Collaboration through data: overcoming sector-wide challenges
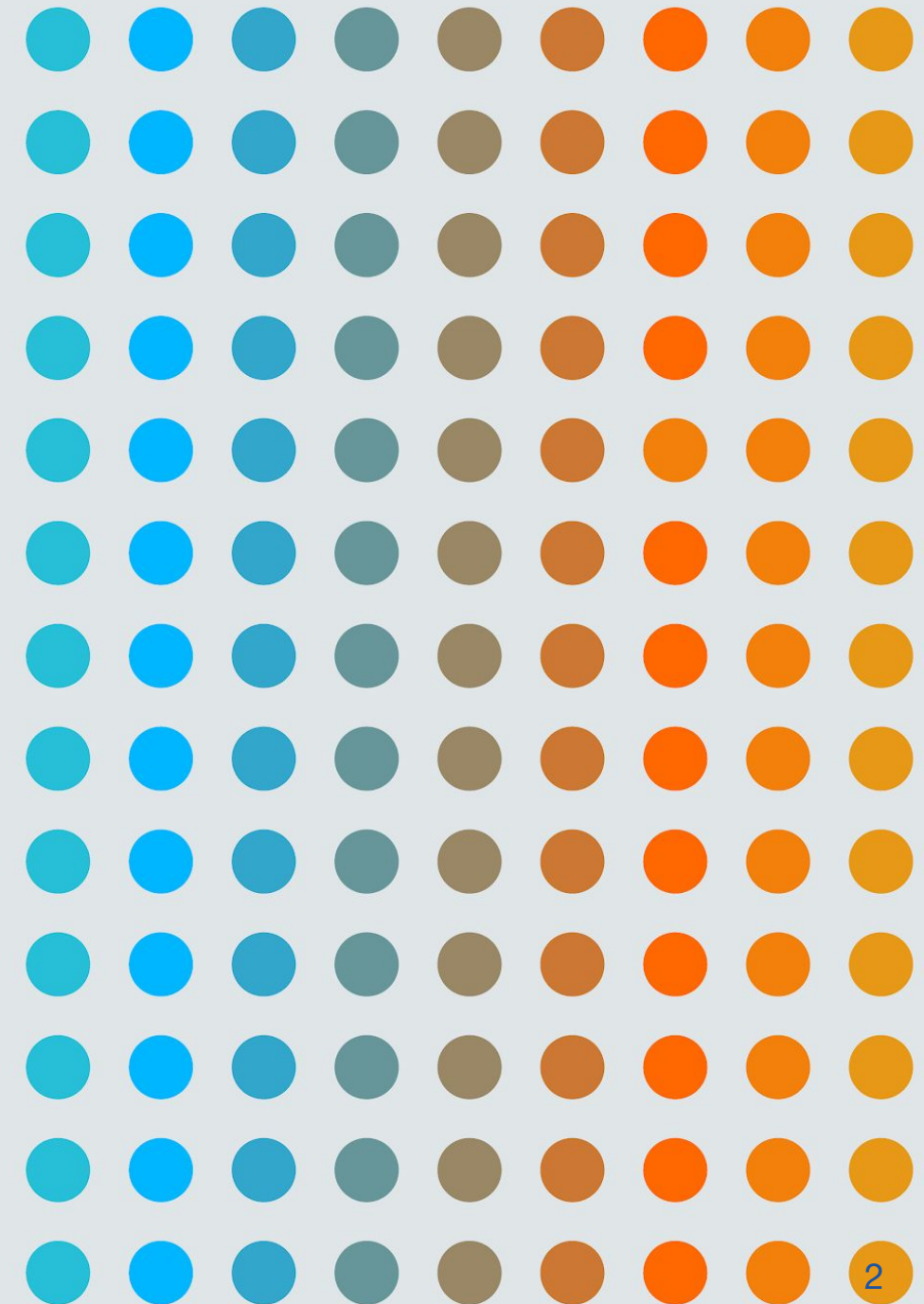
Thu, 1 Aug 2024, 12:30-13:30

