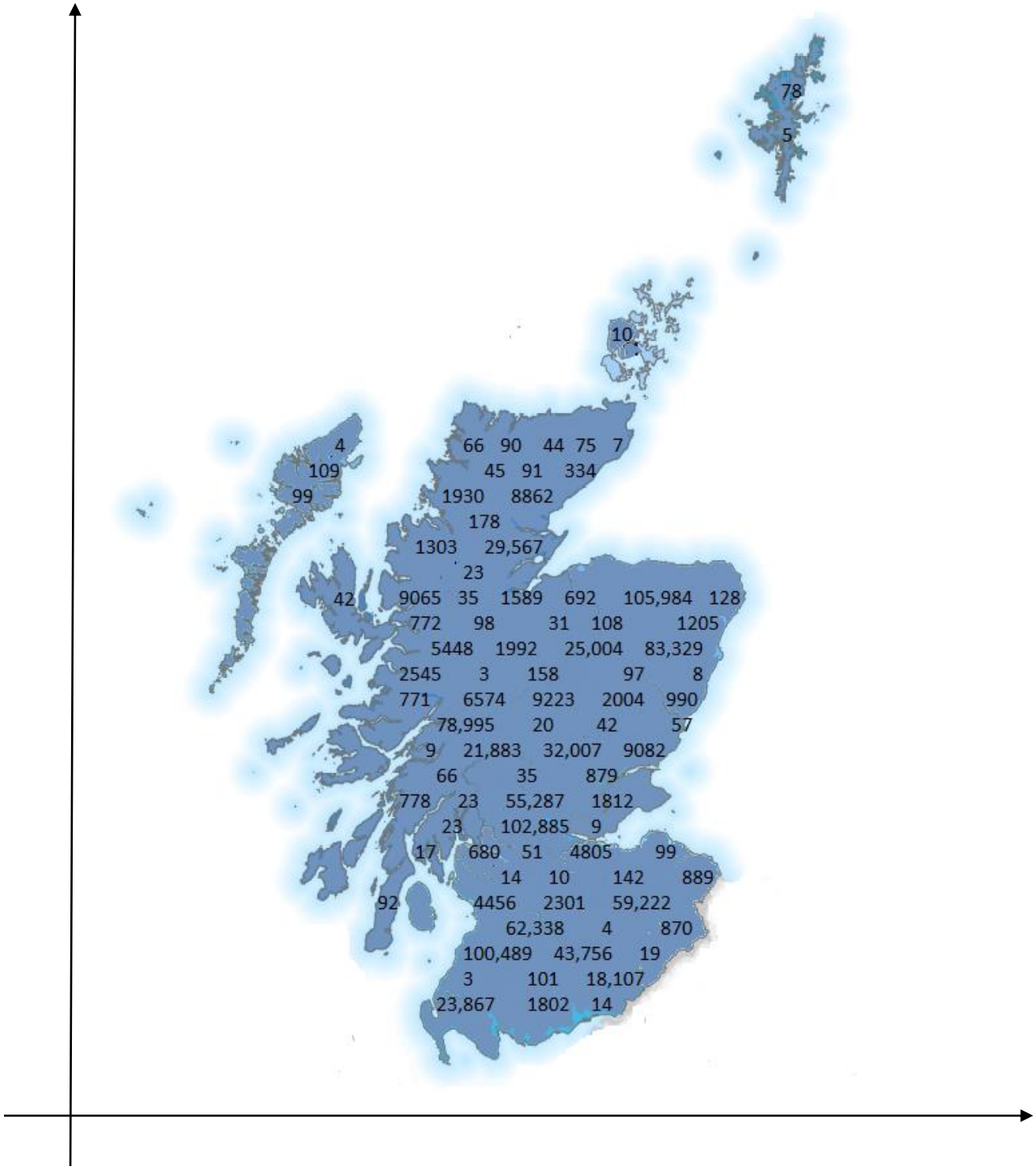
High Level Delivery Plan for Data

A PLAN FOR SCOTLAND



Digital Scotland

Scottish Government
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CONTENTS

Foreword 3

Introduction 4

Scotland's Data Opportunity 5
- Overview 5
- Strategic Alignment 6
- Challenges to the Opportunity 8

Taking Action 9

Workstreams 10
- Capacity and Capability 10
- High Quality Data 10
- Innovation and Entrepreneurship 11
- Partnerships and Collaboration 11
- Governance, Policy and Legal 11
- Engagement and Communication 12

Overseeing and Measuring Progress 13

Annex 1 - Activity Register 14

Annex 2 – Workstream Driver Diagrams 15

Foreword

Quotes from members of the Data Delivery Group – to follow.

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Introduction

In September 2018 we published *Delivering for Today, Investing for Tomorrow*, the Scottish Government's Programme for Government 2018-19, which sets out the actions we will take in the forthcoming year.

