AGILE SOLUTIONS

DATA STRATEGY, GOVERNANCE AND SECURITY

agile
solutions

# Contents

Data Governance Framework Overview

A Data Governance Framework is required to establish consistency in the Data Governance implementation approach across various initiatives and domain areas.
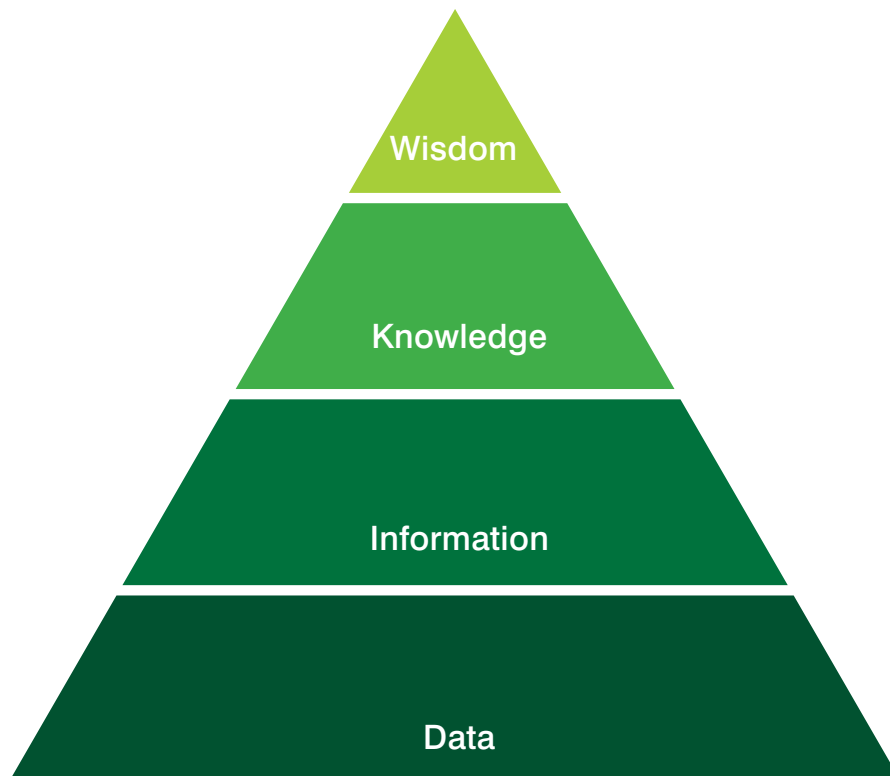
Implementation of the framework will:

- Ensure that the data meets the needs of the business
- Protect, manage and develop data as a valued enterprise asset
- Lower the costs of managing data
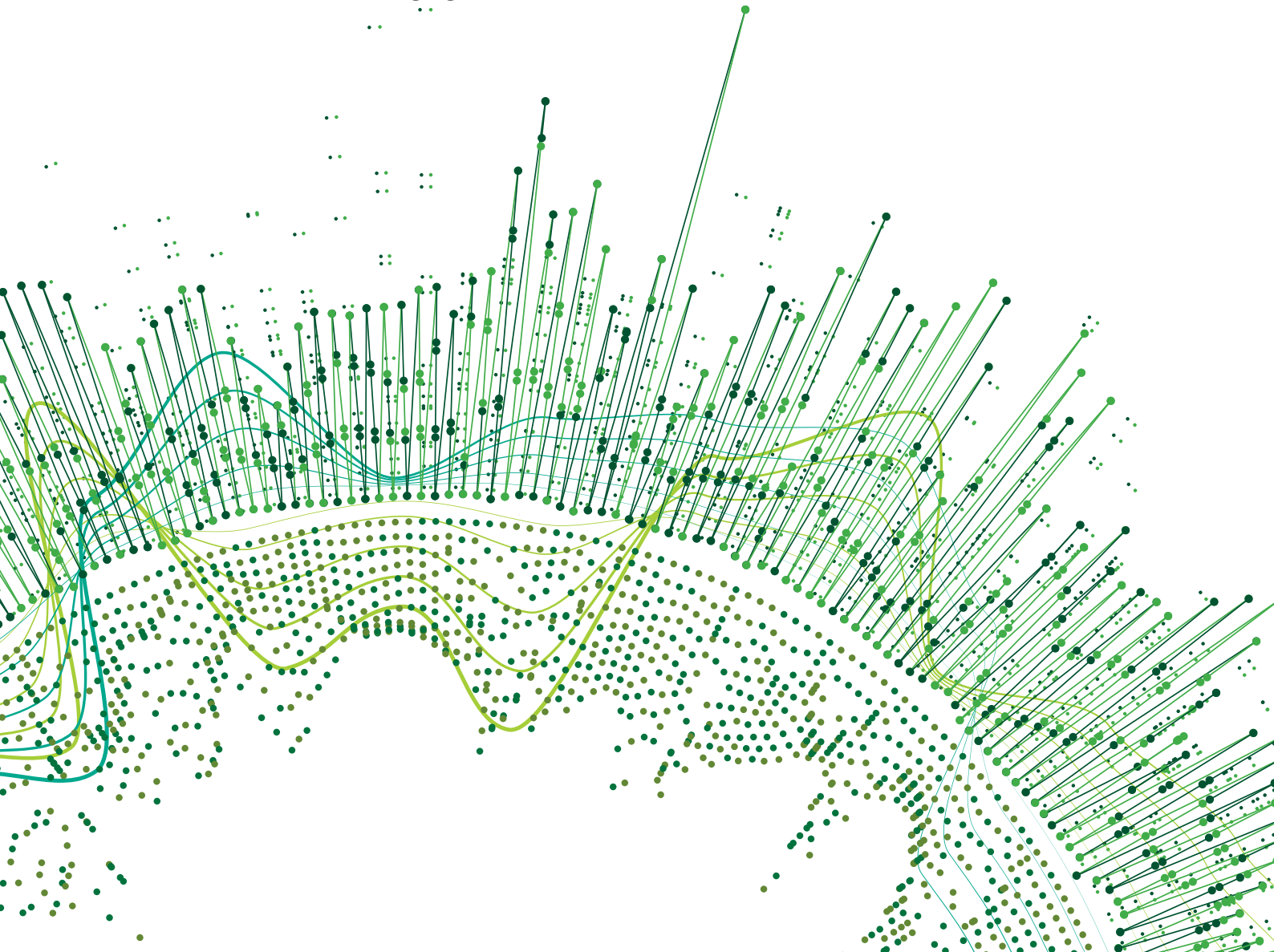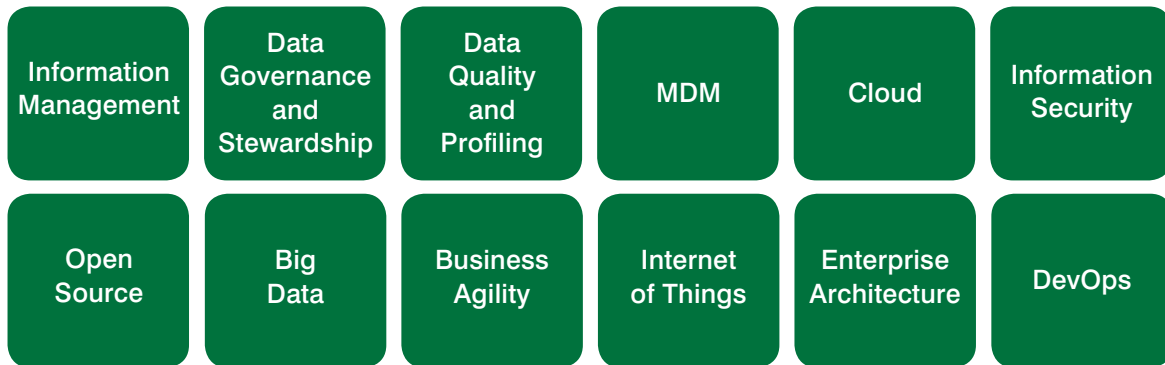
Govern the 'Data'…

- Data is the foundation that supports the translation of data into Information, then Knowledge, and ultimately, Wisdom.
- Hence we 'Govern' the Data.

