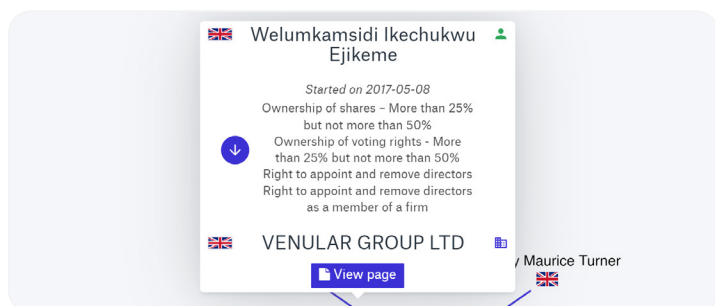
If you would like to see your data as a graph, the Register will display a simple diagram showing the ownership structure. A simple ownership structure, as in the example below, will show the beneficial owners and the type of relationship they have with the entity:



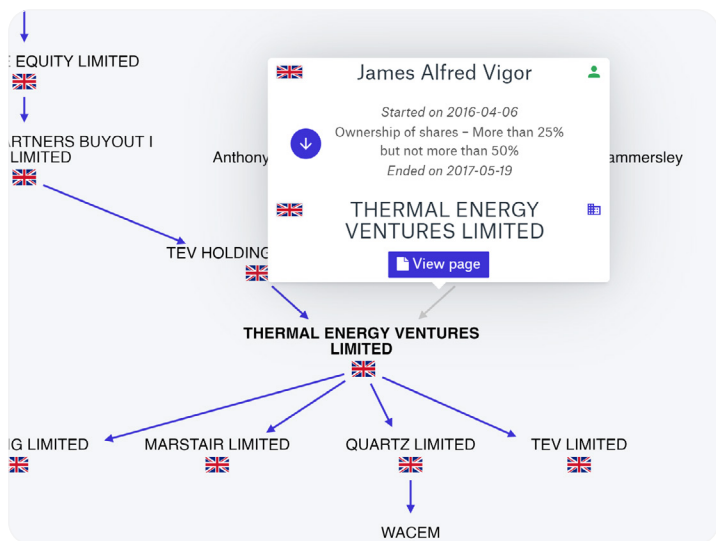
If the company appears in grey, it means that it is no longer active. You should be able to see the dissolution date.



By hovering over the arrow, you will be able to see the type of relationship between the person and the entity, and when that ownership or control interest started



If the arrow between the person and the entity appears in grey, it means that person is no longer the beneficial owner of the company. You should be able to see when the ownership or control relationship ended.





Beneficial Ownership Data Standard (BODS) data analysis tools

Open Ownership's [BODS data analysis tools](#) allow you to discover, download, and analyse sources of beneficial ownership data published in line with [BODS](#).

Up-to-date national beneficial ownership data from [Denmark](#), [Slovakia](#), and the [UK](#) is currently available via these tools for download or analysis in a variety of formats, such as comma-separated values (CSV), SQLite, PostgreSQL, Parquet, and JSON.

[Latvian BODS data from 2021](#), mapped data from the [Global Legal Entity Identifier Foundation](#), and a [combined dataset from the Open Ownership Register](#) are also available here. All datasets are published under an [open licence](#) for anyone to reuse, and they are connected up to the [BigQuery](#) and [Datasette](#) services to support detailed analysis and the running of queries using Structured Query Language (SQL). The code for these tools is published on [GitHub](#).

BigQuery

[BigQuery](#) is a service from Google which provides organisations access to “data warehouse” tools so that they can carry out detailed or complex data queries.. Users may need to pay Google for this depending on the complexity of the queries. Each of the datasets in the [BODS data analysis tools](#) are configured so that users can go to the [dataset in BigQuery](#), copy it to their own workspace, and analyse it as they wish.



Datasette

To help people search and query any of the datasets published via the [BODS data analysis tools](#) for free, Open Ownership uploads those datasets to a platform called [Datasette](#).

Datasette is a tool for exploring and publishing data. It helps people take data of any shape and analyse, explore, and publish it as an interactive website and accompanying application programming interface.

Step 1: Click on the Datasette label

For each dataset on the [BODS data analysis tools](#), there is a link labelled “Datasette”. Clicking this will take you to the Datasette instance to explore that particular dataset. Watch the [introduction video](#) from the Datasette team to learn more about how to use it.



Register of Enterprises of the Republic of Latvia (2022-11-11)

Data on the beneficial ownership of companies in Latvia is collected by the [Ministry of Justice](#) and published in the [Register of Enterprises of the Republic of Latvia](#) (Latvijas Republikas Uzņēmumu reģistrs). Latvia is a member of the [Beneficial Ownership Leadership Group](#) convened by Open Ownership and the Open Government Partnership. The Register of Enterprises team has [worked with Open Ownership](#) on publishing their beneficial ownership data in line with the [Beneficial Ownership Data Standard](#) and in early 2021, they released an [initial dataset](#) featuring declarations from 120.000 companies. This analysis is conducted on that initial dataset.

Step 2: Choose the table you want to use

Once you enter the selected country’s Datasette page, you will see a list of tables. Choose the one you want to explore. Below each table’s name, in italics, you will see all the fields contained in each table and the number of rows (statements) there are.

