

OPEN DATA CHALLENGE

SERIES

Handbook

Nesta...



The **Open Data Challenge Series** (ODCS) is a series of seven challenge prizes that support teams to develop products or services using open data¹ for social good. The challenges show the impact that data made open by governments can have through developing real-life social businesses that put it to good use. So far, we've run challenges on Crime and Justice, Education, Energy and Environment, Housing, Food and Heritage and Culture. We will announce the winner of our **Jobs** challenge in July. The ODCS is run by the Open Data Institute and Nesta and funded by BIS and InnovateUK.

This guide tells the ODCS story so far. We hope it inspires you to explore different ways to solve more social challenges with open data.

Why run an open data challenge?

It's not always easy to show the impacts of open data. Because anyone can access, use and share it, people can use open data however they like, and don't need to tell you what they are doing with it. By offering a cash prize and setting out an open innovation process, you're able to understand how your open data is being used and who is using it.

Running an Open Data Challenge also helps you foster activity on a broad topic where there isn't much happening but there is an opportunity. Challenges are particularly useful where groups are unlikely to risk developing ideas because there isn't a proven market for them, or the high costs of developing products or services put them off.2

How does the Open Data Challenge Series work?

Each challenge takes on a broad social theme. It moves through several stages designed to help teams develop useful open data products. First, we raise a question based on open data available and a specific policy challenge within the social theme. We then open up the challenge to our community of innovators to explore possible solutions using the open data. We are not a 'hackathon', although we have a weekend event half way through each challenge. Our method borrows from mainstream startup accelerators and incubators, including those which are focused on supporting social businesses.3 Want to know more about our method? See the infographic on the centre pages.

What impact does the challenge series have?

Each challenge and the series as a whole has a range of positive impacts.

- support the development of the final winning products
- engage public sector organisations to improve their open data
- develop a community of open data innovators with a social focus
- promote the idea of using open data for social good

We work with professional service network PWC and strategic consultancy Usceates who help measure impacts and quantify the return on funding investments.





This is not a hack

As well as the incentive of a cash prize, we incorporate a number of different design aspects into our method, which support the development of credible open data products from our challenges. The method is set out in our infographic on the centre pages and we also follow the design principles below.

Keeping standards high

entries will be judged. If teams design their ideas with these <u>criteria</u> in mind, they will be much more likely to develop a product people want – not just a nice idea.

- INNOVATION bring significant improvements to existing solutions or entirely new ideas to the sector
- SOCIAL IMPACT demonstrate how the innovation relates likely positive impact on society (its Theory of Change)
- OPEN DATA use at least one government source of open data at the heart of the proposition
- SUSTAINABILITY articulate a clear market and/or plan for ongoing company or not-for-profit organisation

Making open data simpler

After we've identified a broad theme for a challenge, we ask a data scientist to assess relevant open data published by public sector organisations. They examine this data, rate its openness and relevance potential teams can develop their ideas with the data in mind without having to find and assess it for themselves. Participants can focus on working out how to incorporate it into their product.

Focusing on users from the start

We commission researchers to produce user insight resources which describe the types of users that teams should be developing their products for, and set out what their needs are. We provide a research Teams that make it through the initial application phase receive training on how to undertake their own user research and finalists receive more tailored support during their incubation.

Testing ideas early

We encourage our teams to adopt approaches used in tech startups to help shape their ideas. For instance, we suggest teams quickly iterate their ideas and test with users early, taking inspiration from the <u>Lean Startup</u> methodology. By the time finalists meet the judges for the second

Building cooperation and healthy competition

Our meetups and online platform engage people who are interested in Champion and run meetups for each challenge to build the community and get them excited about the opportunities. The competition builds between the teams as the challenge continues and they focus on developing the highest quality product.





¹Open data is data that anyone can access, use and share.

² For more information about when a Challenge Prize is a good idea see the Nesta Centre for Challenge Prize's Practice Guide

³ For more background on different techniques see the Nesta publication 'Good Incubation'

CRIME AND JUSTICE

CHALLENGE COMPLETE - March 2013 - February 2014





Winner

Check That Bike! – allows people wanting to buy a second-hand bike to check whether it has been previously stolen. By crosschecking unique frame numbers against Check That Bike!, cyclists can make better decisions about buying second-hand bikes at the time they're actually buying them. The service will also help police forces tackle bicycle theft by disrupting the market for stolen bikes.