Advisory

| Executive Sponsorship | Business Value | Data Strategy | Target Operating Model | Customer Intelligence |

Information and Data Management

| Information Management | Data Governance and Stewardship | Data Quality and Profiling | MDM | Cloud | Information Security |

| Open Source | Big Data | Business Agility | Internet of Things | Enterprise Architecture | DevOps |

Regulatory Compliance

| GDPR | MIFID2 | BCBS | ISO 27001 Cyber Essentials |

| SOX | Solvency II | Dodd Frank | Privacy Regulation |
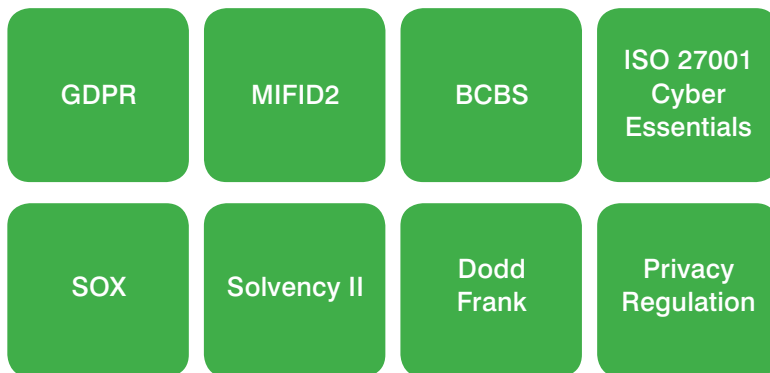
Analytics and Visualisation

| Advanced Analytics | Performance Management | KPI and Metrics | Single Customer View | Scoreboard and Dashboards | Business Intelligence |

People, Process and Technology (AIM Framework)

Our Data Strategy Approach

As organisations amass a vast data resource which, when managed and exploited well can bring enormous business benefit, perhaps the biggest challenge they face is trustworthy data.

Too often silos of data emerge, with departments and business streams copying, storing, analysing and developing their own data bases and data silos. Soon, every department has its very own Single Version of the Truth, which is different from everyone else's Single Version of the Truth.

The only way to ensure this doesn't happen, or to retrieve the situation when it already has, is to implement a Data Strategy regime at the enterprise level, and manage it through rigorous Data Governance.

Looking at business and technical requirements and visions, a data strategy will identify issues and pain points which are hindering those aspirations. It will then help to devise a plan to overcome them, and build a road map designed to move the as-is position towards the enterprise vision.

Agile Solutions make your data work harder for you, across every area of your business. We help you to monetise it, leverage it, make better use of it – and derive more value from it.

Once your data assets are being managed effectively this will:

1   Reduce the time needed to be spent on compliance and risk management

2   Reduce wasted costs from rework, failed mailing and enhanced customer experience

3   Improve profitability from trusted reporting and the enhanced ability to do bespoke analytics

4   Single version of the truth encourages collaboration across the organisation and prevents silo thinking.

We are committed to providing our clients and partners with innovative data strategies, privacy, security and governance solutions, leveraging best of breed technologies that will derive the most business value from your data.
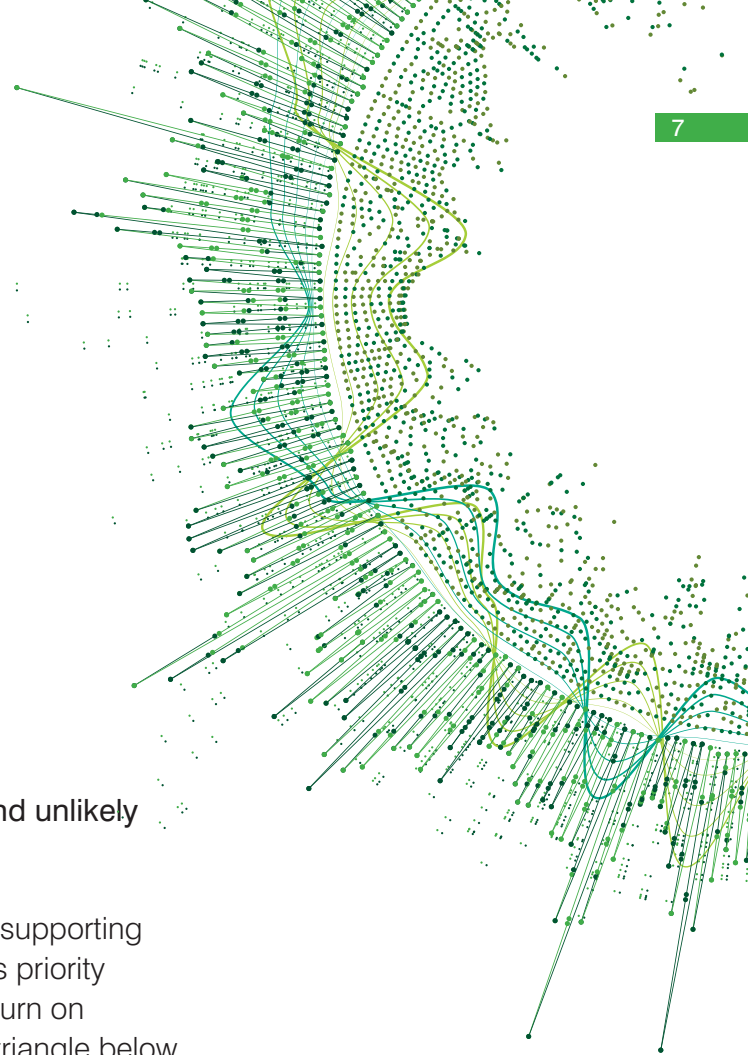
## An approach to developing your data governance strategy.

The 3 levers

Every organisation's capability triangle is different and unlikely to be the equilateral triangle shown here.

Agile Solutions take a very pragmatic approach when supporting clients with a data governance strategy, which ensures priority is placed on the domains that will deliver the most Return on Investment, leveraging existing capabilities within the triangle below.

Investment in all domains may well be required in the longer term. But in our experience, data governance programs fail unless the data governance strategy can be directly linked to the key stakeholders concerns and aspirations.

Note:
the domains mentioned above refer to the segments of the DAMA wheel, on page 10.

Lever 1
People

Strategy

Lever 3
Process

Lever 2
Technology
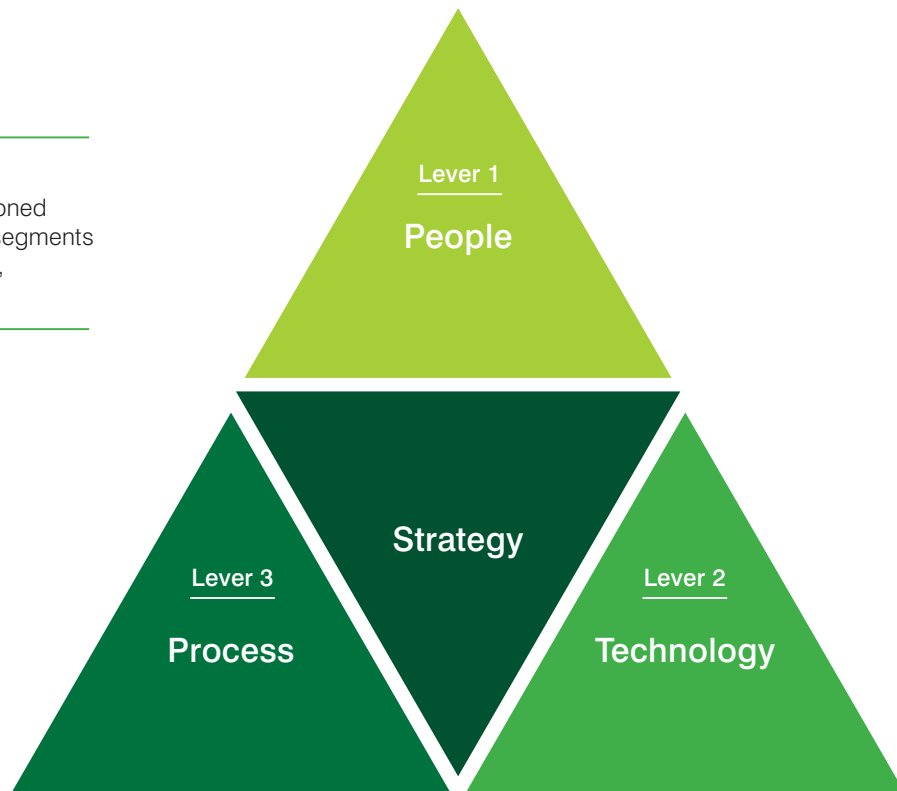
Information Management Maturity Model

- Redundant undocumented data
- Disparate databases
- No business metadata
- Minimal data integration
- Minimal data cleansing
- Dependent on a few individuals
- General purpose tools used as point solutions
- Some management awareness but no enterprise buy in
- No business environment, no defined business roles
- Reactive monitoring and problem solving