In the example below, we can see that Latvia’s entity statement table contains over 120,000 rows as well as each of the fields from this part of the entity statements (type, name, date of incorporation, publication date, etc.).

entity_statement

_link, statementid, statementtype, statementdate, iscomponent, entitytype, name, foundingdate, incorporatedinjurisdiction_name, incorporatedinjurisdiction_code, publicationdetails_publicationdate, publicationdetails_bodsversion, publicationdetails_license, publicationdetails_publisher_name, publicationdetails_publisher_url, source_type, unspecifiedentitydetails_reason, unspecifiedentitydetails_description



Step 3: Create your own filters

You can select what information you want to see from each table. Following the previous example, from the entity statements you can select the “column” you want to filter and choose how you would like to do so by selecting an item from the middle dropdown menu.

For example, you can look for an individual company name:

1 row where name = "SIA "GB INVESTMENT"" sorted by _link

name = SIA "GB INVESTMENT" x

- column - =

[Apply](#)

[View and edit SQL](#)

This data as [json](#), [CSV \(advanced\)](#)

Suggested facets: [publicationdetails_publicationdate](#) (date)

_link	statementid	statementtype	statementdate	iscomponent	entitytype	name	foundingdate	incorporate
100008	0caa0b9d-c8a7-4774-82c4-1483d368a9e9	entityStatement	2019-07-15	false	registeredEntity	SIA "GB INVESTMENT"	2006-10-16	Latvia

You can also filter by companies that have been founded after a particular year (such 1992, as in this example):

entity_statement

112,060 rows where foundingdate > 1992 sorted by _link

foundingdate > 1992 x

- column - =

[Apply](#)

[View and edit SQL](#)

This data as [json](#), [CSV \(advanced\)](#)

Suggested facets: [statementdate](#) (date), [foundingdate](#) (date), [publicationdetails_publicationdate](#) (date)

_link	statementid	statementtype	statementdate	iscomponent	entitytype	name	foundingdate	incorporatedinjurisdi
0	9e408df1-cc86-4f45-9464-37467eeedda6	entityStatement	2019-07-24	false	registeredEntity	Jēkabpils rajona Sēlpils pagasta A.Dilbeka zemnieku saimniecība "ZAĻKALNI"	1992-04-21	Latvia
1	795af54d-de95-440a-9fee-97297ee159c7	entityStatement	2019-07-24	false	registeredEntity	Valkas rajona Launkalnes pagasta zemnieku saimniecība "ZAĶI"	1992-05-13	Latvia
10	489cb6bb-4c97-4cdf-967f-28abb1e8bd43	entityStatement	2019-07-24	false	registeredEntity	Krāslavas rajona Šķaunes pagasta zemnieku saimniecība "OZOLAINĒ"	1993-06-21	Latvia
100	95ce4acd-	entityStatement	2019-07-24	false	registeredEntity	Rīgas rajona Sējas	1994-07-26	Latvia

You can also add another filter to only show companies registered between particular years (in this case, 1992-1994).

entity_statement

5,170 rows where foundingdate > 1992 and foundingdate < 1994 sorted by _link

foundingdate > 1992 x

foundingdate < 1994 x

- column - =

[Apply](#)

Step 4: Edit the SQL query

Using the automatic filters provided by the systems will make it easier for non-data experts to search. Using those filters will limit the search within the same “table”. For instance, following the example above, we can filter information within entities but we cannot find general statistics or experiment with the data, and we cannot combine an entity with person statements (e.g. searching for companies registered after 1992, whose beneficial owner was born after 1980). In order to do so, you will need to manually edit the SQL query.

4.1. Explore the data

In the example below, we used Datasette to show us the most common addresses from all UK-registered entities. To do this, we selected all the addresses in the `entity_statement` table, then ordered them by “desc” (descendant), to show the most common ones at the top of the list.

Custom SQL query returning more than 1,000 rows ([hide](#))

```
1 select address, count(*)
2 from person_addresses
3 where type is 'registered'
4 group by address
5 order by 2 desc
```

[Format SQL](#)[Run SQL](#)

In this example, we can see that there are over 2,000 entities registered at 20-22 Wenlock Road, London. This might be a red flag for investigators, or it could be that a company formation agent which creates companies is registered at that address.

You can [copy this query](#) and adapt it to another jurisdiction’s Datasette and sort it differently, or you can change the search to sort [most common addresses from person_statement](#) (beneficial owners).

This data as [json](#), [CSV](#)

address	count(*)
20-22, Wenlock Road, London, N1 7GU	101084
71-75, Shelton Street, Covent Garden, London, WC2H 9JQ	62276
27, Old Gloucester Street, London, WC1N 3AX	28587
128, City Road, London, EC1V 2NX	24774
Kemp House, 160 City Road, London, EC1V 2NX	17908



4.2. Combining two or more tables

If you want to know, for example, who is the oldest beneficial owner listed in a country's jurisdiction, you can do this by writing queries which bring together data from different Datasette tables:

- Person_statement (beneficial owner name)
- Person_addresses (beneficial owner's residence)
- Person_statement (contains birth date)

```
1 select
2   birthdate,
3   country,
4   fullName
5 from
6   person_statement as ps
7   join person_addresses as pa on ps._link = pa._link_person_statement
8   join person_names as pn on ps._link = pn._link_person_statement
9 where
10  pa.country = 'LV'
11 order by
12  birthdate
```

In this case, the query looks at the person's date of birth (person_statement), country of residence (person_addresses), and full name (person_statement), filters it by country to provide only Latvian examples, then sorts them by date of birth so the oldest person appears at the top.

You can [copy this query](#) and adapt it to your needs. If you want to see the youngest beneficial owner, you will need to sort the list in descending order so the youngest person will be listed at the top ([see query here](#)).

You can identify which tables you need to select by looking into the writing in italics which describe the items contained in each (see Step 2), or by looking at the [BODS data schema](#).