Delivering for Today, Investing for Tomorrow also outlines our continuing commitment to ensure that digital and data innovation is at the heart of our economic policy and work to continuously improve public services.

These commitments will be realised through activities such as continued support for our innovation centres, programmes to encourage entrepreneurship, making more of our data open and available for exploitation, and the development of a common approach to online identity assurance.

Scotland is already at the forefront of the use of data to boost productivity and improve public services and is well placed to become a global centre of excellence. There are clear economic gains for business and through highly-skilled jobs, but this area also has potential to transform our everyday lives.

This delivery plan sets out our programme of activities to improve productivity, competitiveness and effectiveness of both business and the public sector over the next 5 years.

Scotland's Data Opportunity

Overview

Scotland is fortunate to have what is possibly some of the best data in the world, including data about its people, their characteristics, behaviours and requirements; and non-personal data such as climate, environment and infrastructure.

While the public sector and businesses may make use of this data every day, it is not always used as effectively as it could be – either in terms of how it is collected, managed and distributed, or how it is employed for the purposes of decision making or used innovatively to return value.

There is potential for significant benefit to both the public and private sector in terms of our efficient use of data. A recent study suggests data innovation could potentially benefit Scotland by £20bn[1] by using data better to improving productivity and efficiency of organisations, and attracting new businesses and highly paid jobs to Scotland. This backs up previous work that suggests there are £1bn in public sector efficiencies possible annually through better use of data[2].

In 2014, the Scottish Government published its Data Vision for Scotland. While the volume of data produced across Scotland and the world has vastly increased since then along with broadening interest and knowledge, our aim remains broadly the same: to use Scotland's data to its full potential by driving innovation, improving public services and unlocking economic value – saving time, money and lives.

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[1] Current trajectory inferred from Scottish Enterprise/Optimat analysis of CEBR/SAS report: The Value of Big Data and the Internet of Things to the UK Economy (Feb 2016) https://www.sas.com/content/dam/SAS/en_gb/doc/analystreport/cebr-value-of-big-data.pdf

[2] For example, the Policy Exchange estimated that we have the potential for the public sector across the UK to save £16 billion-£33 billion. "The big data opportunity" (2012) https://policyexchange.org.uk/the-big-data-opportunity

Strategic Alignment

The Purpose of Scotland's National Performance Framework is 'to focus on creating a more successful country with opportunities for all of Scotland to flourish through increased wellbeing, and sustainable and inclusive economic growth.' To achieve this, eleven National Outcomes have been set that describe the kind of Scotland it aims to create.

Better use of data and innovation will help to deliver all of the National Outcomes, but particularly that:

- We have a globally competitive, entrepreneurial, inclusive and sustainable economy
- We are well educated, skilled and able to contribute to society
- We have thriving and innovative businesses, with quality jobs and fair work for everyone
- We live in communities that are inclusive, empowered, resilient and safe

Scotland's Economic Strategy sets out the approach to achieve a more productive, cohesive and fairer Scotland, and forms the strategic plan for existing and all future Scottish Government policy. Included in its priorities are on investing in people and infrastructure and fostering a culture of innovation, entrepreneurship and research and development.

Taking this further, and recognising the increasing part that digital plays in our economy and public services, Realising Scotland's full potential in a digital world: a digital strategy for Scotland sets out a vision for Scotland as a vibrant, inclusive, open and outward looking digital nation. Included in the strategy are commitments to public sector digital transformation following a digital ecosystem approach, but also to manage data in a way that supports businesses, provides new business opportunities and contributes to economic growth.

Following the lead provided by the Digital Strategy, Scotland's Digital Health and Care Strategy focuses on how digital and data will be used appropriately and innovatively to help plan and improve health and care services, enable research and economic development, and ultimately improve outcomes.

The amount of data, ranging from sensitive personal information held to allow delivery of personalised services (e.g. health and social care) to non-personal information (e.g. environmental data), that the public sector holds is continually growing. This data has value for the organisation collecting and holding it but there is potential to add value by making appropriate data available to others to re-use. We call this making data "open", and our Open Data Strategy sets out our ambition for making data open and available for others to use and reuse.

Better use is already being made of data in Scotland, such as the Scottish Out-of-Hospital Cardiac Arrest (OHCA) Data Linkage Project, now in its third year. This innovative work has linked complex datasets from various partners in order to report on OHCA in Scotland, helping to measure progress and inform the next steps in delivering the aims of Scotland's OHCA Strategy.

This successful initiative underlines the transformative potential of data to inform policy evaluation and service delivery, but we need to do more to make better use of data to help open up a wealth of economic and social opportunities.

Beyond Scotland, the UK Industrial Strategy sets out a number of Grand Challenges to put the UK at the forefront of the industries of the future, ensuring that the UK takes advantage of major global changes, improving people's lives and the country's productivity. One of these aims to embed Artificial Intelligence (AI) across the UK, creating thousands of good quality jobs and drive economic growth. The new Centre for Data Ethics and Innovation will investigate and advise how we can optimise the benefits of data-driven technologies, including AI, and work to identify measures needed to strengthen and improve the way they are used and regulated across the UK.

