**What is open data?**

Open data is **data that anyone can access, use and share**. Governments, businesses and individuals can use open data to bring about social, economic and environmental benefits.

**In this module we’ll explore the following:**

What is open data?

What is data?

What makes data open?

Why do we need open data?

**Discovering open data - in 2 minutes**

ODI Trainer Dr David Tarrant explains what data is, what makes it open and why we need open data.

**What is open data?**

Open data is data that **anyone can access, use and share**.

Open data becomes usable when made available in a common, machine-readable format.

Open data must be licensed. Its licence must permit people to use the data in any way they want, including transforming, combining and sharing it with others, even commercially.

**From raw material to new information and knowledge**

Without data we can’t build information, and without information there is no new knowledge.

# Data

Data is the raw material from which information and knowledge can be derived.

Think of data as those locations, images, descriptions, reviews and prices that form the basis of information that can help you plan a holiday, for example.

# Information

Data becomes information when it is given a context.

Following on from the previous example, locations, images, descriptions and prices can all help provide information related to a tourist attraction.

The collection and presentation of data helps to form information.

# Knowledge

Knowledge is what is derived from information, and personalised for your needs.

Building knowledge is a process of turning information into choices.

Building on the previous example, knowing that no one in your family likes theme parks will help you to decide which places to avoid on holiday, and which would suit your family better.

**What makes data open?**

Data is open if anyone can access, use and share it.

There are some simple things to consider when defining openness:

# Limitations

For data to be open, it should have no limitations that prevent it from being used in any particular way

Anyone should be free to use, modify, combine and share the data, even commercially

# Cost

Open data must be free to use, but this does not mean that it must be free to access.

There is often a cost to creating, maintaining and publishing usable data.

Ideally, any fee for accessing open data should be no more than the reasonable reproduction cost of the unit of data that is requested.

This reproduction cost tends to be negligible for many datasets.

Live data and big data can incur ongoing costs related to reliable service provision.

# Reuse

Once the user has the data, they are free to use, reuse and redistribute it – even commercially.

Open data is measured by what it can be used for, not by how it is made available.

Aspects like format, structure and machine readability all make data more usable, and should all be carefully considered.

However, these do not make the data more open.

**Why do we need open data?**

Open data can help bring diverse benefits to governments, businesses and civil society.

# Transforming government

Open data can help make governments more transparent. It can provide the evidence that public money is being well spent and policies are being implemented.

For example, according to leading open government activist David Eaves, open data allowed citizens in Canada to save the government $3.2bn in fraudulent charitable donations in 2010.

[Take me to David Eaves' article](http://eaves.ca/2010/04/14/case-study-open-data-and-the-public-purse/)

Based on the forecasted EU28+ GDP for 2020, whilst taking into account the countries’ respective government expenditure averages, the cost savings per country can be calculated. The accumulated cost savings for the EU28+ in 2020 are [forecasted to equal 1.7 bn EUR.](http://www.europeandataportal.eu/sites/default/files/edp_creating_value_through_open_data_0.pdf#page=11)

Lexbase is a web service that provides public information from Swedish courts and other authorities. On the website judgments in criminal and civil cases concerning individuals and companies can be found. The database is updated with new judgments and decisions every day. The website is used to [provide citizens with information about the criminality in different areas](https://www.europeandataportal.eu/elearning/en/module1/www.lexbase.se).

In another example, according to Follow the Money in Nigeria, the same process is used to ensure that public funds are spent implementing the policies promised to the people.

[Take me to Follow the Money](http://followthemoneyng.org/)

# Building new business opportunities

Open data is opening up new opportunities for businesses to connect with customers.

Transport for London has released open data that developers have used to build over 800 transport apps.

[Take me to Transport for London](http://www.tfl.gov.uk/)

Thomson Reuters is using open data to connect with existing customers in order to provide better services.

[Take me to Thomson Reuters](http://site.thomsonreuters.com/site/data-identifiers/)

Startups in the ODI Startup programme now collectively employ over 70 people and generate over £4m in income. [Take me to the ODI annual report](http://theodi.org/odis-second-year-annual-report)

# Protecting our planet

The web has become a core part of our infrastructure and open data will build on this.

Open data about weather can provide an early warning system for environmental disasters, for example.