BODS data analysis notebooks and dashboards

To support analysts wanting to more closely examine and understand beneficial ownership data published in line with BODS, Open Ownership has created a range of [data analysis notebooks and dashboards](#).

These help anyone to answer questions from beneficial ownership data published in line with BODS, and they can be reused for any BODS data source from any country.

To see some examples, find our [Latvia notebook](#) which looks at data sources to see how closely they align with the Open Ownership [Principles for effective beneficial ownership disclosure](#).

Alternatively, our [UK Persons with Significant Control \(PSC\) Register dashboard](#) helps users learn overall figures about the size, shape, and trends in a data source. The code for these tools is published on [GitHub](#).





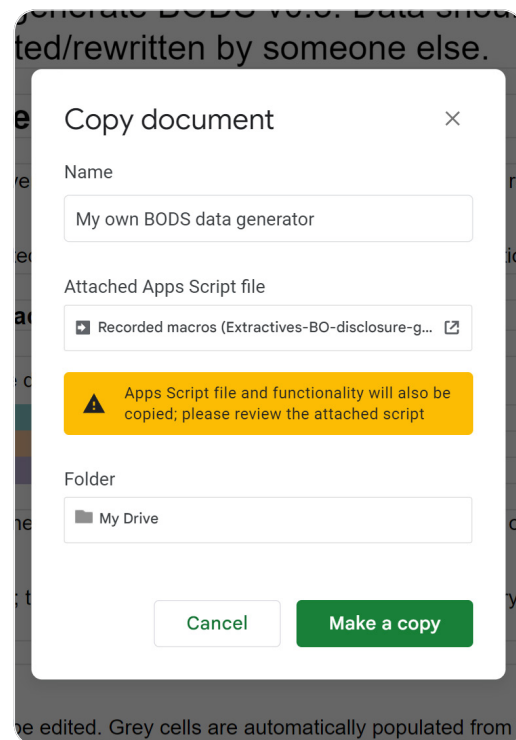
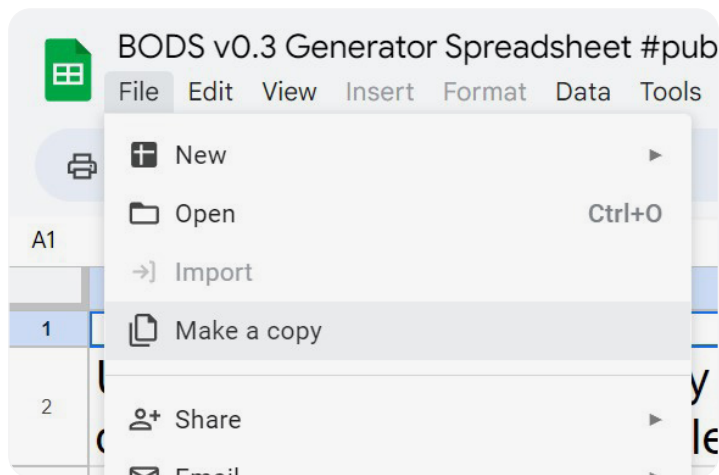
BODS data generator

The [BODS data generator](#) is a spreadsheet template that allows anyone to convert beneficial ownership information so that it can be represented as structured data in line with [BODS version 0.3](#).

Having well-structured data which uses BODS allows people to compare and combine information from different jurisdictions. Once completed, the data captured in the spreadsheet can be submitted to [Open Ownership's data review tool](#) for validation and conversion to BODS JSON format. It can also be visualised using the [BODS data visualiser](#). We have outlined the steps for this below.

Step 1: Create a copy of the spreadsheet

The [BODS data generator spreadsheet](#) only works in Google Drive. In order to use it, create a copy and store it in your personal Google Drive account. You can do this by clicking "File" on the top left-hand menu, then clicking "Make a copy". Change the name, and make sure to store your copy in your personal drive or desired folder.



Step 2: Read the guidance

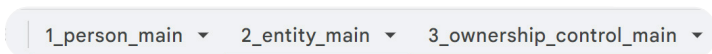
The spreadsheet is built in a simple, self-explanatory way, however, make sure you have read all the guidance and recommendations in the “Read me” tab before starting to work with it.

To get familiar with BODS, reading the [Structured and interoperable beneficial ownership data briefing](#) or the [“Relational database design considerations for beneficial ownership information briefing”](#) will help with understanding the fields and how they relate to each other.

Step 3: Understand how the spreadsheet is organised

The spreadsheet is structured in line with the [BODS statement-based data model](#):

- Person statement: Here you should include all the data related to the people that are involved in an ownership chain as beneficial owners. This is the <1_person_main> sheet.
- Entity statement: Here you should include all the data related to the legal entities involved in an ownership structure. This is the <2_entity_main> sheet.
- Ownership or control: Here is where entities and people are connected. In this section, you should relate the beneficial owners with the relevant entities. This is the <3_ownership_control_main> sheet.



For more information about the specific fields that BODS recommends each component to have, please consult our [documentation](#).