Level 1

Informal Processes

- Growing executive awareness of the value of data assets
- Initial forays in data governance and stewardship
- Initial efforts to implement enterprise data management but contention across different groups
- Enterprise Architecture and EIM projects underway
- Data distribution services deployed as strategic solutions
- Some processes are repeatable

Level 2

Emerging Processes

- Active executive involvement across the enterprise
- Ongoing clearly defined data stewardship
- Central EDM organisation
- Standard processes, metrics and tools used enterprise wide
- Data architecture guides - implemented
- Centralised metadata management
- Quality SLAs defined and monitored
- Continual skills development

Level 3

Engineered Processes

Low Maturity

- Measurable process goals established for each process

- Measurements are collected and analysed

- Quantitative analysis of each process occurs

- Beginning to predict future performance

- Defects are proactively identified and corrected
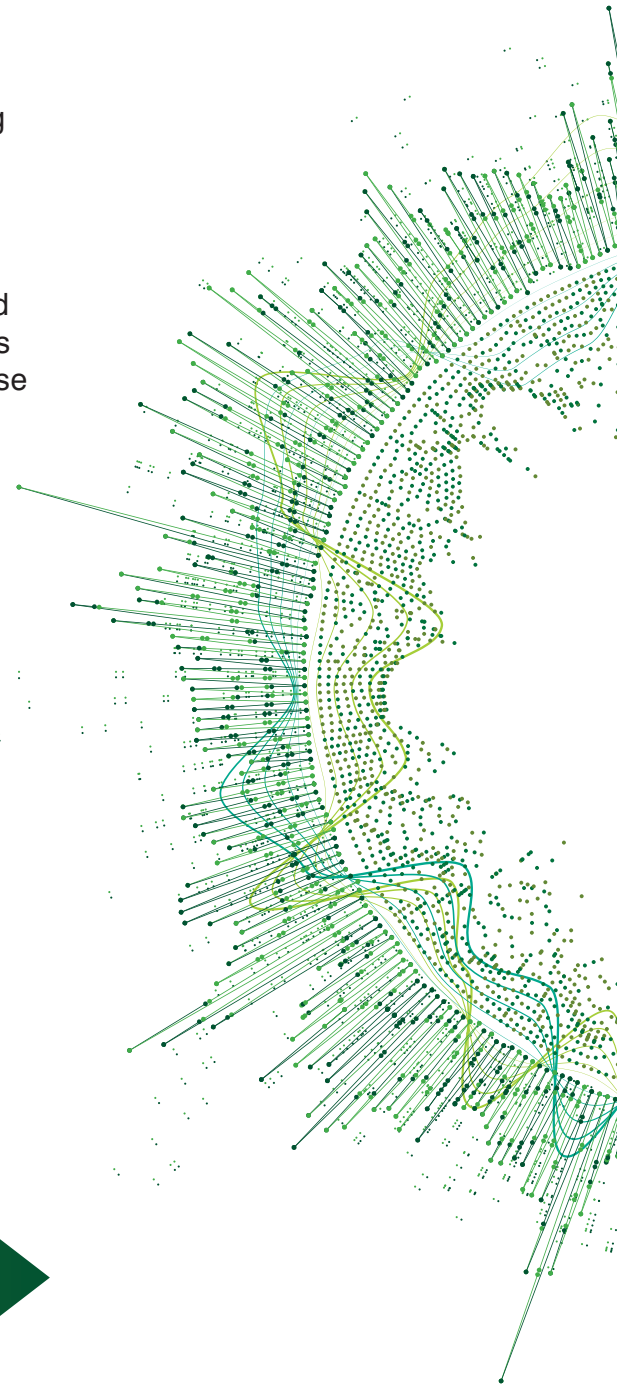
- Quantitative and qualitative understanding used to continually improve each process

- Understanding of how each process contributed to the business strategies and goals of the enterprise

Level 4

Controlled Processes

Level 5

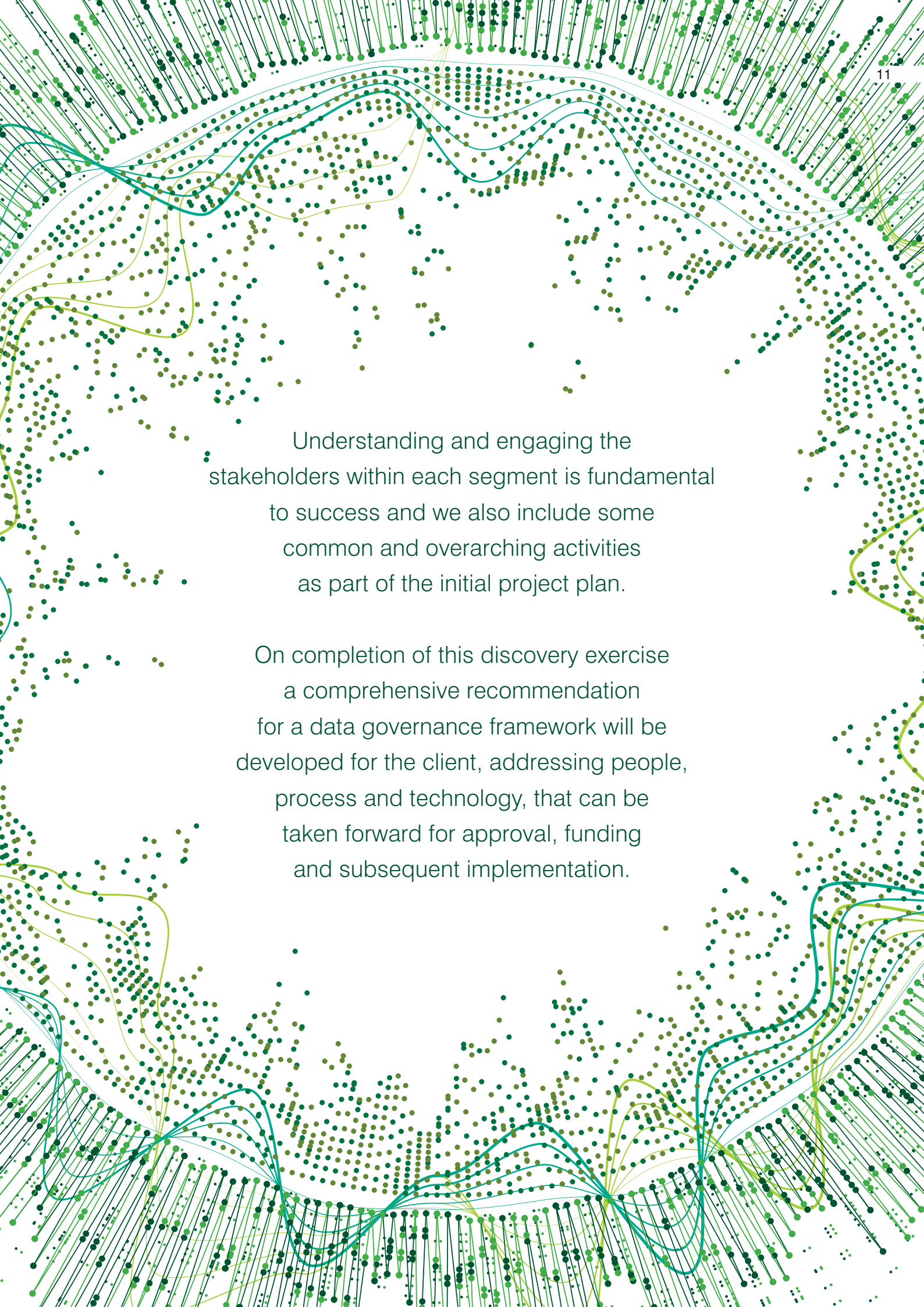## Optimised Processes

High Maturity

A Data Governance Framework

A comprehensive data governance framework would encompass all of these data governance domains (as identified by DAMA International):

- Agile Solutions' approach to creating a data governance framework for our clients is analysis of the current and desired data management maturity in respect of People, Process and Technology. This will inform a recommendation, that can then be taken forward for approval and adoption into a data management strategy and plan

The DAMA-DMBOK2
Data Management Framework
(The DAMA Wheel)

Understanding and engaging the
stakeholders within each segment is fundamental
to success and we also include some
common and overarching activities
as part of the initial project plan.

On completion of this discovery exercise
a comprehensive recommendation
for a data governance framework will be
developed for the client, addressing people,
process and technology, that can be
taken forward for approval, funding
and subsequent implementation.