Team

John Moss of Stolen Bikes UK, a private limited company with Check That Bike! in its portfolio.

Challenge question

Our <u>first open data challenge</u> called for products and services using open data which would:

- increase community involvement with the criminal justice system
- create further evidence for what are effective interventions for rehabilitation
- address the rise in personal crime

Innovation

John's idea shows how organisations can support their public aims by publishing open data. Check That Bike! is not only providing a service to cyclists but, by changing their behaviour, also has an impact on the way in which the police approach this category of crime.

What open data drives Check That Bike!?

- Databases containing stolen bike details such as police data, national and local registers, manufacturers, insurers and the Bing search engine to identify crime hot spots
- Freedom of information requests and an ongoing quest to encourage police forces to open data on bike unique frame numbers that have been registered as stolen
- A free-to-use API allowing other developers to harness the power of Check That Bike! in their own projects

Social impact

As well as helping to reduce crime, and the number of victims of crime, the service will hopefully tackle one of the main reasons that people don't take up cycling – the fear of getting their bike stolen – potentially leading to more people taking up cycling and experiencing its health benefits.

Sustainability

John is developing the service alongside a range of other tools aimed at combating bike theft. Together, their websites attract over 100k visits a month and generate enough revenue to sustain themselves. John is also exploring opportunities for an eCommerce site, selling high-quality cycle security products.

Development and impact

The service is live and John says it identified about 2,257 stolen bikes in 2014 with a total

value of about £760,609. John hopes more police forces will release open data on stolen bikes for him to incorporate into the service. In August 2014 John was a BikeBitz Cycling

Advocacy Achievement finalist for his work combating bike theft. He's now looking to expand the service for mobile phones.

Other finalists

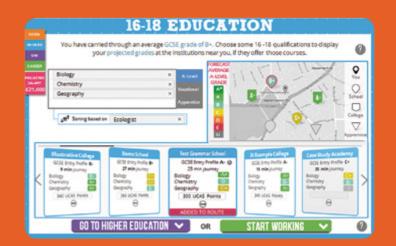
- Total Car Check a service to help customers check vehicle history and purchase second-hand cars safely, powered by open
- Pesky People Help 999, a smartphone app that enables deaf people (and anyone who can't use a phone) to directly contact 999 emergency services using open geolocation data and touch-screen options.
- "The challenge got me to think about what open data I might be able to access, and with the help of various mentors I came up with a plan to get this data released. Without the challenge, Check That Bike! wouldn't have been able to help reunite as many bikes as it has so far."

- John Moss, Founder









CHALLENGE COMPLETE - October 2013 - June 2014

EDUCATION





Skills Route – a personalised service to help young people see how well they could do on courses they might take at local schools or colleges, and weigh up their higher education and career options.

The team

MIME Consulting - a consultancy who used the ODCS process to accelerate the research and development of a new product

Challenge question

How can we use open data to help parents education in one (or more) of three areas?

- expressing a preference for a school
- · choosing a subject or other learning priorities
- engaging with their children's learning

Skills Route is unlike any of its competitors because it provides a personal service for young people. It brings together likely performance, subsequent learning pathways and long-term earning potential.

What open data drives Skills Route?

- Pupil level data provided by the DfE (anonymised and aggregated)
- Individual school data (including valueadded information and location
- Data on wellbeing and salary by occupation

While many promote secure access to recordlevel data, Skills Route highlights the potential for aggregated and anonymised open data.

Social impact

The platform **promotes the full range of** educational options available after GCSEs, and offers young people information to make the best possible choices. This will stimulate greater accountability amongst educational providers and encourage greater competition and better services in the future.

Sustainability

Schools have have a statutory duty to provide impartial careers advice and post-16 portals. Skills Route is well-placed to take advantage of this growing market.

Development and impact

Beta testing is underway with schools in preparation for its launch in October, 2015. Want to be one of the first schools to use the platform? Contact skillsroute@

Challenge Partners

- Haringey Council who engaged parents to shape products and released school catchment area data
- Department for Education (DfE) who enabled access to pupil data

Other finalists

- Illustreets for Education an intelligent engine that creates tailored school recommendations based on a child's characteristics and past performance.
- PiC (previously know as In Context Brenda) from **Upreach** enables recruiters to make more informed decisions by understanding their candidates' performance in context.