Step 4: Change to your personal URL

Once you have created your personal spreadsheet, copy the URL and paste it into the eighth row of the “Upload” sheet. This will be used later for converting the data into JSON format:

6	You should make sure that the sharing settings for this spreadsheet are set to "Anyone on the Internet with this link can view" otherwise the Data Review Tool will not be able to access it.		
7			
8	Paste URL here:	https://docs.google.com/spreadsheets/d/1PWtWHMukC02yvA5kBgYQEfipDmPgaQ5S7/	
9	Workbook URL for Excel format	https://docs.google.com/spreadsheets/d/1PWtWHMukC02yvA5kBgYQEfipDmPgaQ5S7/	
10	Direct URL for the Data Review Tool	https://datareview.openownership.org/?source_url=https://docs.google.com/spreadsheets/d/1PWtWHMukC02yvA5kBgYQEfipDmPgaQ5S7/	
11			
12	You can either visit https://datareview.openownership.org and submit the "Workbook URL for Excel format" link in B9, or you can follow the "Direct URL..." link in B10 to submit the information in this workbook directly to the tool.		
13			
14	If there are any validation errors, these will be reported by the tool and you can correct them. You can also view and save the data in JSON format.		
15			



Step 5: Include the publication information

The last step before starting to actually complete the spreadsheet is to update the “Publication information” sheet to your or your organisation’s data. It is very important that the spreadsheet contains the details of the producer of the data in order to avoid duplications and confusion.

You should only complete the following fields:

- Publisher name (your name or your organisation’s name)
- Publisher URL (if your organisation has one)
- Publication date (date in which you are completing the spreadsheet)
- Licence (if applicable)

<i>Publication details (highlighted fields are required)</i>		
Publisher Name *	ⓘ Open Ownership	
Publisher URL	ⓘ https://www.openownership.org/en/	
Publication Date	ⓘ 2022-09-23	
BODS Version	ⓘ 0.3	
License	ⓘ https://creativecommons.org/licenses/by/2.0/legalcode	
<i>Default source information</i>		
Source type(s)	ⓘ selfDeclaration	
Source description	ⓘ This information has been researched and summarised for publication.	
Source URL	ⓘ	
Retrieved at	ⓘ	
<i>Default declaring agent</i>		
Name	ⓘ	
URL	ⓘ	
<i>Declaration details</i>		
Declaration ID	ⓘ	
Joint venture ID	ⓘ	
Default statement date	ⓘ	

Step 6: Complete the beneficial owner details

Under the <1_person_main> sheet, you will be able to complete the beneficial owner(s) details. Remember that a beneficial owner can only be a natural person, so this sheet should only be completed with a person's information.

You will see that under each column it is specified whether the information is **required** or **recommended**.

Start with the "Statement date" column. The "Statement ID" is automatically completed once you start with the other fields, along with the fields at the end of the table coloured in grey.

Many of the fields are self explanatory. However, below we provide some guidance for those that might not be as clear:

- **Statement date:** This refers to the exact date in which you are creating your BODS data.
- **Is component?:** You will see a dropdown menu where only two options can be completed: true or false. This should be true if the data you are entering is part of a longer ownership chain, and false if this statement captures all the relevant information. Follow the [instructions in our BODS guidance](#) for further information on this.
- **Person type:** This should be a known person if you know the beneficial owner's name; an anonymous person if you know who the beneficial owner is but cannot disclose their information (for privacy or other reasons); or an unknown person if you do not know who the beneficial owner is.
- **Nationality:** Choose the person's country of birth from the dropdown menu. If the person lives in a country different from their birth country, you can include that later on in the address details.
- **Replaces statements:** Only complete this if the statement you are creating replaces a previous one (this is mainly used to track changes over time).

For further guidance, please refer to the [BODS data schema](#), which contains detailed information on each of these items.

A completed version of the <1_person_main> sheet should look like this:

4										
5	statement date *	is component?	person type	full name *	family name(s)	given name(s)	patronymic name	nationality	date of birth	p
6	statementDate	isComponent	personType	names/0/fullName	names/0/familyName	names/0/givenName	names/0/patronymicName	nationalities/0/name	birthDate	pl
7	Recommended	Required	Required	Recommended				Recommended	Recommended	
8	2022-09-01	FALSE	knownPerson	Agustina De Luca	De Luca	Agustina		Argentina	1991-03-01	
9	2022-09-01	FALSE	knownPerson	Stephen Abbott Pugh	Abbott Pugh	Stephen		United Kingdom of Great Britain and Northern Ireland (the)	1981-09-28	
10	2022-10-04	FALSE	knownPerson	Crook McCrook	McCrook	Crook		Virgin Islands (British)	1981-09-25	
11	2022-10-04	FALSE	anonymousPerson	Unknown				Virgin Islands (British)	1981-09-25	

Fictional example built for the explanatory purposes of this user guide.



Step 7: Complete the legal entity details

Under the <2_entity_main> sheet, you will be able to complete the legal entity details (companies, legal arrangements, investment funds, trusts, etc.).

You will see that under each column it is specified whether the information is **required** or **recommended**. Start with the “Statement date” column. The “Statement ID” is automatically completed once you start with the other fields, along with the fields at the end of the table coloured in grey.

As above, many of the fields are self explanatory. However, below we provide some guidance for those that might not be as clear:

- **Statement date:** This refers to the exact date in which you are creating your BODS data.
- **Is component?:** You will see a dropdown menu where only two options can be completed: true or false. This should be true if the data you are entering is part of a longer ownership chain, and false if this statement captures all the relevant information. Follow the [instructions in our BODS guidance](#) for further information on this.
- **Entity type:** Choose an option from the dropdown menu. For a detailed explanation of each type, please refer to the [BODS data schema](#) and look for the “EntityType” code list.
- **Entity subtype category:** This is only relevant for state-owned enterprises (SOEs) in order to specify their governing body. For further guidance on how to collect beneficial ownership information about SOEs, consult our briefing, [Defining and capturing data on the ownership and control of state-owned enterprises](#).
- **Entity identifier - id:** BODS recommends that each entity has a unique identifier, which helps to individualise a particular entity from any other. This can be a company registration number, a tax number, etc.
- **Entity identifier - scheme code:** This should be an entry from the org-id.guide (<https://www.org-id.guide>). codelist. Search by country, then look to see if the organisation providing the ID is listed.