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Challenges to the Opportunity

To take full advantage of the opportunities around data, our plan must address some of the challenges that prevent its effective use.

We have legislative frameworks, controls and guidance which seek to ensure that, at all times, we treat personal data responsibly. However, too many organisations and decision makers find caution easier than recognising the benefits which can be achieved by using data in a responsible, safe fashion. There is an opportunity to provide guidance and leadership that will transform current practices so that effective use of data is engrained in all of our public services.

We need to retain public confidence in how we use data. The majority of people in Scotland expect data to be shared between public bodies in order to improve the service they receive, and improve services for the wider public. However, a relatively small minority are concerned that their data will be use to their detriment and are keen to be able to choose what happens to data about them. Engaging people on their expectations of how their data is used and sharing stories of the benefits of using data for public good are vital.

Forecasts predict the impact on the basis that businesses embrace the tools, technologies and business models that facilitate their participation in and successful exploitation of the data revolution. Currently some businesses are beginning to do this, but it should not be taken for granted that all, if indeed the majority, are equipped to respond. There are real gaps in the knowledge, skills and capacity of businesses (of all sizes and in all sectors) which may prevent them from responding to this opportunity and competitive threat.

The message from business and academics is that the offer from Scotland around data-driven innovation needs to be much stronger; speed of delivery, ease of access and linking of diverse datasets are perceived as diminishing the strength of the current offer. There is frustration with how long it takes to access Scottish data [research projects take on average 12 months to get access to data], and about the quality of the services required to help them with that. Underpinning this is that we don't systematically have high quality data stored in a way that researchers can easily extract their value. For business this means investment that could be happening in Scotland is currently going elsewhere.

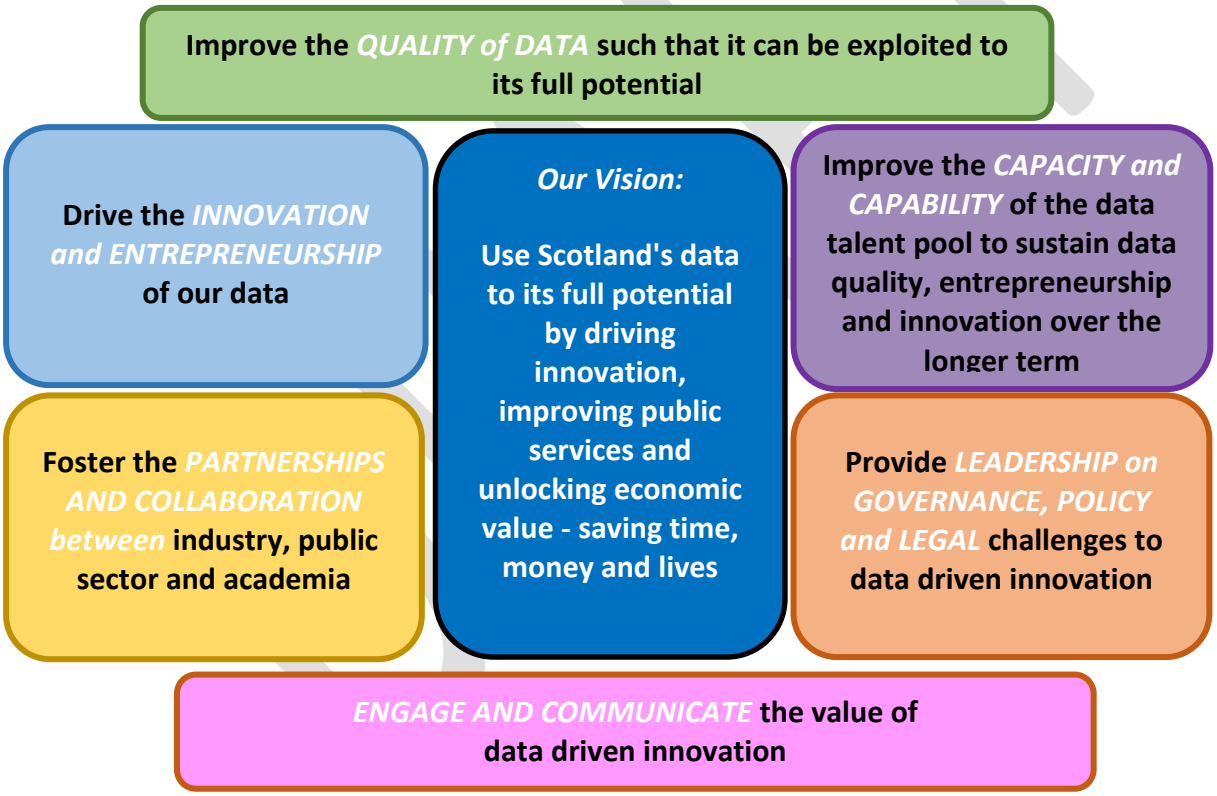
Our challenges also include the need to foster sustainable innovation and entrepreneurship in the use of data, expanding and strengthening the networks of partners in place across Scotland and links with others beyond, and providing leadership and support on governance and legal aspects. Another important challenge is to raise awareness of the potential to be realised from making better use of data and, most importantly, to secure public support and trust to do so.