Today's Speakers

- Melissa Tallack, Stream
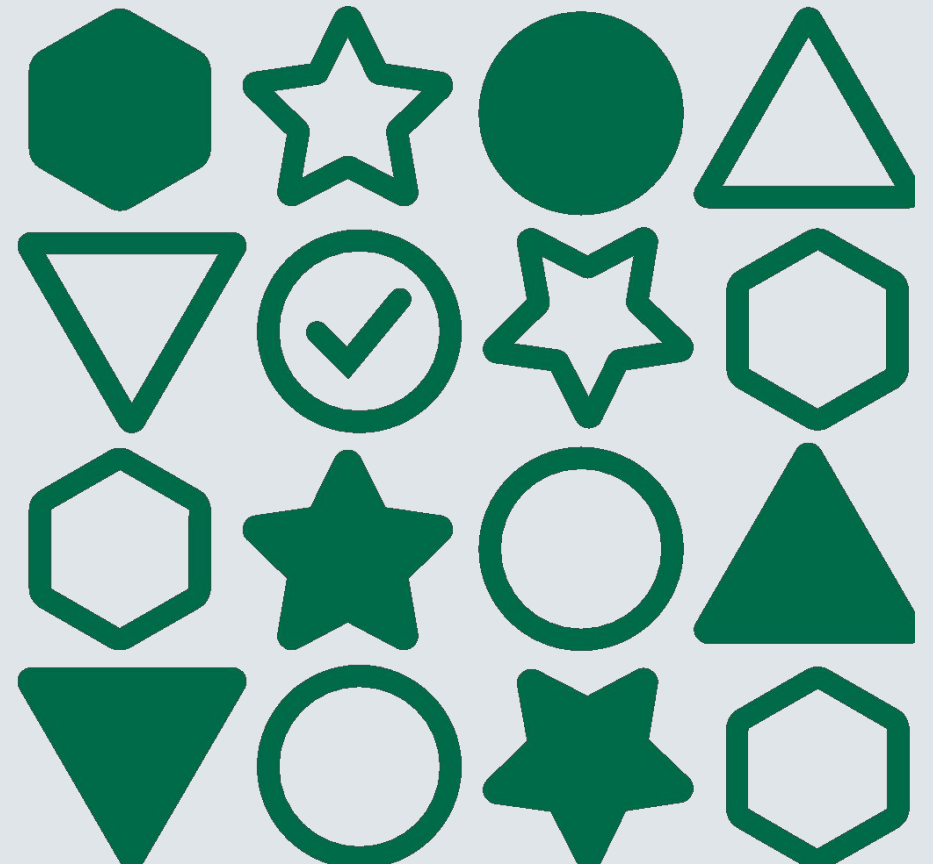- Yiu-Shing Pang, UK Power Networks,
- Tara Lee, ODI

Chair

- Ed Evans from the ODI and group chair BCS DMSG

This webinar has been organised by the Open Data Institute and BCS Data Management Specialist Group.

The Open Data Institute

Building the foundations for an open, trustworthy data ecosystem with trusted data practices.

Open Data

Electricity networks

Yiu-Shing Pang, Open Data Manager

Who are we

Measure	Data
End customers	8.5m
Population served	c.20m
Distributed generation connected	~9GW
Energy distributed	71TWh
Peak demand	13GW
Total length of network	191,523km
Area served	29,250km^2

- Safe

- Reliable

- Customer satisfaction – *Top 3 in the UK – Institute of Customer Service.*

- Value for money

Why – various drivers: Net Zero, DSO and regulatory
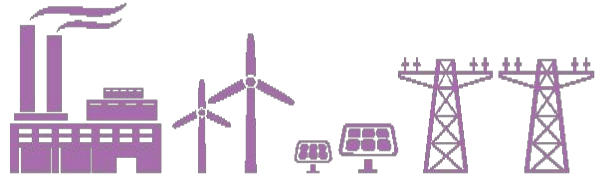
- Distributed / Renewable Generation
- Energy Storage
- Local Energy

- Smart Meters and the connected home
- Micro generation / storage
- Electrification of heat and transport

Net Zero

- Legally binding targets by 2050
- Ban on the sale of petrol, diesel and hybrid cars by 2035
- 2025 New homes: low carbon heating
- Energy efficiency

Changing regulatory environment

- Market reflective returns
- Greater efficiency
- Managing uncertainty

Digital revolution

- Digitalisation
- Internet of Things
- Connected homes
- **Data: presumed open, standardised and visible**

Evolving consumer expectations

- Affordability
- Trust and purpose
- Expectations set by "the best"
- "Producers and consumers"

Two things we offer

Data

across all voltage levels – updated regularly

Maps and Dashboards

help pre-application self-service – point your customers to it.

Data – available on the Open Data Portal

Item	Detail
Network assets	Substations, transformers and overhead network
How it is operating	Near real time power flow, connection queues, future reinforcement/flexibility opportunities, forecasts, curtailment, constraints, outages, interruptions
Customers	Solar farms, batteries, gas turbines Electric vehicle charge points, heat pumps, photo voltaic panels

Explore — UK Power Networks (opendatasoft.com)

UK
Power
Networks
Delivering your electricity

Maps and Dashboards
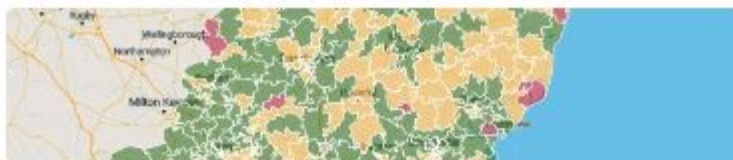
Network Infrastructure and Usage Map (System Visualisation Interface)

A geospatial view of UK Power Networks' network infrastructure, including substation sites, overhead lines, towers and poles as well as the usage of the network, including demand headroom capacity, connected generation and demand.