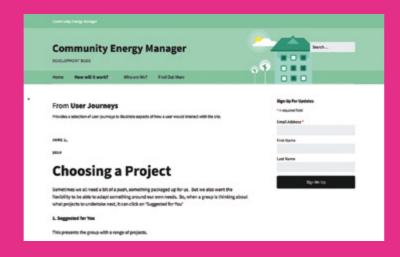
"We'd been using education data for many years, but the Open Data Challenge gave us a fresh opportunity to look at how this data could be used to directly engage young people. Skills Route will be a far better product for all the feedback we received during the challenge."

- Steve Preston, Director





CHALLENGE COMPLETE - November 2013 - July 2014



Winner

Community Energy Manager (CEM) – a platform to help community energy groups undertake projects and take advantage of energy-saving interventions from Government and energy companies. It will also help communities bulk-buy energy and potentially undertake energy generation projects.

The team

Matthew Wood, from an entrepreneurial charity Bioregional and Easton Energy Group, which aims to invent and deliver practical solutions for sustainability, and Matt Corbin, from Bristol Energy Group.

Challenge question

How can we use open data to build services that support communities to:

- group-buy their energy and save money;
- undertake community based energy efficiency interventions; or
- start to generate their own energy?

Innovation

CEM simplifies and standardises a complex process helping community energy groups learn from each other and share tools and approaches. Matt and Mark drew on their experiences at Bioregional and Easton Energy Group and applied user research to pinpoint a central issue in the community energy market.

What open data drives CEM?

- UK Census data provided by ONS
- Annual energy consumption data from the Department for Energy and Climate Change
- Data from the Office of National Statistics and local councils
- Ordnance Survey open data

Open data sources enable community energy groups to understand the feasibility of different projects in their area with things like housing stock and energy usage in mind.

Social impact

In the short-term, the platform will stimulate more community energy projects, more energyefficient homes and reduced greenhouse gas emissions.

Sustainability

CEM are testing and exploring revenue streams like referral fees for installers of energy efficiency products. For instance, if a group wants to launch a share offer for renewable energy investment, CEM can help facilitate this.

Development and impact

Community Energy Manager will be launched in mid-April. If you'd like to find out more, please sign up to their newsletter.

Challenge Partners

- Bristol City Council who supported local outreach and data release
- <u>Bristol & Bath Science Park</u> who hosted the Creation Weekend