Taking Action

We will only achieve our shared vision if we work together as partners across Scotland to harness the potential of data to deliver economic and social benefits for all. That's why a broad coalition of stakeholders have worked together to produce this Plan, which sets out our vision for data, how we will work together to realise this, key drivers and work streams and how we will measure progress.

The Plan was developed under the leadership of the Data Delivery Group and informed by wider partner and public engagement, before being agreed in spring 2019. The Data Delivery Group will oversee work to deliver the Plan, and will report to the Board overseeing the delivery of Scotland's 2017 Digital Strategy.

Our Vision for Data, and the primary drivers for the six key workstreams that will help to realise this, are below:



Workstreams

The primary driver for each workstream was identified to help address the challenges to be overcome in harnessing the potential of data in Scotland. Each primary driver links to secondary and tertiary drivers: the overarching aim and objectives for each workstream are below.

Workstream Driver Diagrams, setting out the primary, secondary and tertiary drivers for each workstream, can be found in Annex 2.

Capacity and Capability

We will establish enduring education and capacity building programmes such that data quality, entrepreneurship and innovation can be sustained over the longer term. The aim here is to increase the awareness and understanding of data science by developing and strengthening skills, abilities and resources required to utilise Scotland's data for effective decision making.

Key objectives for this workstream are:

- Increase opportunities for the existing workforce to develop appropriate digital skills
- Increase the data science talent pool through development of programmes for university, secondary and primary levels
- Increase participation and skills opportunity to empower all citizens of Scotland to participate in an open and innovative society

High Quality Data

We will establish best practice collection and management of our data, ensuring that it meets a specified standard of quality, is accessible and reusable. This work stream will also include adherence to defined standards, enabling the communication and exchange of data between systems and organisations

Key objectives for this workstream are:

- Improve the management, collection and accessibility of our data by setting best practice protocols and adhering to defined standards
- Increase accessibility of resources via a contemporary cloud/digital platforms
- Make more of our data open, focussing on key user needs, and make all of our data more discoverable.

Innovation and Entrepreneurship

We will employ modern, cost effective technologies, process improvements and data innovations to maximise efficiency. We will also create a supportive environment wherein the development and implementation of new data-driven business models are encouraged.

Key objectives for this workstream are:

- Expand and create programmes to allow enterprises to explore possibilities through data innovation (e.g. data accelerator)
- Develop our Scottish Data and Informatics Partnership to drive forward trustworthy research to generate public and economic value

Partnerships and Collaboration

This work stream establishes effective cooperation and communication between industry, public sector and academia. Stakeholder buy in and commitment will be critical to the delivery of the plan. We will create and sustain the value of our data through a culture based on trusted partnerships that recognise common needs, aspirations and priorities.

Key objectives for this workstream are:

- Develop in conjunction with industry a world-leading research capability in data science
- Improving the cost benefit of collaborative procurements and projects

Governance, Policy and Legal

We will establish a leadership model which aims to attain political endorsement, strengthen institutional mandates, build a cooperative sharing environment and address current legal issues around how data is managed and its innovative use.

Key objectives for this workstream are:

- Improve the way in which people access Scottish public services online, such that it is safe, secure, and accessible.
- Develop a plan for information governance and ethical use of data in Scotland

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Engagement and Communication

We will raise awareness of the potential benefits to be gained from better harnessing of data, share examples of where this has already been achieved, and work to secure and sustain public trust in the better use of data for economic and social benefit.

Key objectives for this workstream are:

- Improve public awareness and understanding of data driven innovation and communication of the potential offered by better use of data.
- Engage through digital and other channels to catalyse a culture change towards the use of data in both the public and private sectors

Overseeing and Measuring Progress

The Data Delivery Group will oversee work to deliver the Plan, and will report to the Board overseeing the delivery of Scotland's 2017 Digital Strategy.

Our plan will undergo continuous monitoring, challenge and review. Workstreams will be regularly reviewed to ensure they continue to fit with strategic aims and the delivery of our vision for data.