Network Operational Data Dashboard

By Grid Supply Point, this dashboard includes historical power flows, import and export capacity and headroom, and near real-time data.
In addition, we show the accepted but not yet connected generation queue, along with details of any constraints and the year we expect connection.

Grid and Primary Site Dashboard

Visit our dashboard which shows key characteristics, such as demand and capacity, against a selected grid or primary site.

Data Provision
The ICE 2023 consultation respondent noted that the quality of data provision varies between DNOs. They welcomed National Grid Electricity Distribution and UK Power Networks launching their ClearViewConnect and Network Operational Data Dashboard reports and described them as "a significant step forward in improving queue visibility at Grid Supply Points".

ofgem

UK Power Networks
Delivering your electricity

Industry Collaboration
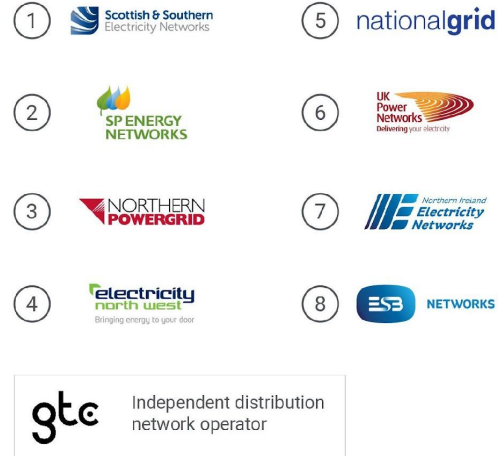
- **Sector wide challenges**
  - Responding to regulator and government signals
  - Connection queues – data: visibility/quality/velocity
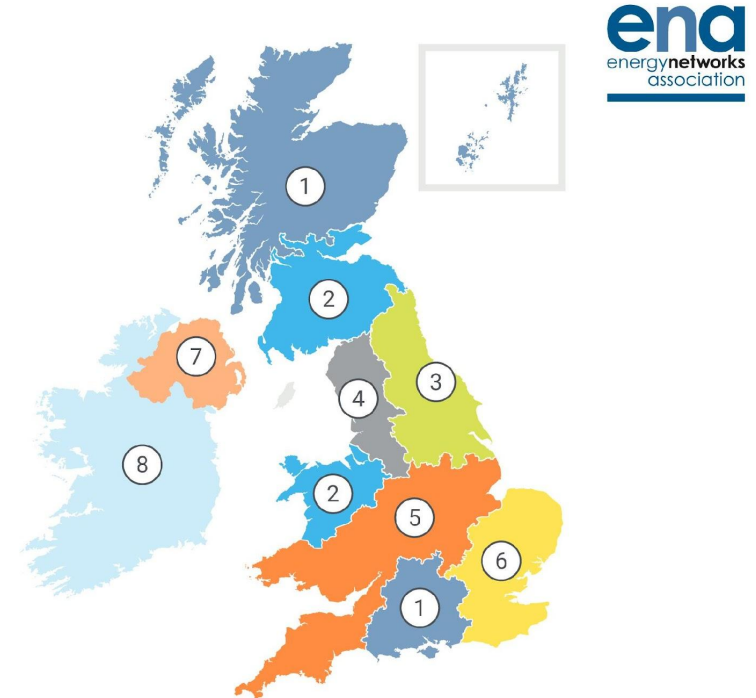
- **Energy Networks Association (ENA) – various working groups – data and digitalisation**
  - Data and Digitalisation
  - Licensing
  - Data triage

Electricity distribution

1. Scottish & Southern Electricity Networks
2. SP ENERGY NETWORKS
3. NORTHERN POWERGRID
4. electricity north west — Bringing energy to your door
5. nationalgrid
6. UK Power Networks — Delivering your electricity
7. Northern Ireland Electricity Networks
8. ESB NETWORKS

gtc — Independent distribution network operator

© ENA 2021

Collaboration on multiple fronts and levels

Key messages

Central direction

Ofgem has set out its Data Best Practice principles.

Licensees are adhering

Individual corporate risk appetite

We can try and align

But this is part of the process – we'll learn, fail and succeed together

Encourages fast learning

Future alignment

Open energy data is still developing

Industry is aligning through the Energy Networks Association

Opportunities

Increasing number of use cases emerging

Key enabler and facilitator to Net Zero

UK Power Networks Open Data Portal

UK Power Networks
Delivering your electricity

Northumbrian Water Ltd

Northumbrian Water Ltd operates in two regions:
- in the north east of England as Northumbrian Water
- in the south east of England as Essex and Suffolk Water

Northumbrian Water provides water and sewerage services to 2.7 million people

Essex and Suffolk Water provides water services to 2 million people

Every day we supply over 1.1 billion litres of water to these areas….
…enough to fill 440 Olympic sized swimming pools each day

Stream.