A completed version of the <2_entity_main> sheet should look like this:

3	3.0/schema/reference.html#schema-entity-statement									
4	Statement date *	IsComponent	Entity type	Entity subtype category	Subtype local term	Entity name *	Alternative Names	Jurisdiction	Entity identifier - id	Entity
5	statementDate	isComponent	entityType	entitySubtype/generalCategory	entitySubtype/localTerm	name	alternateNames	jurisdictionName	identifiers/Id	identifier
6	Recommended	Required	Required			Recommended		Recommended	Recommended	Recomm
7	2022-09-23	FALSE	registeredEntity			Honest Business Ltd		United Kingdom of Gr	123456789000	GB-C
8	2022-10-04	FALSE	registeredEntity			Secret Ownership Ltd		Virgin Islands (British)	222222200000	VG-C
9										

Fictional example built for the explanatory purposes of this user guide.

Step 8: Complete the details of the ownership or control relationship between the legal entity and the beneficial owner(s)

Under the <3_ownership_or_control_main> sheet, you will be able to complete the relationship between the entities and their beneficial owner(s).

You will see that under each column it is specified whether the information is **required** or **recommended**. Start with the “Statement date” column. The “Statement ID” is automatically completed once you start with the other fields, along with the fields at the end of the table coloured in grey.

Start with the “Statement date” column. The “Statement ID” is automatically completed once you start with the other fields, along with the fields at the end of the table coloured in grey.

As above, many of the fields are self explanatory. However, below we provide some guidance for those that might not be as clear:

- **Statement date:** This refers to the exact date in which you are creating your BODS data.
- **Is component?:** You will see a dropdown menu where only two options can be completed: true or false. This should be true if the data you are entering is part of a longer ownership chain, and false if this statement captures all the relevant information. Follow the [instructions in our BODS guidance](#) for further information on this.
- **Subject entity:** All the previously created legal entities under <2_entity_main> will appear under the dropdown menu. You should select one per field.
- **Interested entity:** If you are creating an indirect ownership relationship – meaning there is a legal entity that has control or ownership over another legal entity – then you should complete this column with the entity that controls the “subject entity”. If this field is completed, then there should not be an interested person.
- **Interested person:** This is the field referring to the beneficial owner. You should choose a person from the dropdown menu in the cell (all people created in the <1_person_main> tab should appear here). You should add as many rows as beneficial owners exist, one per record.
- **Unspecified reason:** This field should only be completed if the beneficial owner is unknown or cannot be specified. Include here, if possible, the reasons why their identity is unknown.
- **Interest level:** Specify whether the relationship is direct (a person owns/controls a company) or indirect (there is a legal entity that owns/controls a company, and therefore the beneficial ownership is held indirectly).
- **Interest type:** Include here, in as much detail as possible, the types of interest the person has over the company. If there are more than one, complete several rows.
- **Beneficial ownership or control:** A beneficial ownership or control interest is always between a natural person and an entity, and it exists where the person ultimately benefits from, or has a degree of control over, the entity. There may be cases where a person has an interest in an entity but there are arrangements or other conditions that mean this interest does not constitute beneficial ownership or control. If the latter is the case, then this should be completed as “false”.
- **Interest details:** This is an open field to add details about how the interest is exercised and to include any explanatory comments.
- **Exact share value:** Input, in numbers, the exact amount of shares that the beneficial owner holds over the legal entity.
- **Maximum/minimum share value:** There are some jurisdictions that set in their regulations a range of shares that should be declared (sometimes in addition to and sometimes replacing the exact amount). If that is the case, you can use these fields to input the range of shares you know the person holds over a company, even if you do not know the exact share (e.g. between 25% and 50%)
- **Interest start date:** The exact date in which the interest started (e.g. when the person was appointed as director, or when the person acquired the shares).
- **Interest end date:** The importance of this field is that it enables analysis of beneficial ownership changes throughout time. This field should be completed with the exact date in which the beneficial ownership interests ended.
- **Replaces statements:** This field should be completed if the statement is replacing an old or incorrect one.

The grey columns should not be completed.



Step 9: Check there are no mistakes

Once you have completed all three sheets, go back to the “Upload” sheet where you will see a table showing whether or not the data has been inputted correctly. It will appear in green when it is correct or red when it is incorrect (see table below).

15				
16	Common checks before uploading	Person	Entity	OOB
17	On the Main tabs, all required fields completed for the first line	TRUE	TRUE	TRUE
18	On the Main tabs, all recommended fields completed for the first line	TRUE	TRUE	TRUE
19	All entities and persons included in an OOB statement	TRUE	TRUE	n/a
20	Data validation errors (count)	0	0	2
21	Number of statements	0	2	6
22				

Step 10: Download your data

If the checks are all correct, your BODS data has been successfully created and it is ready to use. You can download it in different formats:

- **CSV:** From the top left menu, go to “File”, then “Download”, then “CSV”.
- **JSON:** On the “Upload” sheet, click the URL in row 10 (see image below), which will redirect you to the [BODS data review tool](#). This tool assesses whether the data is correct or not. If it is, you will be able to download the data directly to JSON and use it in different platforms and analyses.

8	Paste URL here:	https://docs.google.com/spreadsheets/d/1ZV660u8gzSBivZgE
9	Workbook URL for Excel format	https://docs.google.com/spreadsheets/d/1ZV660u8gzSBivZgE
10	Direct URL for the Data Review Tool	https://datareview.openownership.org/?source_url=https://docs

Step 11: Use your BODS data

Now you have your data in different formats, and it is ready to use.