Triple Constraint

Our methodology can be scaled in a number of ways such as:

- focused to address a particular data governance issue (such as compliance to GDPR)
- employed across an entire organisation to develop an Enterprise approach
- applied within a line of business, department or region

However, no matter the size or scale, the client adopting this approach will realise the following:

People
The proposed organisation model will outline the roles and responsibilities of the Business and IT stakeholders, and the supporting Data Stewardship Model and the interaction between them.

Process
All relevant business processes will be analysed to identify where a formal approach to data governance would add value and to establish the desired maturity level. Standard Operating Procedures will be reviewed to determine which are fit for purpose and those which will require authoring or upgrading to support the Data Governance Framework.

Technology
Where the discipline of technology is required to support data stewardship processes, Agile Solutions will be able to advise on options leveraging the existing technology landscape. Where there is a need for additional investment in tools we can facilitate analysis and RFI type appraisals.

Applies to:
- Data Governance

People

Strategy

Process
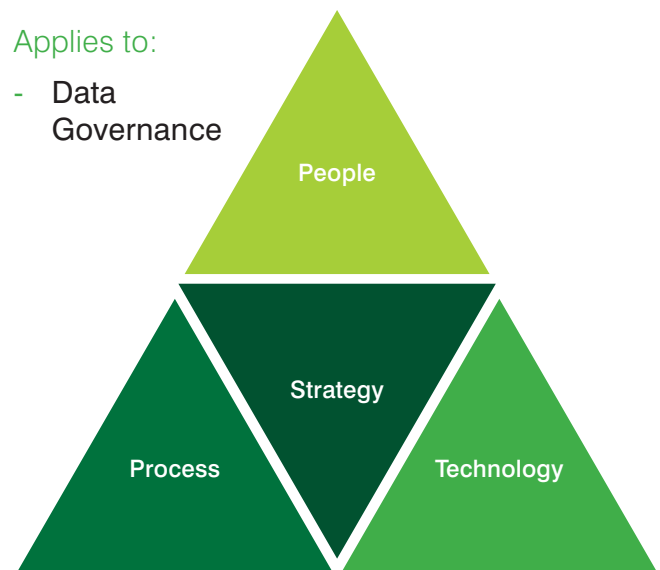
Technology

Shape your strategy

Implement your strategy

Applies to:
- Technology Projects

Cost

Scope

Quality

Time
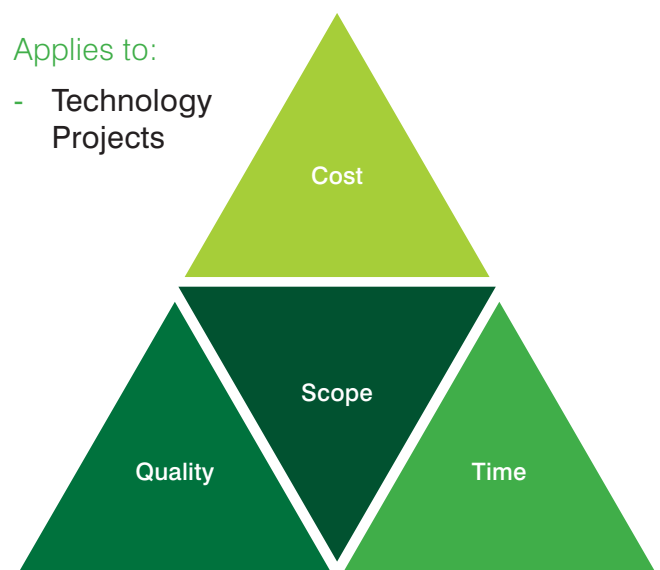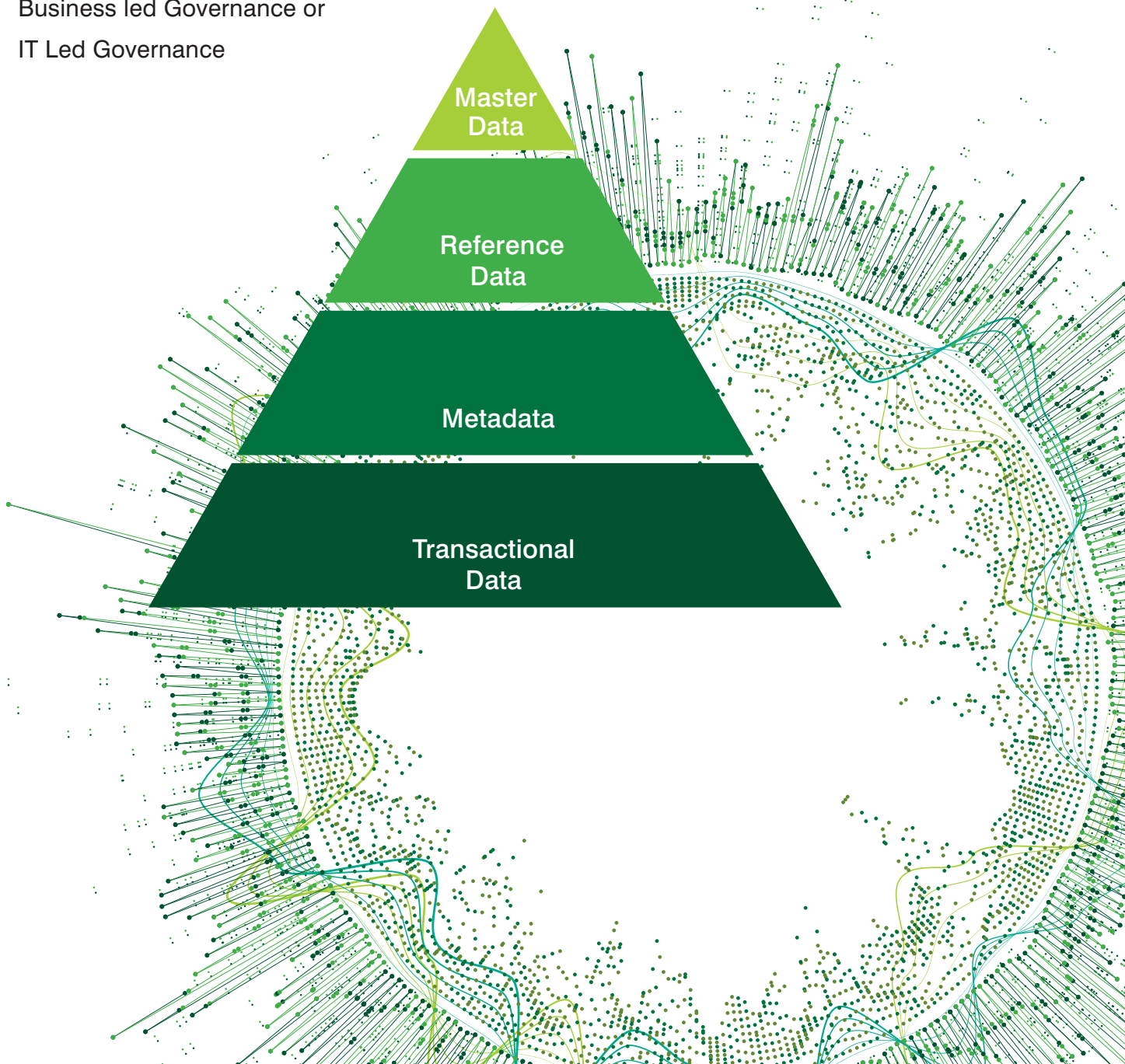
Proving we understand the issues

Data Types

We recognise that Governance is required at all layers:

What type of organisation are you?
Who is feeling the pain?
Who can do something about it?

- Business led Governance or
- IT Led Governance

Master
Data

Reference
Data

Metadata

Transactional
Data

Transactional Data Governance

Symptoms

The clearest indicator of a lack of data governance is observed in poor data quality.

There are several measures of data quality.