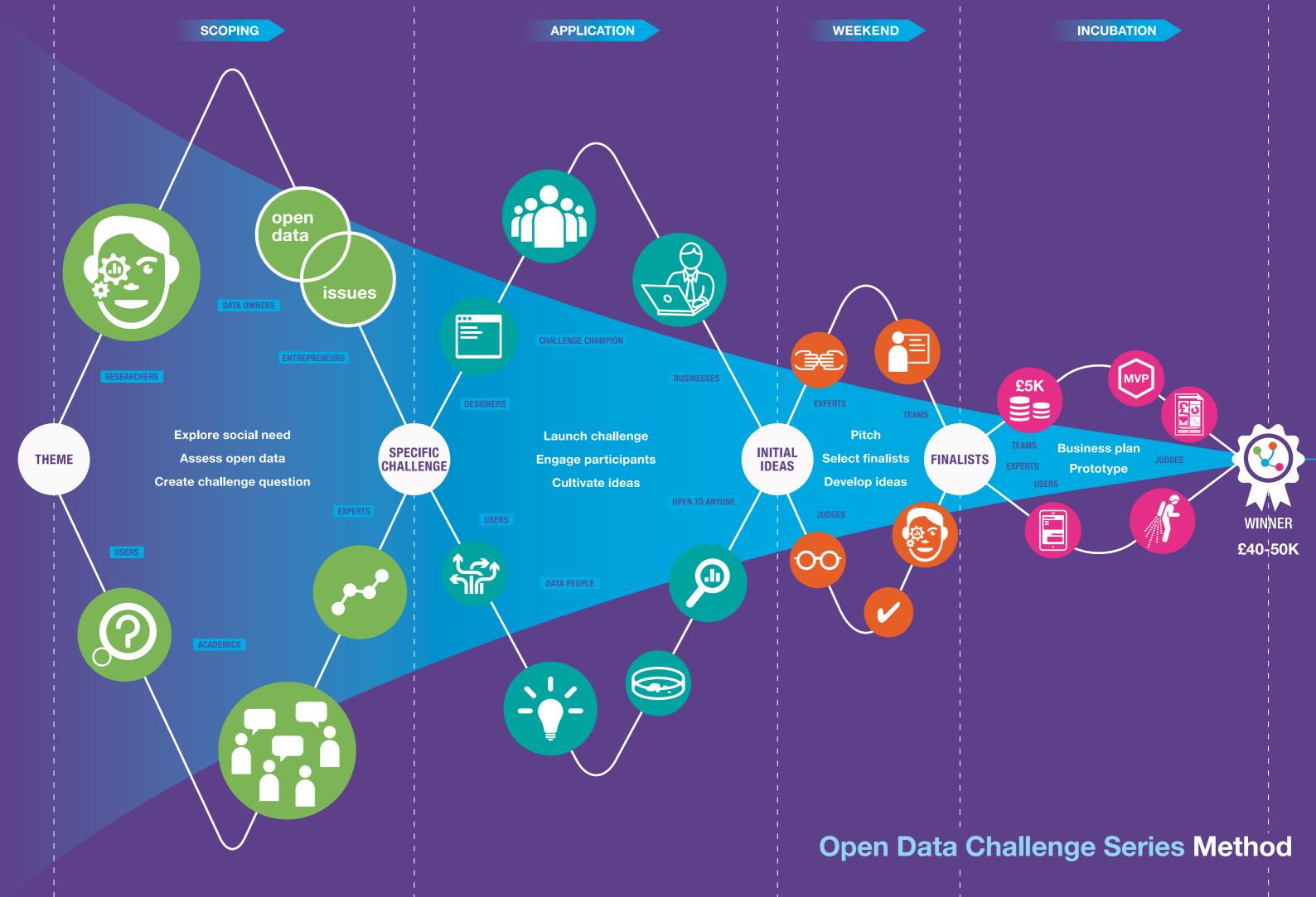
Other finalists

- Energy Schools turns schools into hubs for community energy initiatives and helps students to become "community energy ambassadors"
- Energy Benchmarking Plus / Locatable helps homeowners and communities to compete and communicate on energy performance in a transparent way.

"The Challenge in Bristol was a fantastic event with a lot of buzz in the room. I was very impressed by how teams combined open data with practical solutions such as brokering energy saving measures for households or schools. It would be great for the city to become a test-bed for these types of initiatives."

Mareike Schmidt, Service Manager,
 Energy at Bristol City Council



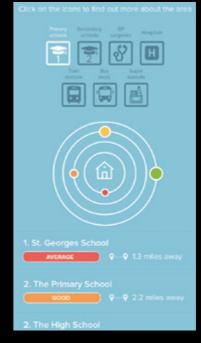


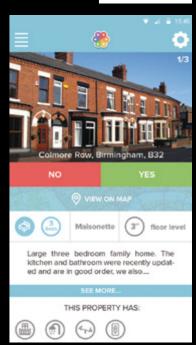
Challenge Series Handbook Nesta and Open Data Institute in Partnership — 10/1



CHALLENGE COMPLETE - April 2013 - December 2014







Winner

<u>MoveMaker</u> – a smartphone app that helps people living in social housing swap their properties.

The team

Isabelle Champion, Pip Keast, Alice Granville and Ed Wallace from the Research and Innovation team at Viridian Housing.

Challenge question

How can we use open data to help people get the best out of renting?

Innovation

Social housing tenants house swap for many reasons – space, money, changing family circumstances or distance from work.

MoveMaker makes it really easy for people to swap their homes. Like popular dating apps, people are only matched where there's a mutual interest. They can chat and agree to a move through the app before working out the details with the authorities.

What open data drives MoveMaker?

• <u>Ofsted</u> data to help movers assess the quality of schools in an area

- NHS patient surveys to help movers consider the quality of healthcare locally
- Transport location data to help movers assess accessibility in an area

Although useful on their own, bringing these datasets together creates a picture of an area, helping people to make better-informed decisions and ultimately find homes that are right for them.