[Take me to the United Nations news centre](http://www.un.org/apps/news/story.asp?NewsID=13077&Cr=natural&Cr1=disaster#.VVyWK_lVhBc)

Open data is also helping consumers to understand their personal impacts on the environment, and take steps to improve it. [Take me to Better Choices Better Deals report](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/39386/12-1324-better-choices-better-deals-report-on-progress-on-the-consumer-empowerment-strategy.pdf)

**Are you ready for open data?**

There are four helpful things to remember when thinking about opening your data. Can you remember them?

**What is open data?**

**Data is...**

information that we sell to businesses data that anyone can access, use and share data that is visible on the Web

**That’s right!**

Open data is **data that anyone can access, use and share**. Open data must also be licensed to allow free usage and be available for commercial use.

**Are you sure?**

Open data is **data that anyone can access, use and share**. Open data must also be licensed to allow free usage and be available for commercial use.

**What is data?**

**Data is...**

numbers, words, maps and photos.

information posted on the Web. the raw material of information and knowledge.

**That’s right!**

Data is the lowest level of raw material from which information and knowledge can be derived.

**Are you sure?**

Data is the lowest level of raw material from which information and knowledge can be derived.

**What makes data open?**

**Open data should be...**

free of restrictions for its use restricted in its use selectively released for a fee

**That’s right!**

If something restricts the free use of the data, such as a non-commercial restriction, then this would not qualify as being open data.

**Are you sure about that?**

If something restricts the free use of the data, such as a non-commercial restriction, then this would not qualify as being open data.

**Why do we need open data?**

**What does open data have the power to do?**

Give access to other datasets

Make governments accountable

Unlock social, environmental and economic value

**That’s right!**

Open data can transform interaction between governments, businesses and individuals. It has the power to help improve services, grow economies and protect our planet.

**Are you sure?**

Open data can transform interaction between governments, businesses and individuals. It has the power to help improve services, grow economies and protect our planet.

**Open data**

Open data is **data that anyone can access, use and share**.

Open data is a raw material for the digital age but, unlike coal, timber or diamonds, it can be used by anyone and everyone at the same time.

Any restrictions imposed on the use of open data will limit its potential for creating new value.

Open data can bring diverse benefits to governments, businesses and individuals. It has the power to help improve services, grow economies and protect our planet.

In the next module, we will explore how value is unlocked in open data.

Next module

Main menu

**Module 1 - Video**

I'm Dave Tarrant I'm the trainer and data scientist here at the Open Data Institute. Open data is data that anyone can access use and share, data becomes accessible by being made available online, data becomes usable by being made available in a common, understandable format. The most important thing is that data is licensed, this licence should allow for free reuse of the data including for commercial purposes. Think of data at the bottom of a three-tier triangle so you have got data, information and knowledge. Data is the lowest level of abstraction from which information and then knowledge are derived. Think of all the locations, pictures, reviews, descriptions and prices that you might need in order to plan a holiday. For instance, you take all of this data and turn it into information about where you want to go and from that you contextualise it and turn it into knowledge that is relevant for you. At the same time someone else could take all that data and look at the differences in cost between activities across the country so a completely different usage. So it’s critical to have this data so we can build all these different levels of information and allow people to contextualise them to build their own knowledge. Data is open if anyone is free to use, reuse and share it. This use must be without restriction, so if you apply a non-commercial licence on data, that is a restriction so therefore it is no longer open, but although data is free to use and that is how it is measured. In its usage it’s all about use that does not necessarily mean it comes without cost it might not be free to access. In order to maintain and sustain the availability of this open data there may be some marginal cost. The common occurrence is that this cost should be no more than the reasonable reproduction cost. Of the unit of data that someone is asking for, something to be open data is all about how people can use it. It’s not about how it is published and how it is made available. It is about what people can do with it once they have it, that’s what makes it open data. Open data has the power to transform the interaction between governments, businesses and society and this will unlock real value. New applications can be developed, problems can be solved and this will help generate real value for society, the economy and also solve some of the environmental issues. This is where it is already generated real impact, improving our transport infrastructure and saving countless lives, the web is already an accepted part of our societal infrastructure and open data is the next critical part of this infrastructure.