Completeness	Conformity	Consistency	Accuracy	Duplication	Integrity	Timeliness
Mandatory vs Optional	Obeys syntax/ metadata standards	Uniformly populated	Correct	Non Unique	Validity	Relevant, updated for changes
Country should be present in an address (to determine international phone prefix, e.g. +44 for UK)	Correct field length / format defined per country Cannot contain numerics	Telephone numbers provided only for a subset of records	The phone number is valid and in service	The same mobile number placed against 2 different customers	The phone number belongs to the identified customer	Was the number checked at the last customer 'interaction'
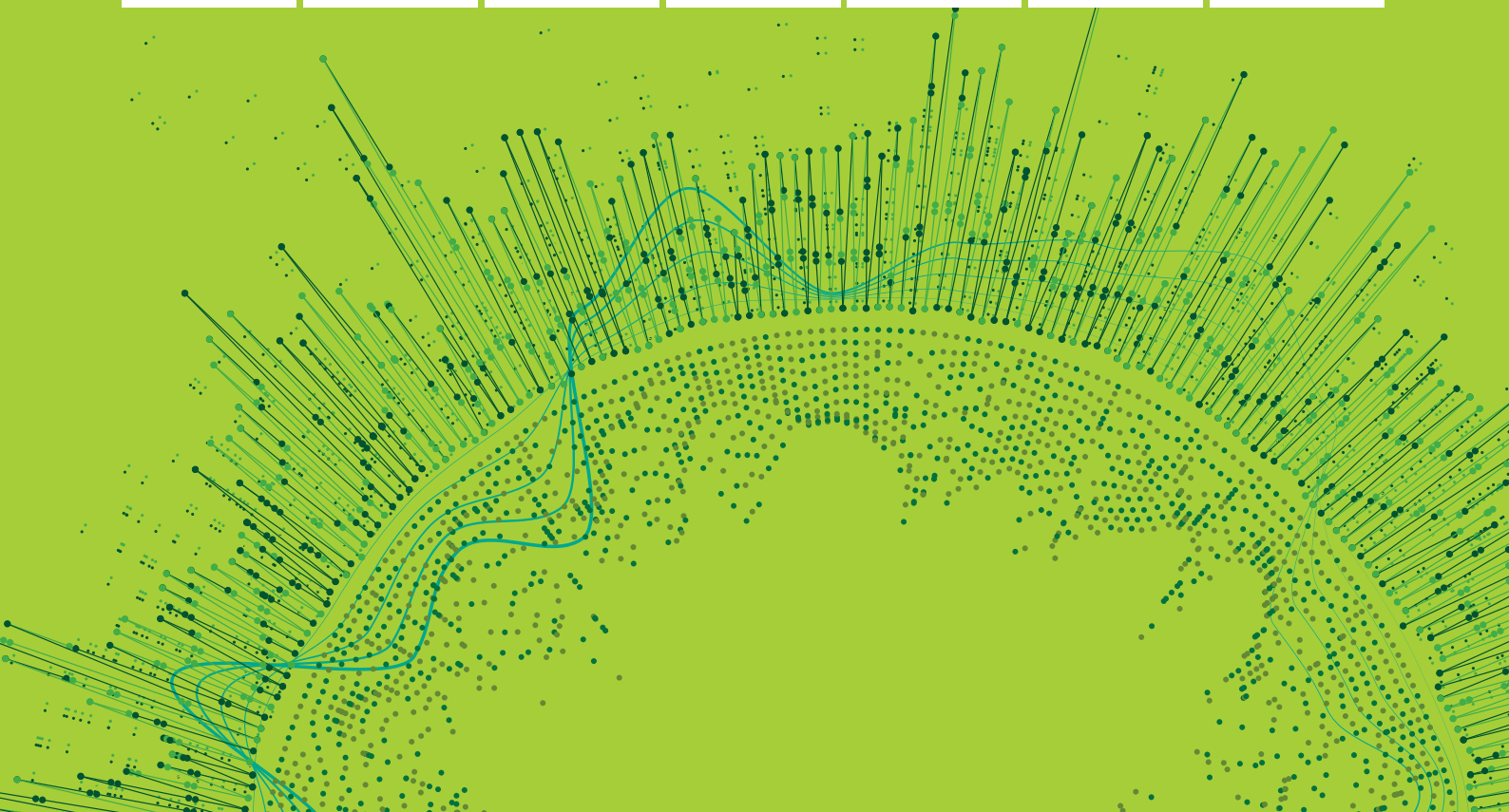
Data Profiling

Data profiling will provide a quantitative analysis of these issues

Use the results to:

- Create a quantitative baseline
- Generate KPIs for improvement / monitoring
- Inform Standard Operating Procedures
- Educate / Train data administrators
- Assign a Cost of Poor Quality and make a business case for investment

Causes

Typical Root Cause Analysis:

People
- Human error
- No training

+

Process
- No data standards
- Poorly defined QA processes

+

Technology
- Lack of system controls
- Inconsistency across applications

=

Poor data quality
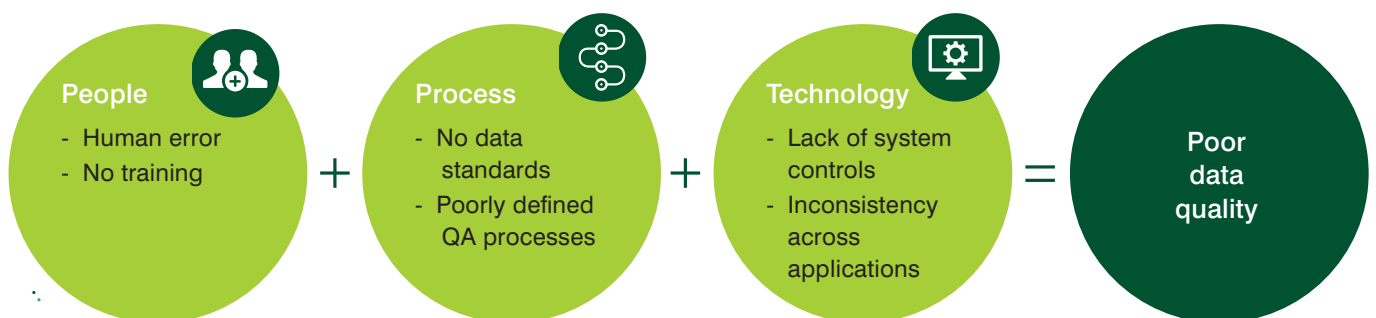
Metadata Governance

Symptoms

Metadata Governance problems come to light during systems integration / data migration / Data Warehouse type projects.

Common observations include:

- Not known where 'sensitive' data exists within the organisation
- Issues with data integrity difficult to investigate due to lack of lineage
- IT projects take longer as architects need to first understand the metadata

Business Glossary

They are both edible

They are both fruits

They are both green

They both grow on trees

They both came from the same orchard

...but they are NOT the same

In this example we are using the same words to describe different things, but we are NOT comparing like with like. A business definition, stored in a glossary, clarifies this and ensures Apples are only directly compared with Apples, not Pears.

Different Types of Metadata

Ideally an Enterprise-wide standard should be in place for Metadata Management comprising the following components:

Business Metadata
- Business glossary

Technical Metadata
- Data dictionary
- Data model
- Data lineage

Causes

Typical Root Cause Analysis:

People
- Skills gap not enough data
- No Chief Information Architect appointed

+

Process
- Lack of enterprise data model
- Absence of a data dictionary

+

Technology
- No investment in enterprise scalable metadata management tools

=

IT projects take longer and cost more
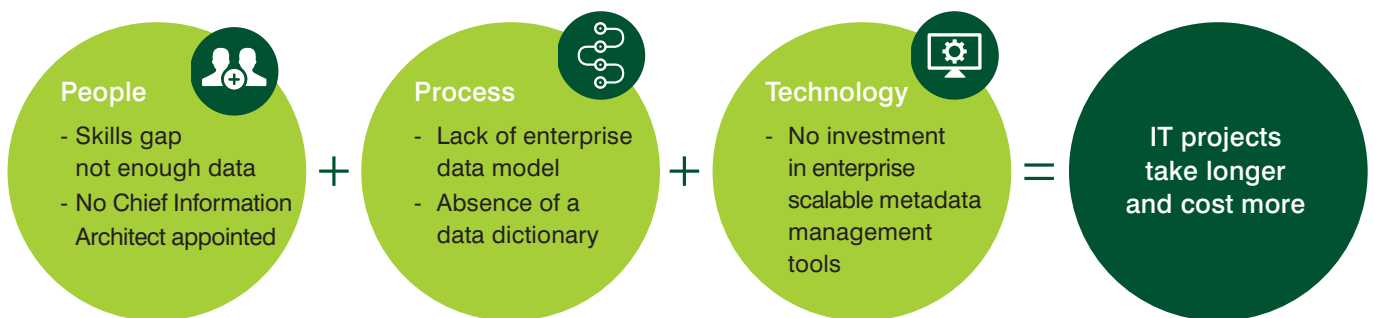
Reference Data Governance

Symptoms

The primary issue with a lack of Reference Data Governance is observed when compiling and comparing reports.