Social impact

Around 2 million people currently live in homes that are too big or too small for them. By making the process of finding the right home really easy, MoveMaker wants to **get more people swapping**. This will help people use housing stock more effectively and reduce pressure on housing waiting lists.

Sustainability

The MoveMaker app will be free for social housing tenants to download and use. Housing Associations will be able to use it for free for 12 months.

Development and impact

MoveMaker is currently in development and will be available to use from Summer 2015. Social housing providers interested in trailing the app for free should go to www.movemakerapp.co.uk for more details.

Other finalists

- <u>Open JamJar</u> a service which helps tenants in the private sector who are receiving housing benefit budget for their rent.
- RentSquare an open data powered platform connecting tenants and landlords directly around the best rent price.

"When Alice and Izy came up with MoveMaker, we knew it had the potential to make a significant difference for social housing tenants and their landlords. The ODCS process has forced us to really critique the idea and think in much more commercial terms. Now we really understand what's needed to be successful. It's easier to convince customers this is a product they should use."

Ed Wallace, Research & InnovationManager





Herita gettu



CHALLENGE COMPLETE - October 2014 - May 2015

culture everywhere

Winner

<u>FoodTrade Menu</u> – a tool used by restaurants and caterers to help them comply with new regulations on transparency of allergens in their food.

The team

Ed Dowding, Therese Stowell and Lyndsey Knight.

Challenge question

How can we use open data to help people eat more healthily, more sustainably and/or have a more secure food chain?

Innovation

Restaurants and caterers now need to flag if the food they sell contains one or more of 14 allergens such as gluten, crustaceans and peanuts. This challenge gave participants the opportunity to identify new burdens that the regulation would impose on food businesses, making use of the open data that is already available.

What open data drives FoodTrade Menu?

- Food Standards Agency allergen alerts
- Food Standard Agency restaurant hygiene ratings

FoodTrade Menu is committed to making data open. The group hopes to release aggregate and anonymised information on

retailers and producers used by specific restaurants and food businesses, shedding light on the supply chain.

Social impact

Food businesses which sign up for FoodTrade Menu automatically become part of FoodTrade, a networking platform for food buyers and sellers to discover each other. Each restaurant menu becomes a shopping list; the restaurant can discover local suppliers and local suppliers can discover new restaurant customers, driving transparency, local purchasing and sustainability in the supply chain. The service will also hopefully reduce the number of people who get allergic reactions from food.

Sustainability

Food businesses pay a subscription fee for the service. As the service is incorporated into the broader FoodTrade platform there are synergies which mean the two products will support each other.

Development and impact

The team is partnering with a range of sustainable food organisations, including the Soil Association, the Sustainable Restaurant Association and Slow Food, and is working very closely with TIFSIP (The Institute of Open Data Challenge Series Handbook Food Safety, Integrity and Protection). Are you interested in signing your business up?

Other finalists

- Vitalfootprint targeted at food service businesses and their compliance with new and emerging EU legislation relating to allergen, nutrition and provenance information which is accompanied by a consumer-facing app, Eatjoy, available in the Apple app store. The app helps consumers to easily find information about what they are eating.
- OMYGOODNESS a smartphone game for parents and children to use during a shopping trip to make healthier choices.

"The food challenge got us to think about our core business in a new way – driving traffic to the platform by providing a regulatory service to food businesses.

With the money, incubation help and a lot of hard work we created an MVP and business plan and built partnerships with several key organisations in an incredibly short period of time."

- Therese Stowell, Chief Operating Officer



Winner

Culture Everywhere – helping organisations deliver better social outcomes through culture, by making it quick and easy for fundraisers and smaller grassroots arts and heritage organisations to develop fundable projects. The platform helps organisations reveal the need for their activities by using open data, helping them to find partners and funders, and track impact.

The team

The Sheffield-based team is a collaboration between the Better With Data Society and Ignite Imaginations.

Challenge question

How can we use open data to engage more people, and more diverse people, in UK heritage and culture?

Innovation

Grassroots arts and heritage organisations reach people and communities that mainstream institutions can't. But unfortunately they often don't have the same resources available to invest in writing successful bids. Culture Everywhere simplifies and streamlines the project research and development process, helping teams to work together, build innovative projects and partnerships, and free-up capacity to concentrate on delivering their projects instead of writing funding bids.