To add detail on how we will monitor the plan, how it will adapt to change

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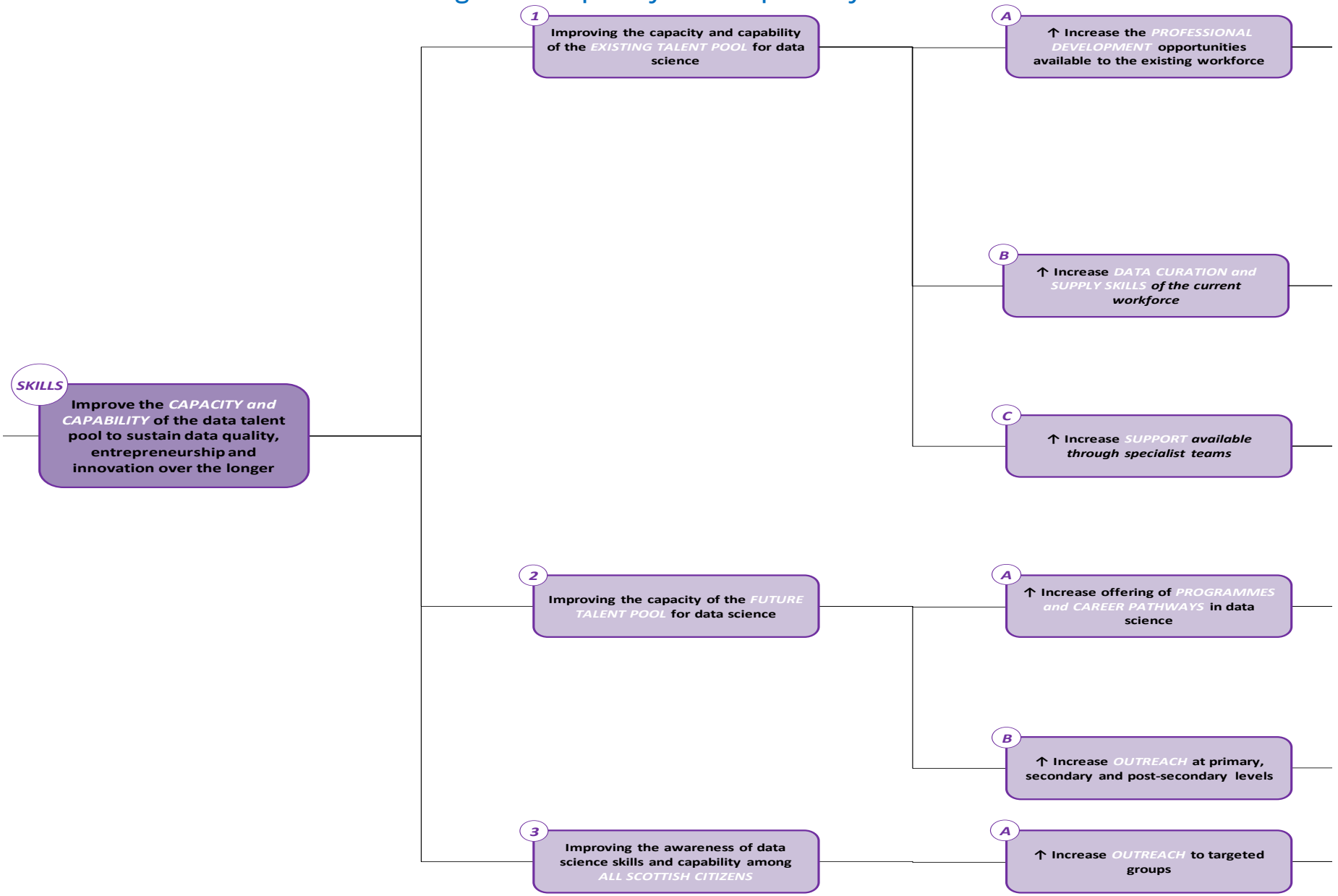
Annex 1 - Activity Register