Common observations include:

- Misalignment of reporting standards creating a lot of manual data mapping
- No single source of truth
- Multiple copies (and purchases) of the same dataset
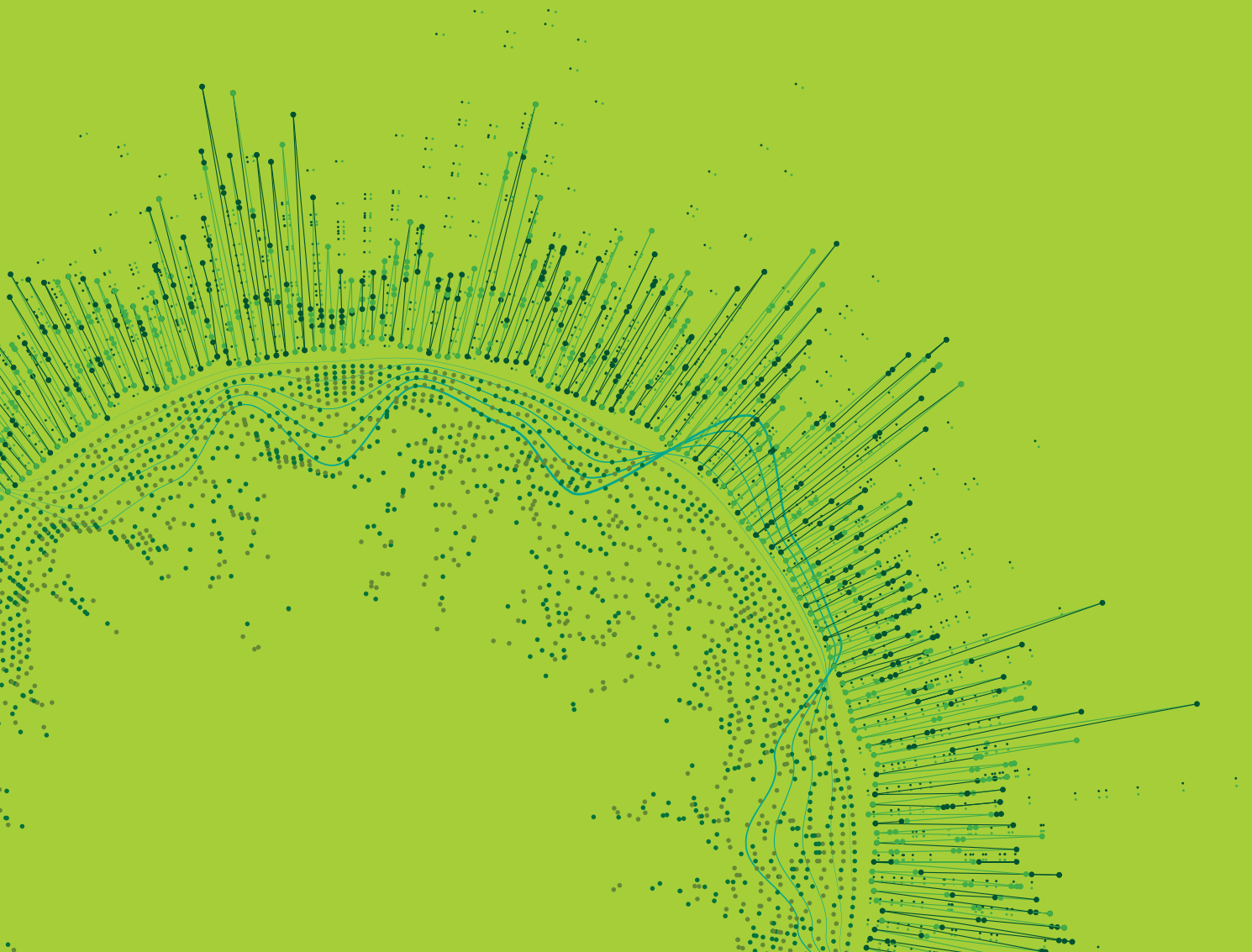
Typical Issues

Raw data with a complete mix
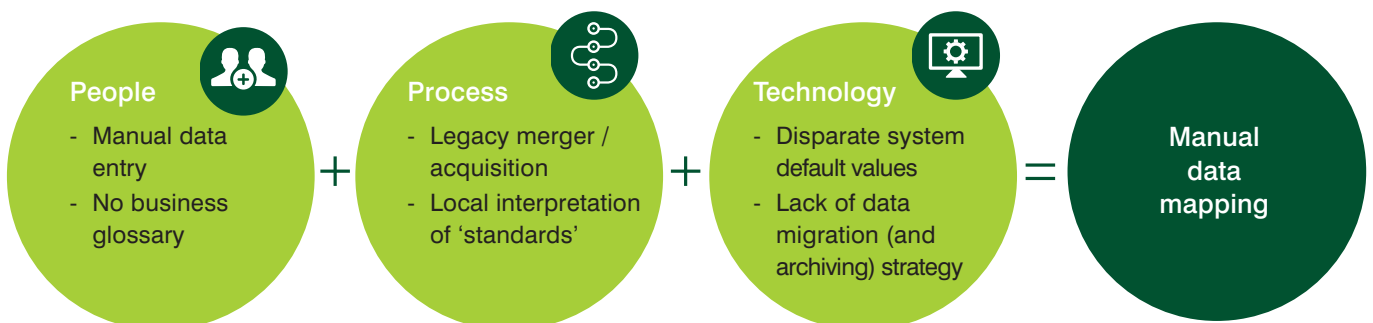of how the country has been portrayed

Order ID	Order Amount	Country
A123	£200.56	Great Britain
B123	£900.45	GB
C123	£12.97	UK
D123	£1000.00	United Kingdom
E123	£40.08	N.I.
F123	£30.76	Scotland
G123	£1880.05	U.K.
H123	£300.567	England
I123	£456.93	Wales
J123	£0.99	Northern Ireland

Corrected data set after mapping
to the Reference Data Standard

Order ID	Country	ISO Country Code
A123	United Kingdom	GBR
B123	United Kingdom	GBR
C123	United Kingdom	GBR
D123	United Kingdom	GBR
E123	United Kingdom	GBR
F123	United Kingdom	GBR
G123	United Kingdom	GBR
H123	United Kingdom	GBR
I123	United Kingdom	GBR
J123	United Kingdom	GBR

Causes

Typical Root Cause Analysis:

People
- Manual data entry
- No business glossary

+

Process
- Legacy merger / acquisition
- Local interpretation of 'standards'

+

Technology
- Disparate system default values
- Lack of data migration (and archiving) strategy

=

Manual data mapping

Master
Data Governance

Symptoms

The primary issue with a lack of MDM is a lack of a trusted data source.

Common observations include:

- Poor Data Quality

- Proliferation of Duplicates

- No single source of truth

- Multiple copies (and purchases) of the same dataset

- Absence of a hierarchy or parent / child relationship and 'Golden Record'

Which Version Should be Trusted?

	Name	Street	City	Country	Postcode	Email	Phone
A123	ABC Box Plc	1 High St	Glasgow	Scotland	G1 UP	info@abcbox.co.uk	(0)141 222 4444
B123	ABC Company	Greenwood House	Edinburgh	Scotland	EH1 6YN	enquiries@abc.co.uk	0800 111 2222
C123	ABC Box	1 High Street	Glasgow	UK	G16UP	info@abcbox.com	0141 222 4499

	Name	Street	City	Country	Postcode	Email	Phone
B321	ABC Box	1 High Street	Glasgow	UK	G1 6UP	info@abcbox.co.uk	+44141 222 4444
B654	ABC Co.	Greenwood House	Edinburgh	UK	Null	enquiries@abc.co.uk	0800 111 2222

	Name	Street	City	Country	Postcode	Email	Phone
C999	ABC Box	1 The High Street	Glasgow	UK	G1	Null	(0)141 222 4444
C000	ABC Co.	Greenwood House	Edinburgh	UK	Null	enquiries@abc.co.uk	0800 111 9999

Key: Salesforce CRM | SAP CRM | Local Finance System

Causes

Typical Root Cause Analysis:

People
- Training: 'Search' not performed
- Reactive fix on the individual data error, not root cause

+

Process
- Creation of multiple local records (e.g. For company codes, sales orgs)