What open data drives Culture Everywhere?

Culture Everywhere combines existing government data, (including Census and Indices of Multiple Deprivation), with grants data from arts funders. New open data is made through tagged research snippets created by organisations using the platform, as well as impact evaluation data.

Social impact

Culture Everywhere will help grassroots arts organisations deliver better projects. In the longer term, the platform will promote openness and trust between organisations and hopefully increase sustainability and decrease funding pressures.

Sustainability

Organisations delivering cultural activities pay an annual subscription for the R&D, portfolio and collaboration features of the Culture Everywhere platform. Packages will also be available for arts networks, funders and academic organisations.

Development and impact

Organisations can sign up to register their interest in using Culture Everywhere now (from cultureeverywhere.com), as well as to join as early adopters to help shape its development ahead of public launch in January 2016.

Challenge partner

<u>British Museum</u> - provided a venue for the <u>Creation Weekend</u> event in March 2015 and increased access to their artefacts data.

Other finalists

- <u>City Radar</u> a Software as a Service that turns an existing audience development methodology – powered by open data – into something more dynamic, that can be used on a daily basis by organisations and by funders.
- <u>Rabble</u> a new way for families to spend time together, having fun and getting useful stuff done in local culture and heritage sites.

The Challenge Series gave us the impetus, structure and support to direct raw, embryonic ideas for Culture Everywhere into an elegant and viable solution to a frustrating problem in the grassroots arts and funding sectors.

-Jag Goraya, Director, Better With Data



Open Data Challenge Series Handbook
Image: ODCS Food Winning Team by www.markwilliamsphotography.com
Image: ODCS Heritage and Culture Winning Team

Nesta and Open Data Institute in partnership — 14/15



Our final challenge of the series focuses on Jobs. We were interested to see products and services that help both employers and employees with this challenge.

Challenge question

How can we use open data to help people get better jobs, and create new jobs?

Creation Weekend

The open data assessment and user research undertaken by Uscreates prompted over 20 teams to submit a product or service idea to the challenge. At the midpoint we invite a selection of those teams who have submitted an idea to come along to a weekend event to take their idea further. We held the Jobs Creation Weekend at The Shed, Manchester Metropolitan University on the weekend of 25 and 26 April.

The Creation Weekend encourages participants to focus on the judging criteria that they will be assessed against on the Sunday afternoon.

The pitch and input on open data, social impact and user research feature early on. In fact, the weekend really begins two weeks beforehand – at the Late Meetup for the challenge. Here, we bring the selected teams together to meet the competition, consider collaboration, hear from specialists in user research and social impact and learn a little about the structure and expectations of the weekend.

The weekend culminates in the selection of three finalists who spend the next two months developing a minimum viable product and refining their pitch. One team will be selected to win the final £50,000 prize in early July 2015.

Finalists

- Bus Start working with city governments, communities and private companies to design bus routes that connect people with better, and new jobs.
- Pikhaya Smart Streets a tool to attract small, independent businesses to discover commercial opportunities in deprived urban centres.
- Performance in Context (PiC) supports recruiters to make more informed recruitment decisions by understanding their applicants' performance in context.



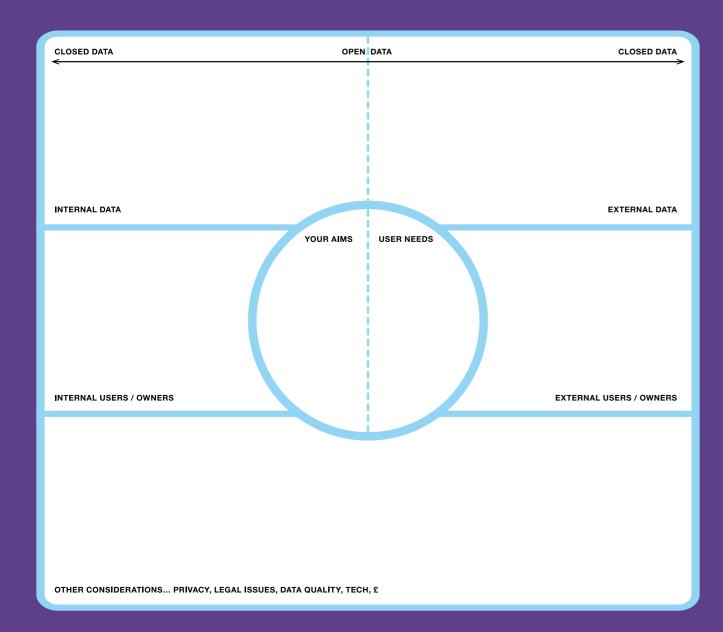


Are you ready for an Open Data Challenge?