Stream is a unique consortium of 16 water companies and experienced partners.

CORE STREAM MEMBERS

love every drop
anglianwater

Dŵr Cymru
Welsh Water

NORTHUMBRIAN
WATER *living water*

Wessex Water
YTL GROUP

South West
Water

SEVERN
TRENT
WATER

Scottish Water
Trusted to serve Scotland

United
Utilities

Portsmouth
Water

South Staffs Water

south east water

ses
WATER

YorkshireWater

HAFREN
DYFRDWY

Southern
Water

AffinityWater

16 out of 18 major water companies in the UK, representing a significant % of all UK water customers

PARTNERS

SIAPARTNERS

COSTAIN

aiimi

ODI

cosán cróga

IB1 Icebreaker One

esri

WIDER STAKEHOLDERS CONSULTED

BRITISH WATER

Environment Agency

Water UK

UKWIR

spring

Ofwat

CCW
The voice for water consumers
Llais defnyddwyr dŵr

Thames Water

Department for
Business & Trade

Department
for Environment
Food & Rural Affairs

CALIFORNIA DATA COLLABORATIVE

DataStream
Lake Winnipeg
Great Lakes
Mackenzie
Atlantic
Pacific

Plus many more

Stream Vision

"Unlocking the potential of water data to benefit customers, society and the environment."

| Community | + | Data | + | Process | + | Technology |

Stream.

The story so far

Mar 2021
Stream translate the strategy into a **delivery plan** and engage delivery partners

Aug – Dec 2022
Stream **Blueprint phase** for the design & execution of an Open Data solution

Dec 2023
First open **Data Available** on Stream – including standardised data covering multiple water companies

Jul 2025
Move to **Steady state** of continual data releasing and community engagement

MVP

Day1

Apr 2020
Stream formed and **validated the need** for Open Data

May 2022
Stream Blueprint is **funded** via Ofwat Water Breakthrough Innovation Challenge

May 2023
Stream is announced **winner** of Ofwat Water Breakthrough Innovation Challenge

Apr 2024
Launch **Enduring Platform,** further data & community features

Stream

[Stream - Portal (www.streamwaterdata.co.uk)](www.streamwaterdata.co.uk)

Stream.

Collaborate to inter-operate

https://github.com/icebreakerone/stream-data-standards/

Energy
Trust Framework (Open Energy)

Water
Trust Framework (Stream)

Core
Trust Framework

Stream.
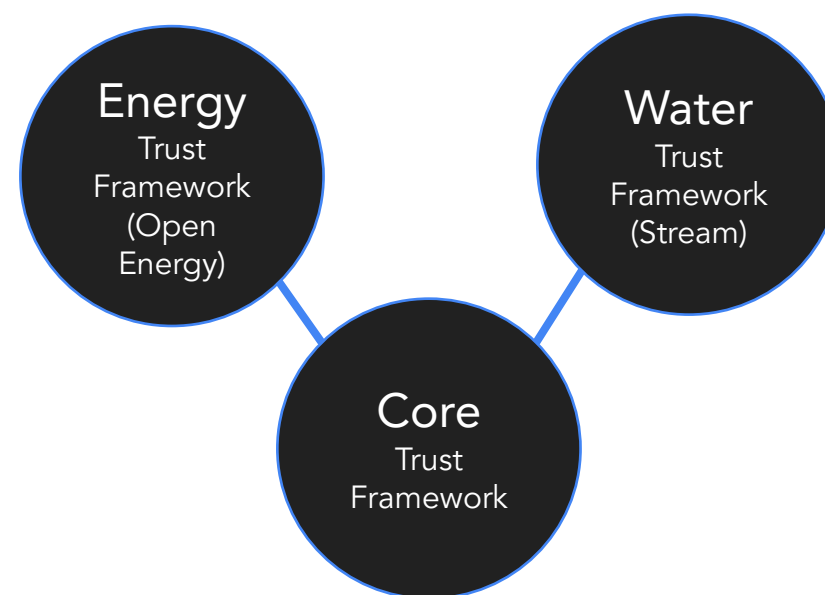
Operational Pillars

Governance

TECHNOLOGY

The data sharing infrastructure which enables innovators to draw valuable insights (search, understand and access data).

OPERATIONS

How we operate enables the other three pillars. It also includes our operational and governance processes. Ensuring lean decision making, learning by doing, being agile in nature and sharing best practices with our members. Ensuring operational excellence is at the heart of what we do.

VALUE

To customers, society and the environment

USE CASES & DATASETS

Stewarding data about the water sector which ai improve sector and cross-sector efficiency, decarbonisation and customer outcomes. Follow a use case led approach to focus on value – to customers, society and the environment. It can a include standards and licenses.