+

Technology
- Multiple points of entry
- No Golden Record / data stewardship workflow
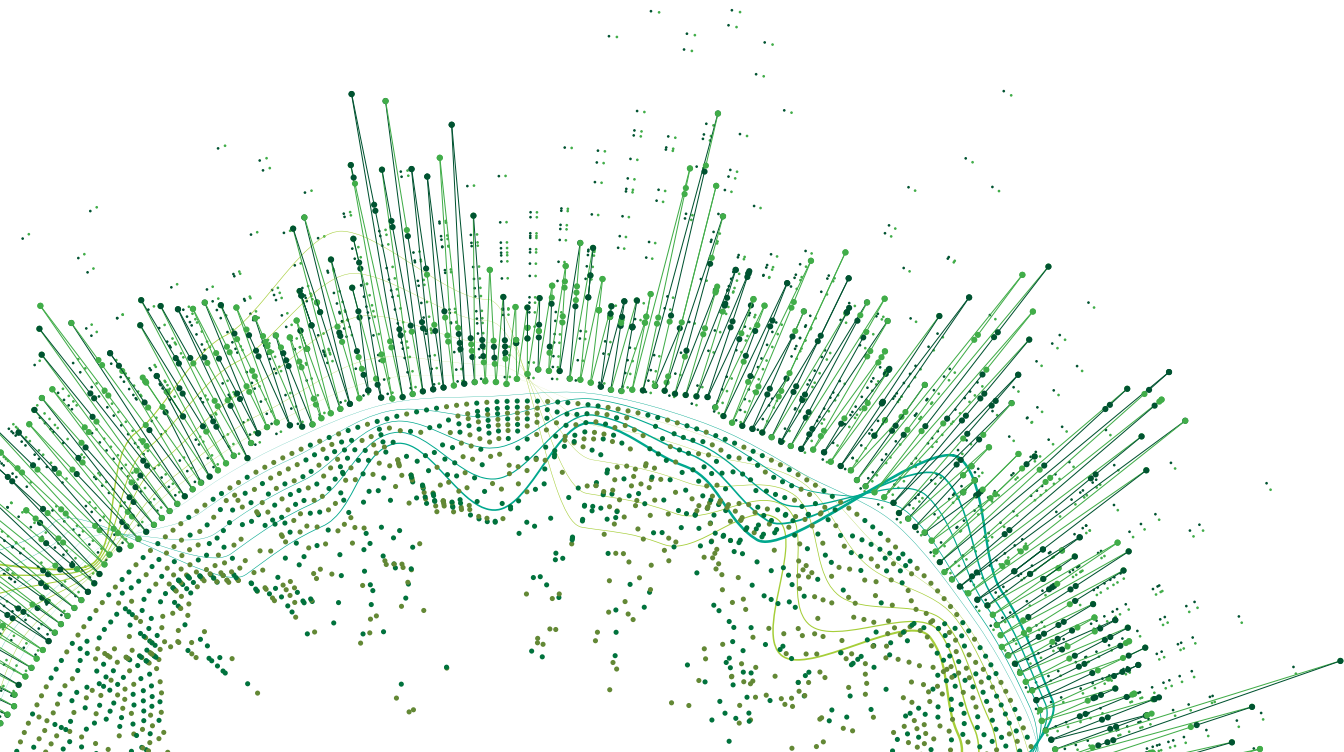
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No single version of the truth
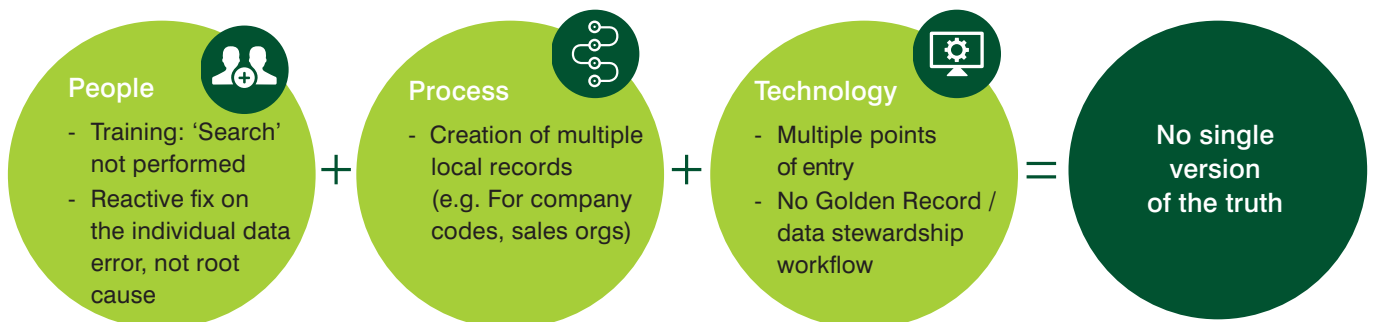
Security

Data Security

For comprehensive protection you need a comprehensive understanding of where your data is coming from, how it's organised, where it's stored, who's using it, and how. Only when you've got the full data picture can you start to think about the optimum data security.
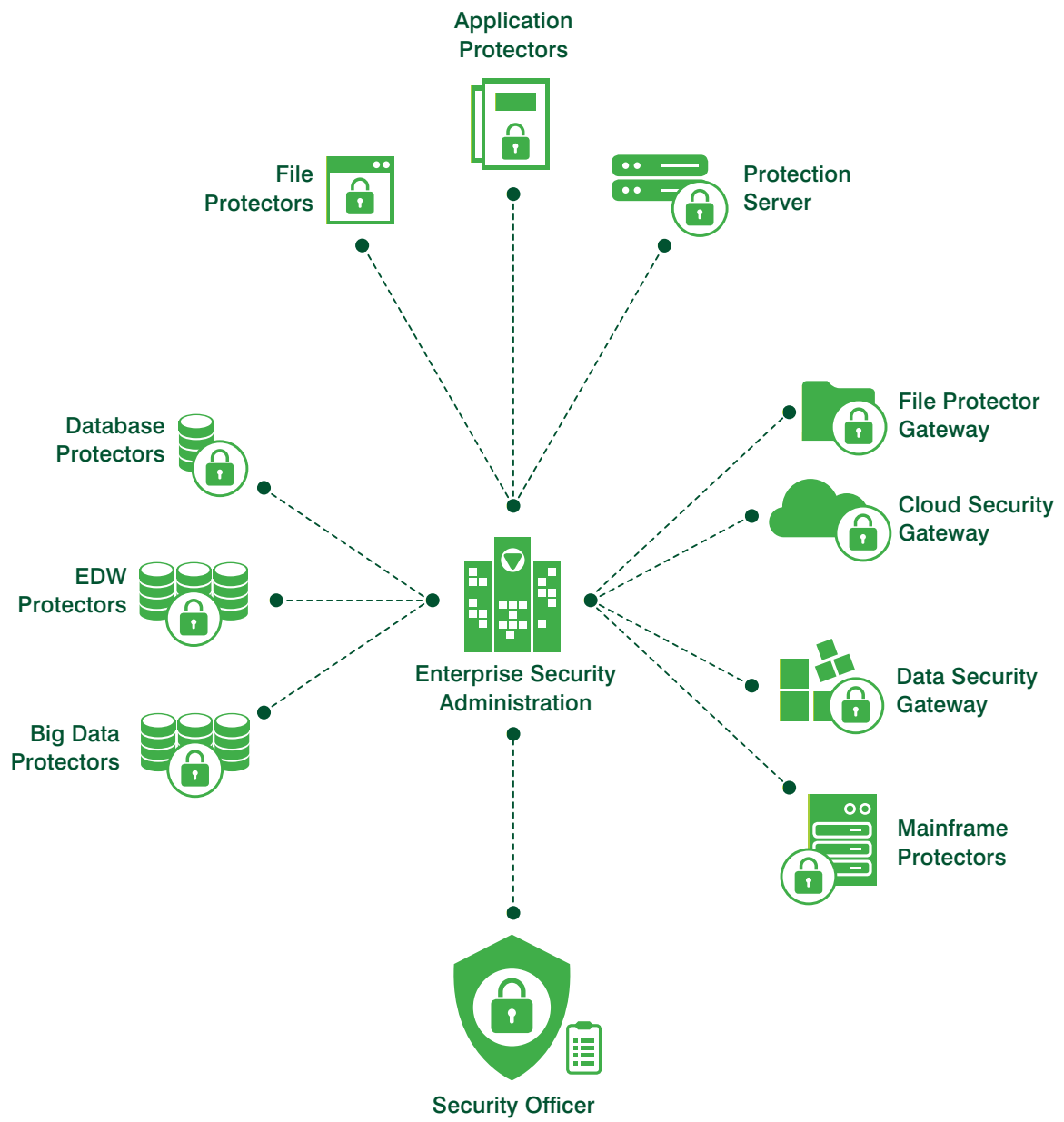
Agile Solutions understands data in all its complex forms, and understands business in its varied uses of data. So we understand how data security should be implemented across your business environment. Data is the core of our business, the reason for our business, and what we deal with every day.