Complex ownership example: Seplat Energy PLC (Nigeria)

Seplat Energy PLC is a Nigerian major energy supplier, and it is state owned. By looking into Nigeria's persons with significant control register, companies' annual reports, EITI declarations, and other sources, the Open Ownership and Open Data Services team were able to reconstruct the ownership structure of the company, which has a complex chain of natural persons and state-owned and privately owned companies with both direct and indirect interests.

In the table below, you can see the difference between the ownership and control relationships: the ownership is exercised through a beneficial owner's shareholding, whereas the control is held through board membership; board members are individuals who have the right to appoint directors and exercise other types of control.

statement ID	statement type	statement date	is component?	subject entity *	interested entity	interested person	interest level	interest type	beneficial ownership	interest details	exact share value
Required	Required	Recommended	Required	Required	This or either of the two subsequent	This or either of the prior or subsequent	Recommended	Recommended	Recommended		
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	Seplat Energy PLC	Sustainable Capital Ltd		direct	shareholding	FALSE		6.1
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	Seplat Energy PLC	Allan Gray Proprietary L		direct	shareholding	FALSE		7.1
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	Seplat Energy PLC	Professional Support Lin		direct	shareholding	FALSE		8.1
arese-ooocs-000	ownershipOrContr	2022-08-31	TRUE	Professional Support Limited		Austin Avuru	direct	shareholding	FALSE		11.1
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	Seplat Energy PLC	Petrolin Group		direct	shareholding	FALSE		13.1
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	Seplat Energy PLC	Établissements Maurel &		direct	shareholding	FALSE		20.1
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	Seplat Energy PLC		Ambrose Bryant Chuku	indirect	shareholding	TRUE		6.1
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	Seplat Energy PLC		Austin Avuru	indirect	shareholding	TRUE		8.1
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	Établissements Maurel & Prom S	Individual investors		direct	shareholding	FALSE		20.1
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	Établissements Maurel & Prom S	Institutional investors		direct	shareholding	FALSE		6.1
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	Établissements Maurel & Prom S	PT Pertamina Internasio		direct	shareholding	FALSE		71.1
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	PT Pertamina Internasional Eksp	PT Pertamina Hulu Ener		direct	shareholding	FALSE		99.9
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	PT Pertamina Hulu Energi	PT Pertamina (Persero)		direct	shareholding	FALSE		99.9
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	PT Pertamina (Persero)		Nicke Widyawati	direct	boardChair	FALSE		
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	PT Pertamina (Persero)		Basuki Tjahaja Purnam	direct	boardChair	FALSE	President of the Commission	
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	PT Pertamina (Persero)		Erick Thohir	direct	appointmentC	FALSE	Minister of SOEs	
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	PT Pertamina (Persero)	Ministry of State Owned		direct	controlByLegi	FALSE	Law No. 50 of 1998	
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	Établissements Maurel & Prom S	Ministry of State Owned		indirect	shareholding	FALSE		71.1
arese-ooocs-000	ownershipOrContr	2022-08-31	FALSE	Seplat Energy PLC	Ministry of State Owned		indirect	shareholding	FALSE		14.1

Note that this image is missing columns from the original spreadsheet in order to fit this publication.

To see the full ownership chain of this company, consult our [Defining and capturing data on the ownership and control of state-owned enterprises](#) briefing.



BODS data review tool

The [BODS data review tool](#) helps to assess whether a dataset complies with BODS and highlights any errors that need to be fixed. It works with different formats (.json, .csv, .xlsx, .ods), and allows you to:

- download data in alternative formats;
- identify a list of standard JSON validation errors;
- see unrecognised fields (if any);
- conduct additional checks by listing BODS-specific problems in the data;
- analyse the data through a breakdown of the make-up of your data and indicators of its quality.

Step 1: Upload a file

Choose the file you want to work with, and upload it to the data review tool.

Step 2: Check for validation errors

If your dataset contains validation errors, the tool will list them at the bottom. This will help you to improve your BODS data and make sure all statements and obligatory fields are complete. The tool provides a description of the error(s) and shows how many of them have been identified.

Error Description	Error Count	First 3 Examples	Location of first 3 errors
<code>isComponent</code> should be a JSON boolean, true or false.	24	False False False	0/isComponent 1/isComponent 2/isComponent
<code>hasPublicListing</code> should be a JSON boolean, true or false.	2	True True	2/publicListing/hasPublicListing 7/publicListing/hasPublicListing
<code>companyFilingsURLs</code> should be a JSON array. Check that value(s) appear within square brackets []	1	www.datamaxregistrars.com;w ww.computershare.com	2/publicListing/companyFilings URLs



Step 3: Confirm there are no unrecognised fields in your data

If you have created your BODS data using the BODS data generator, then there will probably not be any unrecognised fields. However, if you have created your BODS dataset individually, you must confirm that all of the fields match with BODS.

For consulting on BODS fields and guidance, consult the [BODS data schema](#).

Step 4: Conduct additional checks

Conducting additional checks will help you improve the quality of your BODS data. You do not necessarily need to correct these, as the data will be in BODS format anyway, but if you want to improve your dataset, you can follow the recommendations provided in the tool.

In the example from the table below, the addresses are not recognised. This might imply that a jurisdiction or postal code is not correct, so you may need to double check whether the declaration has been submitted correctly. The tool also lists the “Statement ID” where the problem occurs, so it is easy to find.