ECOSYSTEM

To ensure that value is realised, development of strong data culture and improved collaboration that insights are shared. Driving engagement wi our ecosystem to use data to address key custom societal and environmental challenges.

"An ecosystem is the people, communities, and organ that are stewarding data, creating things from it, decid to do based on it, influencing any of those activities, o affected by any of those activities." (Open Data Institu

Stream.

The Open Data Institute

Building the foundations for an open, trustworthy data ecosystem with trusted data practices.

Our independent, non-partisan status, our trusted convening power and our extensive body of work – over 12 years – make us unique in the world.

Sir Nigel Shadbolt

Executive Chair and
Co-founder of the ODI

Louise Burke

Managing Director
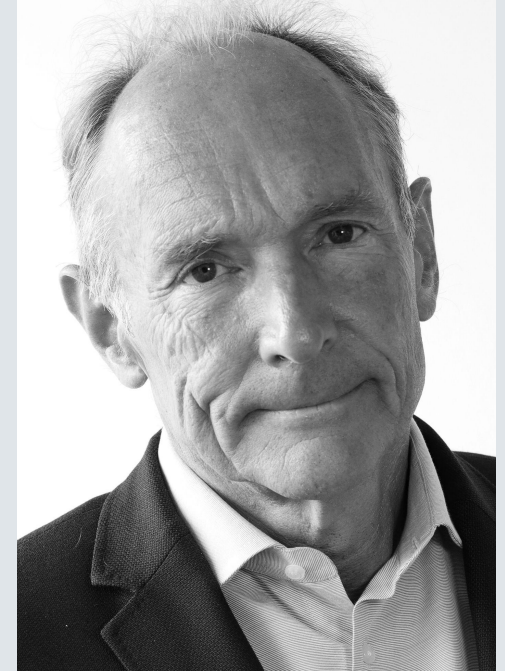
Sir Tim Berners-Lee

President and Co-founder
of the ODI

Vision

A world where data works for everyone

Mission

An open, trustworthy data ecosystem
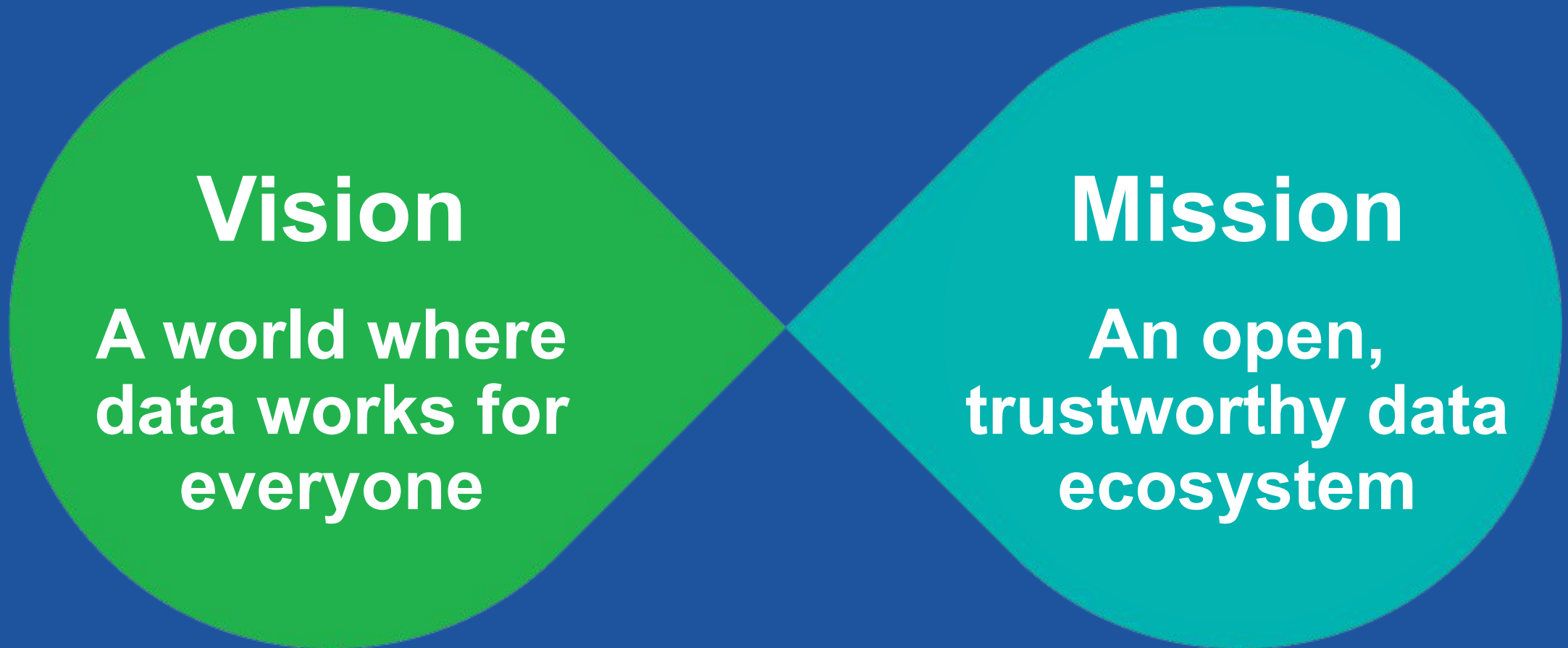
We help organisations realise the potential of data, understand its properties and value through our research, and build skills and strategies for safe, ethical and trusted data sharing that benefit customers, people and stakeholders.