We help you understand your data, its use, and the people who use it, so that you can choose the most appropriate and effective access levels, tools or tool combinations for the application in question. Which could mean using anything from read-and-write access restrictions to data anonymisation, and from encryption to masking or tokenisation.
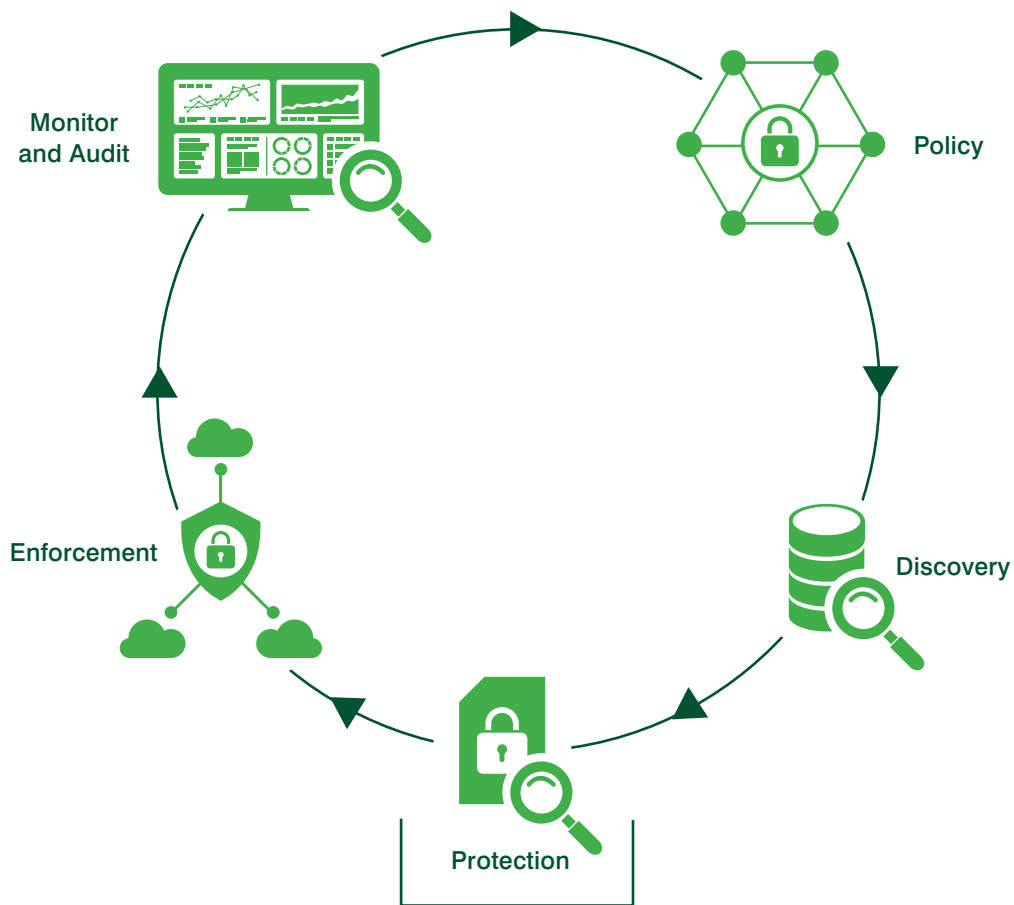
Agile Solutions are committed to providing our clients and partners with innovative data privacy, security and governance solutions. Leveraging best of breed technologies, from our partner portfolio, we can ensure the security, privacy and integrity of your critical data across a full range of environments—from databases to big data, cloud, file systems and more.

Data Security Platform

Application Protectors

File Protectors

Protection Server

Database Protectors

File Protector Gateway

EDW Protectors

Cloud Security Gateway

Enterprise Security Administration

Data Security Gateway

Big Data Protectors

Mainframe Protectors

Security Officer

End to End
Data Governance

Monitor and Audit

Policy

Enforcement

Discovery

Protection

Data Strategy, Governance and Security Team

The Data Strategy, Governance, and Security (DSGS) function

The Data Strategy, Governance, and Security function is responsible for developing the Data Governance, Information Management Strategy, Privacy and Security solution offerings for Agile Solutions.

DSGS hosts a team of specialist consulting resources who focus on business challenges, understanding how information management can underpin transformational activities. In addition, our resources are trained in providing the related technologies we offer, whose focus is to support clients with creating an appropriate governance framework and developing internal capability in respect of People and Process to ensure they are able to derive full value from implementation of data management technology.
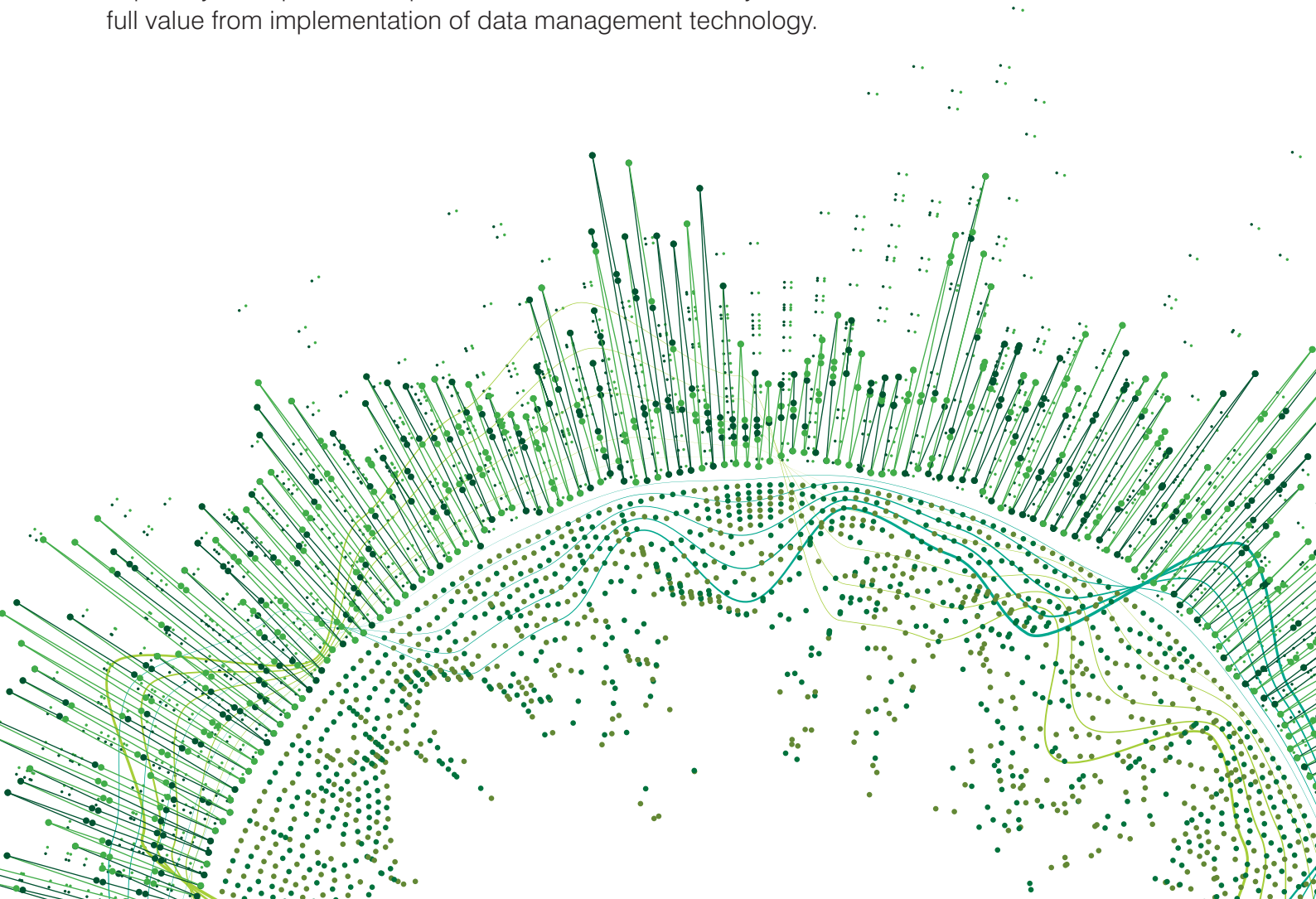
Get in Touch

To find out more about Agile Solutions
and how we can help monetise your data,
get in touch

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