Additional Checks		
Check	Information	Where problem occurs
An Ownership-or-control Statement cannot both be a component statement (isComponent) and have component statements (componentStatementIDs).		arese-oocs-00005616793667206044804
This Person Statement is a component (isComponent) but no primary Ownership-or-control Statement references it from		arese-ps-00005843720879865644804



Step 5: Overview of your data

At the bottom of the page, you will see some rough statistics of your data: the total numbers of person, entity, and ownership-or-control statements created. This quick overview will help you to assess whether your data contains all the statements and fields you wanted to represent, or if something is missing.

Statistics

Entity Statements

Total Statements: 11

- ... with type registeredEntity: 6 (55%)
- ... with type legalEntity: 3 (27%)
- ... with type unknownEntity: 2 (18%)

% of registered or legal entities with any identifier: 100%

% of registered or legal entities with an identifier that have a 'strict' identifier: 78%

Person Statements

Total Statements: 2

- ... with type knownPerson: 2 (100%)

Ownership or Control Statements

Total Statements: 13

- ... where interested party is a person: 3 (23%)
- ... where interested party is a entity: 10 (77%)
- ... where beneficial ownership relations are disclosed: 2 (15%)

Total Interest Objects: 15

- ... with directOrIndirect 'direct': 13 (87%)
- ... with directOrIndirect 'indirect': 2 (13%)
- ... with type shareholding: 13 (87%)
- ... with type boardMember: 1 (7%)
- ... with type boardChair: 1 (7%)

Step 6: Download and use your data

Once you have confirmed your data looks good and is ready to use, you can either download it in JSON format to use in other platforms or in a simple Excel spreadsheet.

Download Data

- [flattened.xlsx \(Original\) \(13.4 KB\)](#)
- [JSON \(Converted from Original\) \(36.5 KB\)](#)

Note: If you have created your BODS data using the [BODS data spreadsheet generator](#), using the review tool can help you convert your data to JSON format as an intermediary step before visualising it.

BODS data visualiser

The [Beneficial Ownership Visualisation System \(BOVS\)](#) specifies how to illustrate beneficial ownership structures using a BOVS diagram. It is designed to visualise beneficial ownership structures as clearly as possible.

BOVS includes a number of rules and features, and they have been divided up to make it easier to get started. A few [Core Rules](#) should always be followed, but the [Optional Features](#) can be followed on a case-by-case basis. Open Ownership provides a number of [resources](#) to help create BOVS diagrams.

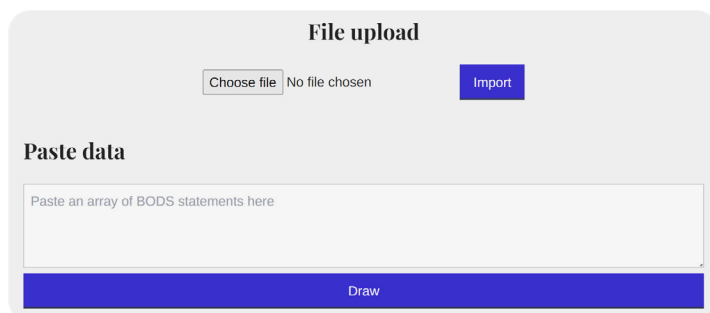
Our open-source [BODS data visualisation library](#) builds on BOVS and helps anyone with BODS data files to visualise ownership structures by making them graphically appealing and easy to understand. Open Ownership provides [guidance](#) on how to embed this into a country's public register in order to make ownership structures easily understandable. Armenia was the first country to integrate BOVS into its [Electronic Business Register](#).

Open Ownership also hosts a version of this tool called the [BODS data visualiser](#), where anyone can visualise data produced in line with BODS. Here is how to use it:

Step 1: Upload or paste your data

You can either upload an existing file or paste the data directly in the box. If you upload an existing file, you will need to click on the "Import" button after the file has been chosen, after which the data will automatically appear in the white box. Then click "Draw" to generate your diagram.

Note that the BODS data visualiser only works with JSON data. If you do not have your BODS data in JSON format yet, you can run it through the [BODS data review tool](#), which will identify if there are any errors in the data and allow you to download a JSON file.



The screenshot shows the user interface for the BODS data visualiser. It is divided into two main sections: "File upload" and "Paste data".