We help leaders understand the value of data, and we show governments how creating standards for data and data practices can enrich public services. We break down barriers, help others forge alliances and create safe spaces for divergent views to be heard and for (sometimes conflicting) interests to align around a common cause.

You can find out more at **theodi.org/strategy**
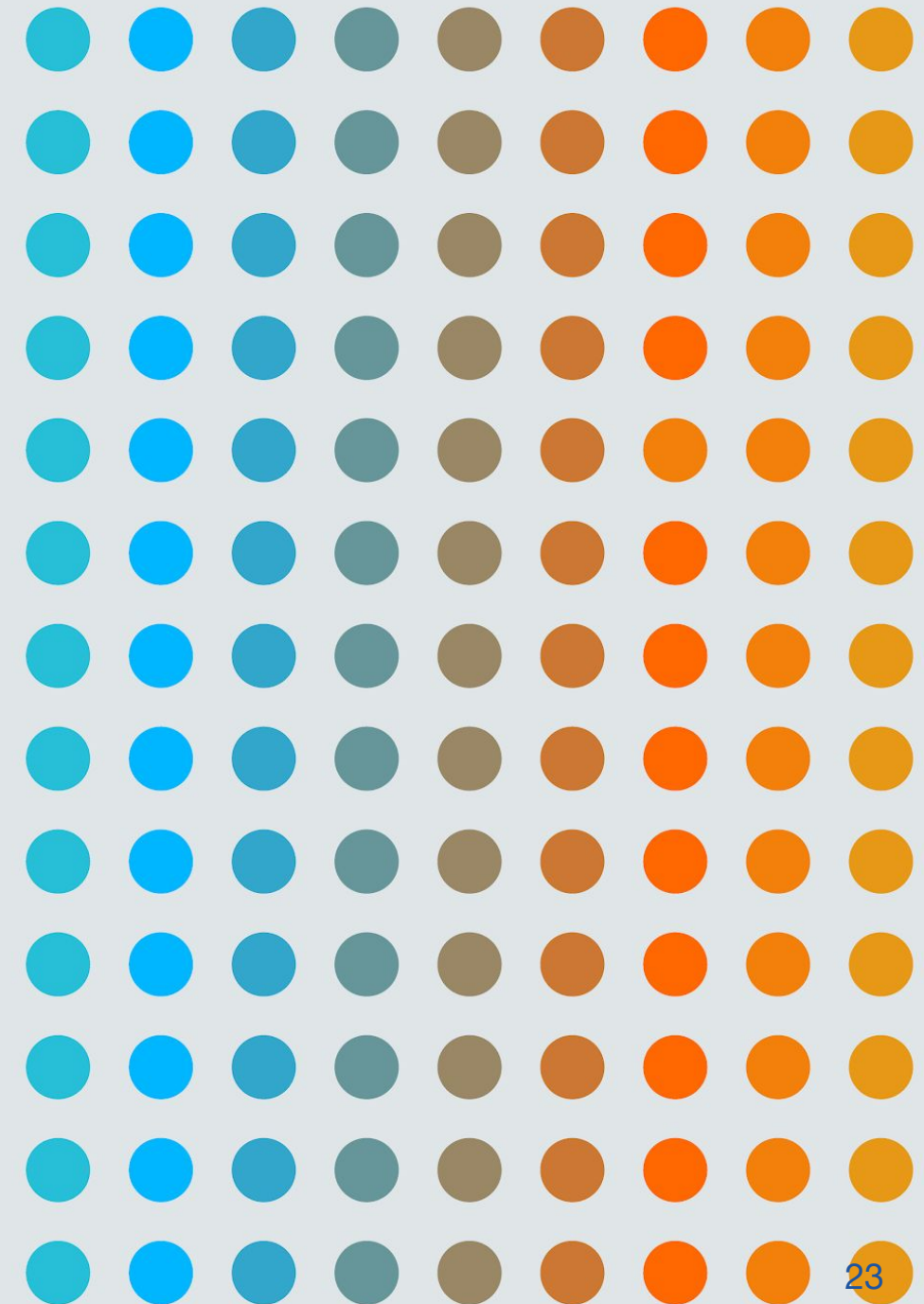
ODI partners and clients, current and past, include:

ODI's 5 Year Strategy 2023–2028

DRIVERS

Global mega-trends:

Covid-19
Climate change
Conflict
Scarcity

Technology developments:

Increased risks and opportunities

PRINCIPLES

1. Strong data infrastructure is essential for a healthy data ecosystem

2. Open data is the foundation for strong data infrastructure

3. Trust in data and those who share it creates value

4. Independent bodies are needed in the data ecosystem

5. Harms are reduced through diversity, equity and inclusion

6. Data skills and knowledge are keys to unlocking potential

PRIORITIES

+ Diversify our funding and secure our position as a strong, independent organisation.

+ Innovate new systems and processes to advance trust in data and practices.

+ Contribute to building and hosting new vehicles for data sharing that enable strong data infrastructure.

+ Embed diversity, equity and inclusion in all we do. Question biases in data and practices of others.

+ Continue to be a world class institute – producing original work in policy and research.

+ Leverage technology, networks and talent to extend our reach and influence.

COMMITMENTS

+ Initiate new programmes of work, that meet social, economic and environmental needs.

+ Build digital capability and capacity to reach more people.

+ Develop products and services that enable data sharing and use.

+ Create more courses that build skills and knowledge with a wider customer base.

+ Strive for equity in how we deliver what we do. Forge partnerships in new regions of the world, and among people who are under-represented.

IMPACT

Vision
A world where data works for everyone

Mission
An open, trustworthy data ecosystem
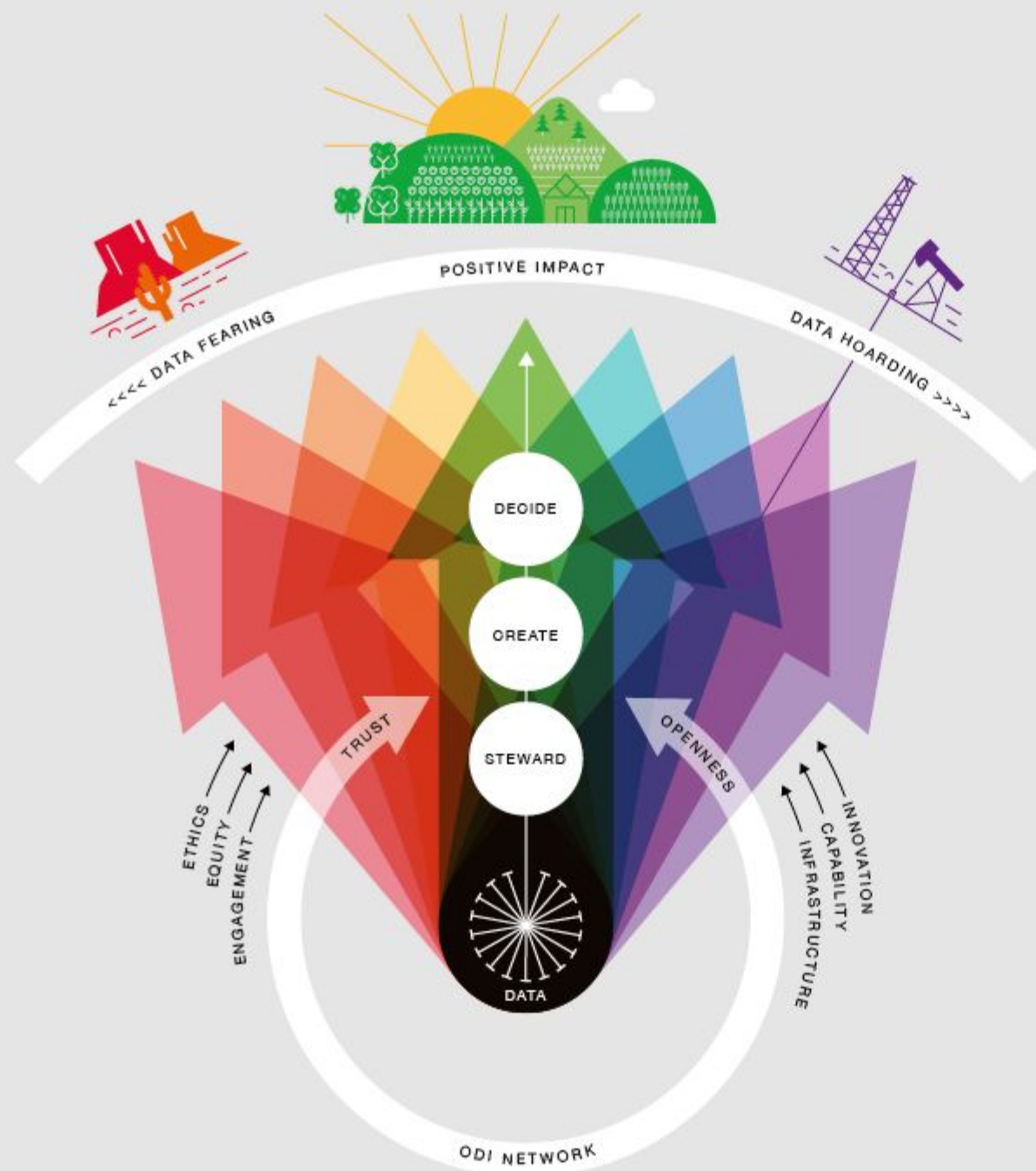
The ODI's theory of change