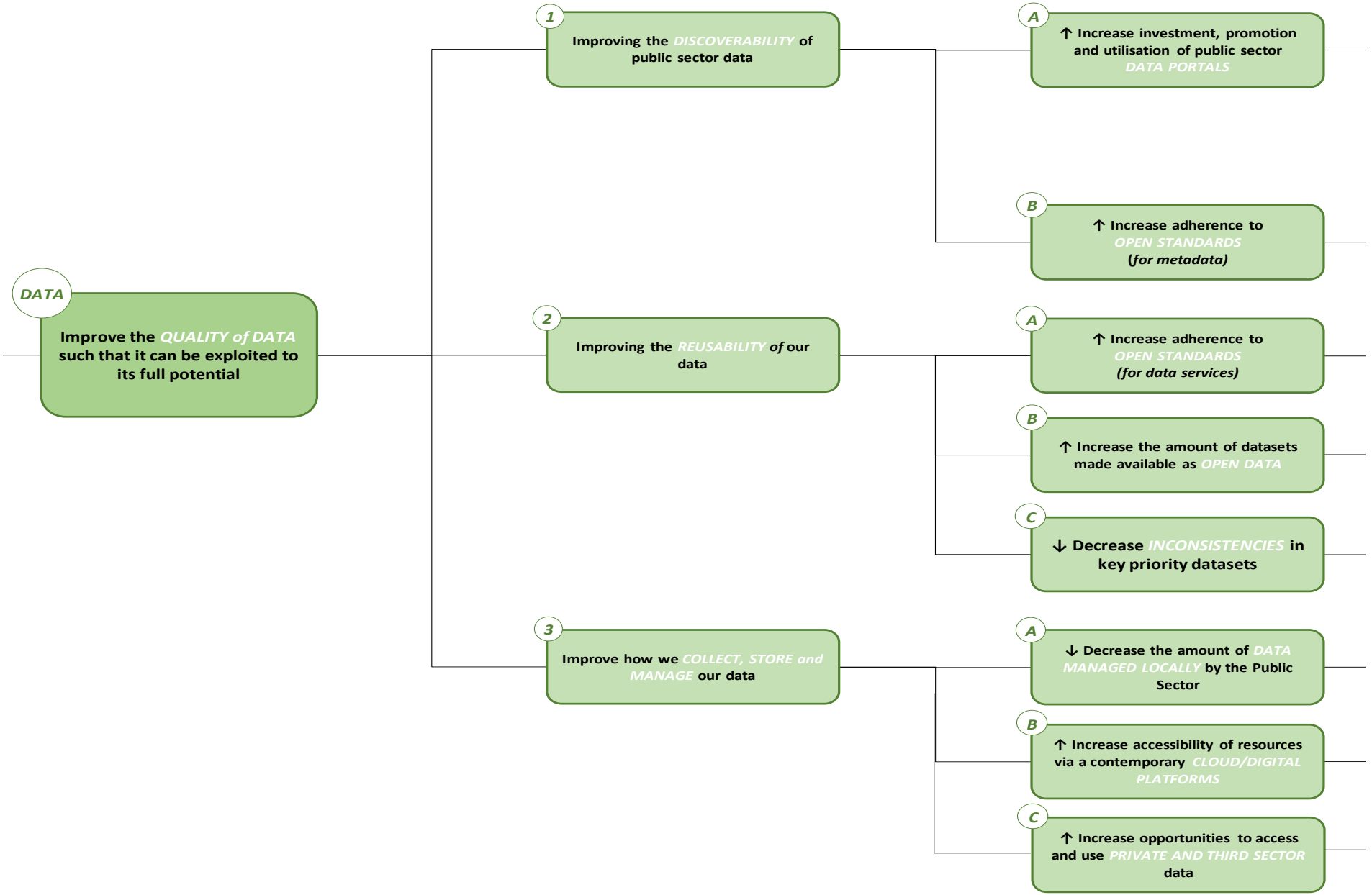
[*To be populated from activity register tab in driver diagram worksheet*]

Workstream	***Activity***	***Who***	***Links***	***Timescales***

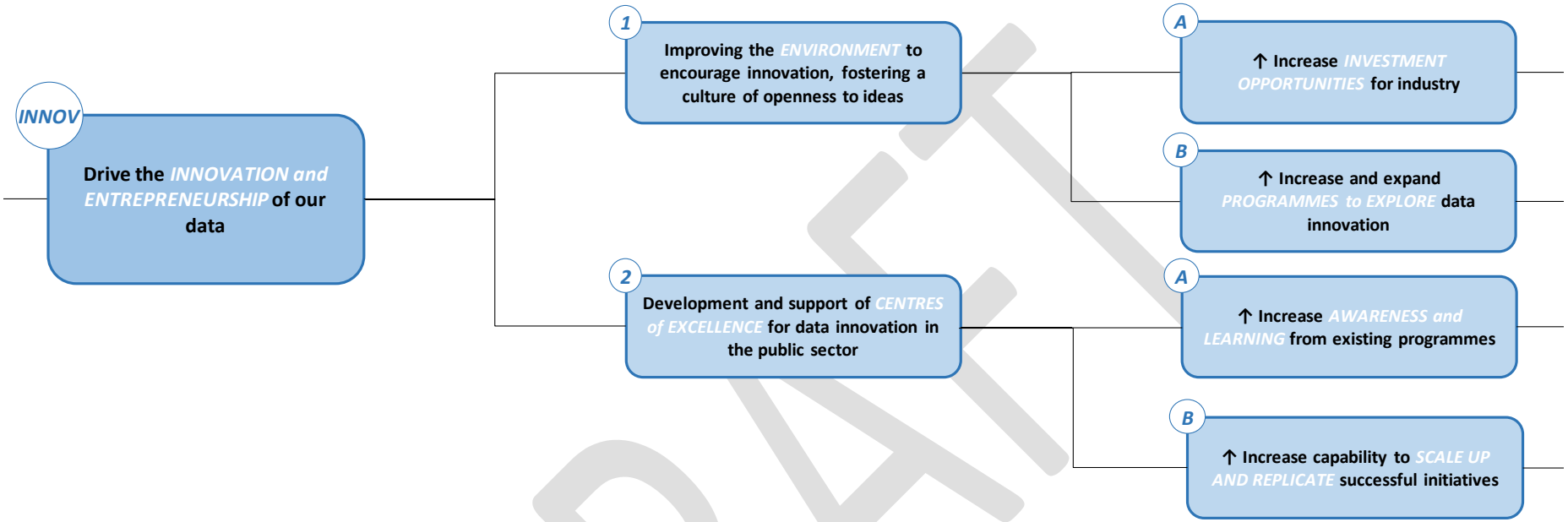
Annex 2 – Workstream Driver Diagram - Capacity and Capability