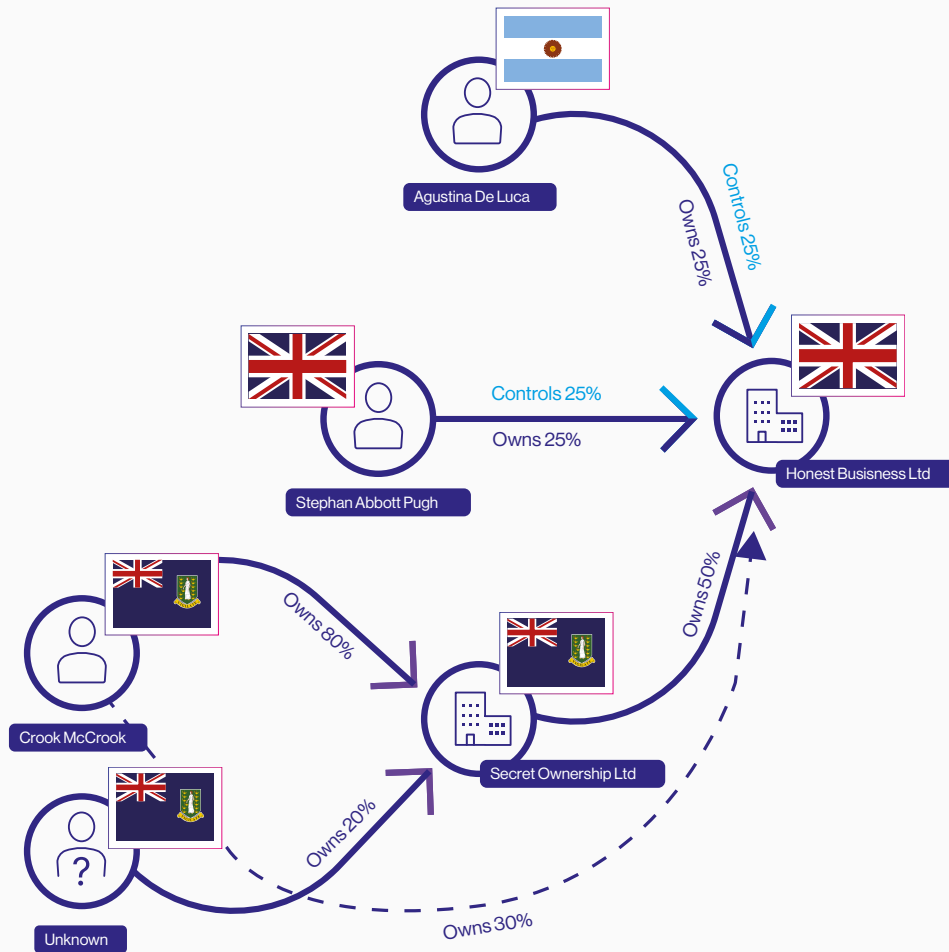
- File upload:** This section contains a "Choose file" button, a text indicator "No file chosen", and a blue "Import" button.
- Paste data:** This section features a large white text input area with the placeholder text "Paste an array of BODS statements here". Below the input area is a prominent blue "Draw" button.



Step 2: See your diagram

The data will automatically be converted into a BODS diagram. The diagram differentiates ownership (violet) from control (light blue), and direct ownership (full line) from indirect (dotted line).

The example below shows a UK-based company (Honest Business Ltd) being directly owned and controlled by an Argentina-based person (Agustina De Luca) and a UK-based person (Stephen Abbott Pugh), whilst being indirectly owned by two people from the British Virgin Islands through an intermediate company from the same jurisdiction (Secret Ownership Ltd).



Step 3: Download your diagram

You can download your diagram in SVG format simply by clicking the “Download” button at the bottom of the page. You can then use it in any story, research, or report. Unfortunately, the system does not allow users to download the image in PNG or JPG format, but you can take a screenshot and store it in your computer.

For country implementers who want to embed BOVS into their business registers, please consult the [BOVS Core Rules and guidance](#), or contact support@openownership.org.

Resources

Open Ownership

- [Open Ownership Register](#)
- [Beneficial Ownership Data Standard](#)
 - [Real world identifiers](#)
 - [Schema reference](#)
 - [Key concepts](#)
 - [Schema browser](#)
- [Open Ownership Principles for effective beneficial ownership disclosure](#)

Open Ownership BODS tools

- [Beneficial ownership data analysis tools](#)
- [Analysis notebooks and dashboards for Beneficial Ownership Data Standard \(BODS\) data](#)
- [Beneficial Ownership Data Standard data generator](#)
 - [Fictional example of <1_person_main> sheet](#)
 - [Fictional example of <2_entity_main> sheet](#)
 - [SOE example](#)
- [Beneficial Ownership Data Standard data review tool](#)
- [Beneficial Ownership Visualisation System](#)
 - [Core Rules](#)
 - [Optional Features](#)
 - [Resources](#)
 - [BODS Data Visualiser](#)

Open Ownership guidance

- [Structured and interoperable beneficial ownership data](#)
- [Relational database design considerations for beneficial ownership information](#)
- [Defining and capturing data on the ownership and control of state-owned enterprises](#)

Open Ownership Beneficial ownership data analysis tools

- [Denmark Central Business Register \(Centrale Virksomhedsregister - CVR\) \(2023-06-23\)](#)
- [Slovakia Public Sector Partners Register \(Register partnerov verejného sektora - RPVS\) \(2023-06-23\)](#)
- [UK People with significant control \(PSC\) Register \(2023-06-28\)](#)
- [Register of Enterprises of the Republic of Latvia \(2022-11-11\)](#)

- [GLEIF \(2023-06-27\)](#)
- [Open Ownership Register \(2023-06-05\)](#)

Open Ownership BODS Documentation

- [BODS Data Review Tool](#)

Dataset examples

- [Entity statement \(filter by individual company name\)](#)
- [Entity statement \(filter by date\)](#)
- [Entity statement \(filter between dates\)](#)
- [UK_PSC \(version 1\)](#)
- [UK_PSC \(version 2\)](#)
- [Latvia \(beneficial owners, oldest to youngest\)](#)
- [Latvia \(beneficial owners, youngest to oldest\)](#)

Deepnote resources

- [A notebook for analysing Beneficial Ownership Data Standard \(BODS\) data \(Latvia notebook\)](#)
- [Learn about the UK People with significant control \(PSC\) Register \(UK PSC dashboard\)](#)

GitHub

- [Beneficial ownership data analysis tools](#)
- [BODS analysis notebook](#)
- [BODS visualisation tool \(BODS-Dagre\)](#)

Authors

Stephen Abbott Pugh

Agustina De Luca

Editor

Kathryn Davies

openownership.org

 [@openownership](https://twitter.com/openownership)

c/o Global Impact, 1199 North Fairfax Street, Suite 300, Alexandria, VA 22314, USA