We want people who **steward** data, and people who **create** things with it, to act in ways that bring about **positive impacts**.

Ethical use of data helps to improve trust, and bring about the best economic and social outcomes.
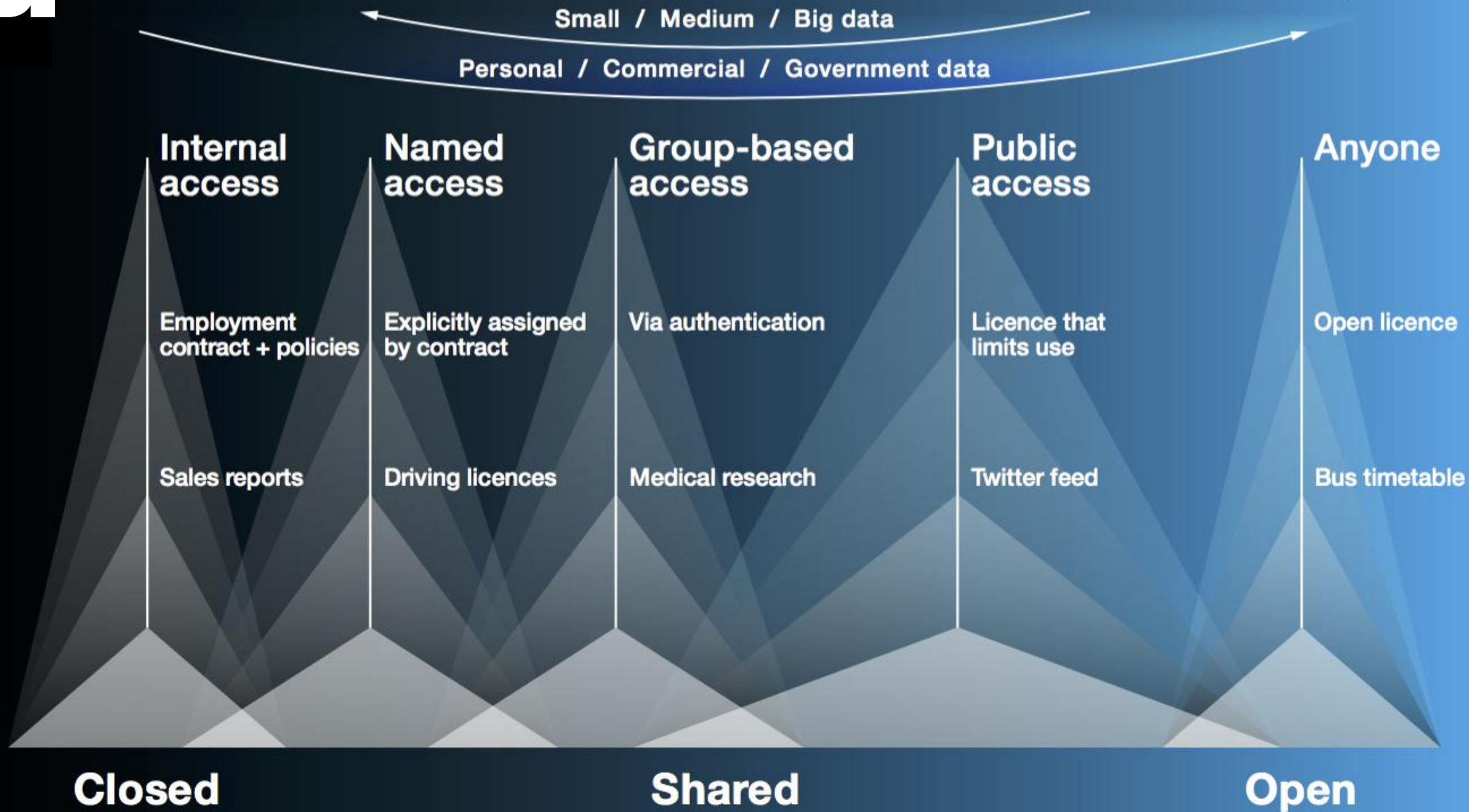
We want to avoid a future where data is **feared** or **hoarded**. We want data to work for everyone.

Find out more at:
theodi.org/theory-of-change

Thank you!