Annex 2 – Workstream Driver Diagram – High Quality Data



Annex 2 – Workstream Driver Diagram – Innovation and Entrepreneurship



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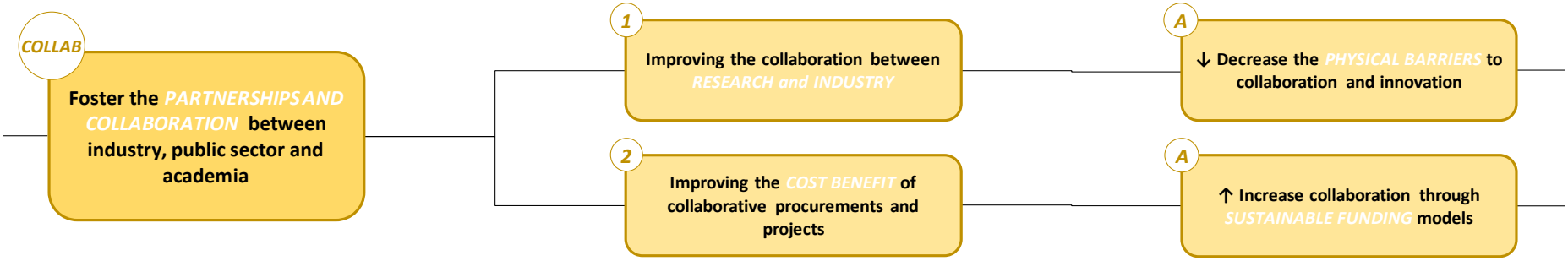
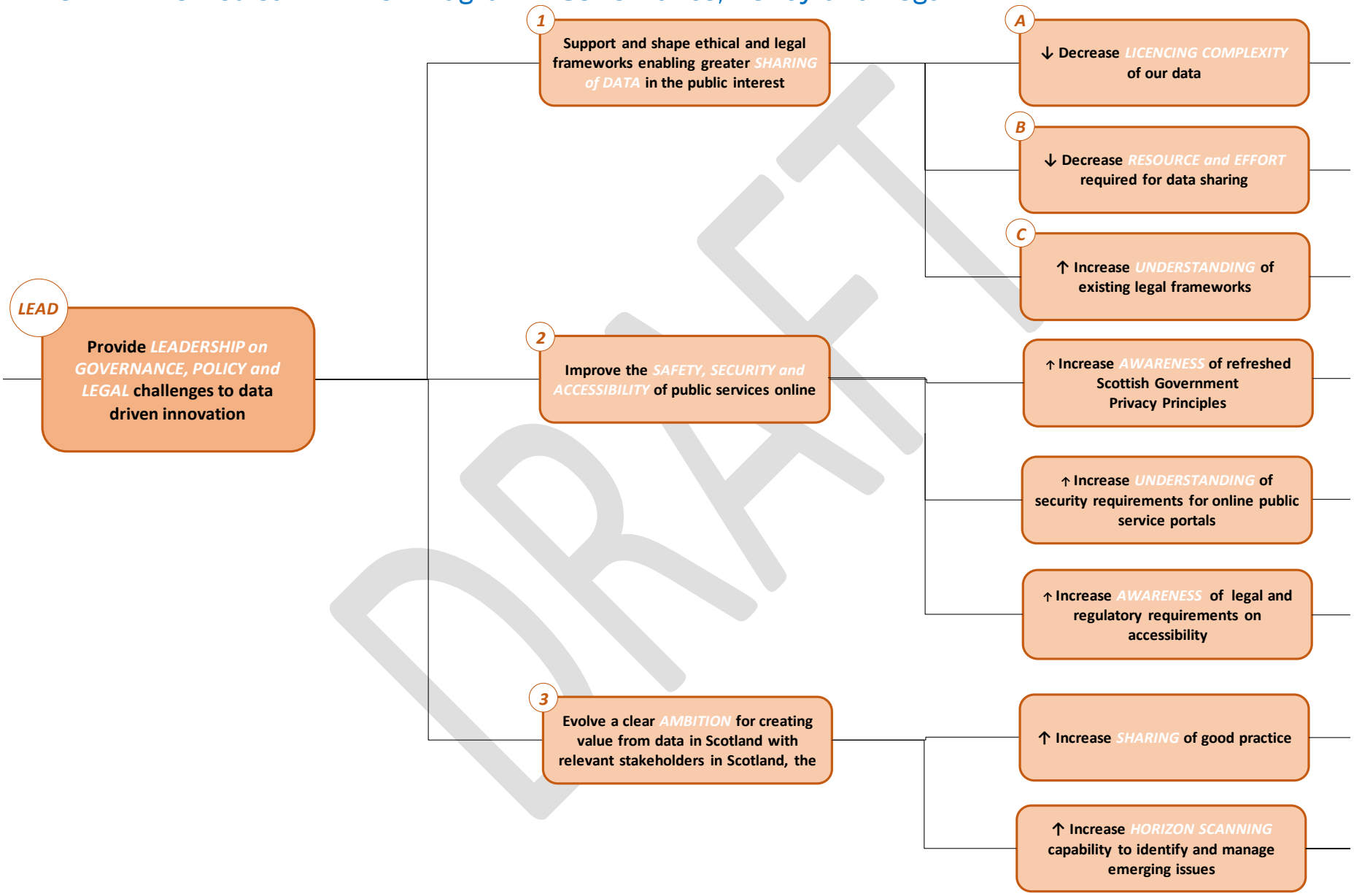
Annex 2 – Workstream Driver Diagram – Partnerships and Collaboration