Now you have a better understanding of the Open Data Challenge Series, the following template can help help you establish whether running an open data challenge would help you achieve your strategic aims with data.

Draw out this template again and populate it:

- 1. Identify the strategic aim that you want to focus on in the centre
- 2. Identify the types of datasets which are relevant to this aim, both within your organisation and outside (for instance, held by other organisations)
- 3. Identify the groups of people who currently use this data or could be attracted this data. Think about people within your organisation and outside
- 4. Highlight any constraints with the use of this data. For instance, does it look like you have enough open data for people to use in products that target your aims?





Get in touch if you believe you have enough open data to facilitate an Open Data Challenge: email opendata@nesta.org.uk or tweet @odchallenges.

SOLVE MORE SOCIAL CHALLENGES WITH OPEN DATA







Acknowledgments

The Open Data Challenge Series team are Ed Parkes, Briony Phillips and Remi Van. We would like to thank the following people for their involvement in, and support of, the Open Data Challenge Series so far:

Dave Anfield, Peter Ashworth, Ulrich Atz, Bob Barr, Haidee Bell, Maria Bojanowska, Louise Burke, Olivia Burman, Tony Burton, Peter Capener, Gianfranco Cecconi, Joanna Choukier, Stuart Coleman, Phillip Colligan, Amy Cooper, Jason Davies, Helen Desmond, Mark Driscoll, Paul Driver, Tris Dyson, Rebecca Endean, Dan Epstein, Ben Gibbs, John Gibson, Clare Goodman, Jag Goraya, Risha Goswamy, Helen Goulden, Mark Graham, Sahadeva Hammari, Michael Harris, Laura Hart, Shannon Harvey, Jayne Hilditch, Alex Hilton, Merlin Hyman, Ben Kott, Phil Lang, Angela Latta, Matt Leach, Paul Maltby, Sonny Masero, Anne McCrossan, Chris Michaels, Geoff Mulgan, Stephen Murdoch, Alex Murray, Steve Peters, Georgia Phillips, Adrian Philpott, Zoe Philpott, Elpida Prasopoulou, Alia Qamar, Emma Reffold, Phillippa Rose, Mike Saunders, Heather Savory, Laura Scarott, Mareike Schmidt, Anna Scott, David Simoes Brown, James Smith, Zoe Stanton, Gavin Starks, Jeni Tennison, Sian Thomas, Jenny Thomas, Bill Thompson, Emma Thwaites, Sian Toogood, Farida Vis, Alicia Weekes, Simon Whitehouse, Deborah Williams.

And all our winners, finalists, and those who submitted ideas and created relevant open data.

Open Data Challenge Series Handbook



| PRIZE FUND | £415,000 |
|--------------|----------|
| WINNERS | 7 |
| FINALISTS | 21 |
| IDEAS | 143 |
| USER REPORTS | 6 |
| DATASETS | 296 |
| REACH | 30,000 |

2012-2015 CHALLENGES COMPLETED

Nesta, 1 Plough Place, London EC4A 1DE Open Data Institute, 65 Clifton Street, London EC2A 4JE

opendata@nesta.org.uk @odchallenges

www.nesta.org.uk | www.theodi.org

Copyright © Nesta / Open Data Institute, 2015



Nesta is a registered charity in England and Wales with company number 7706036 and charity number 1144091. Registered as a charity in Scotland number SCO42833. Registered office: 1 Plough Place, London, EC4A 1DE. The Open Data Institute is an independent non-

profit organisation, bringing together government, industry and academia to realise the benefits of open data. The ODI helps people unlock supply and demand for open data, and share this value with everyone. Company Number 08030289. Registered Office: 65 Clifton Street, London EC2A 4JE.