Annex 2 – Workstream Driver Diagram – Governance, Policy and Legal



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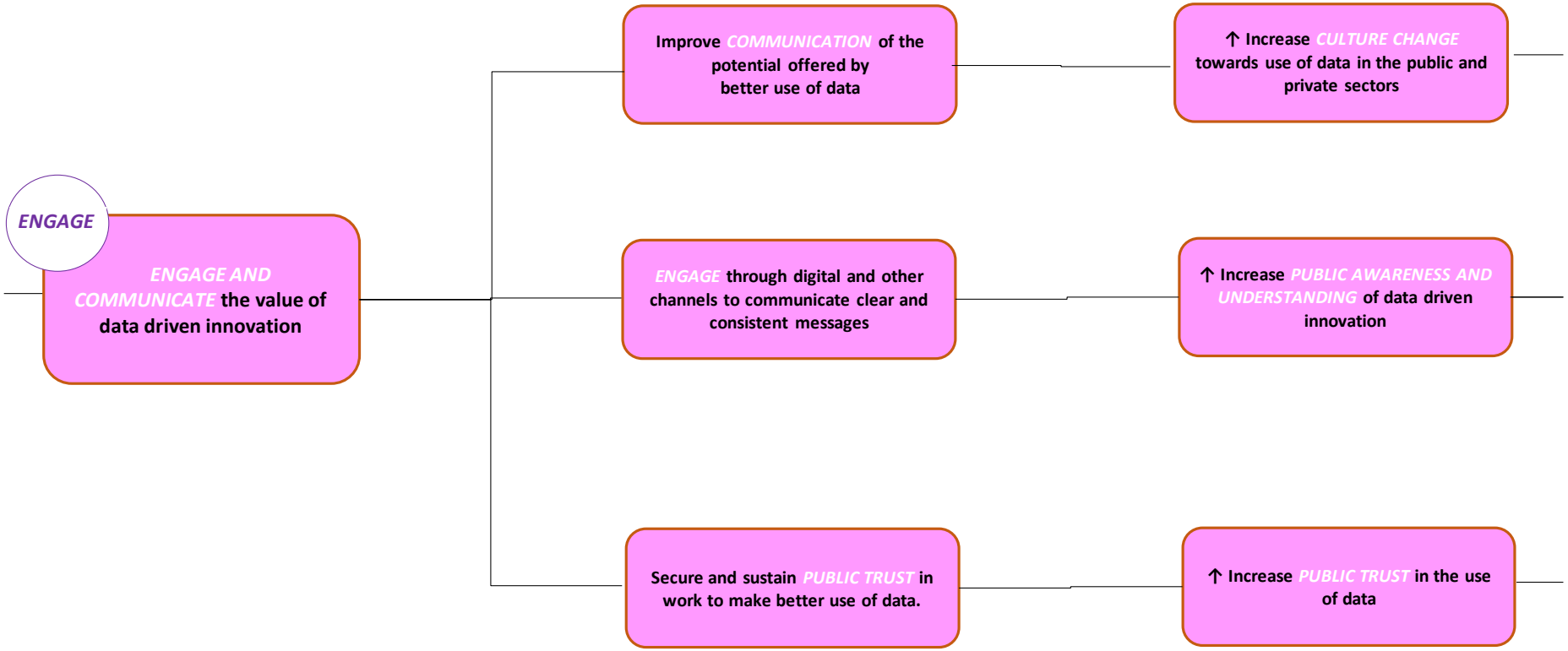
Annex 2 – Workstream Driver Diagram – Engagement and Communication