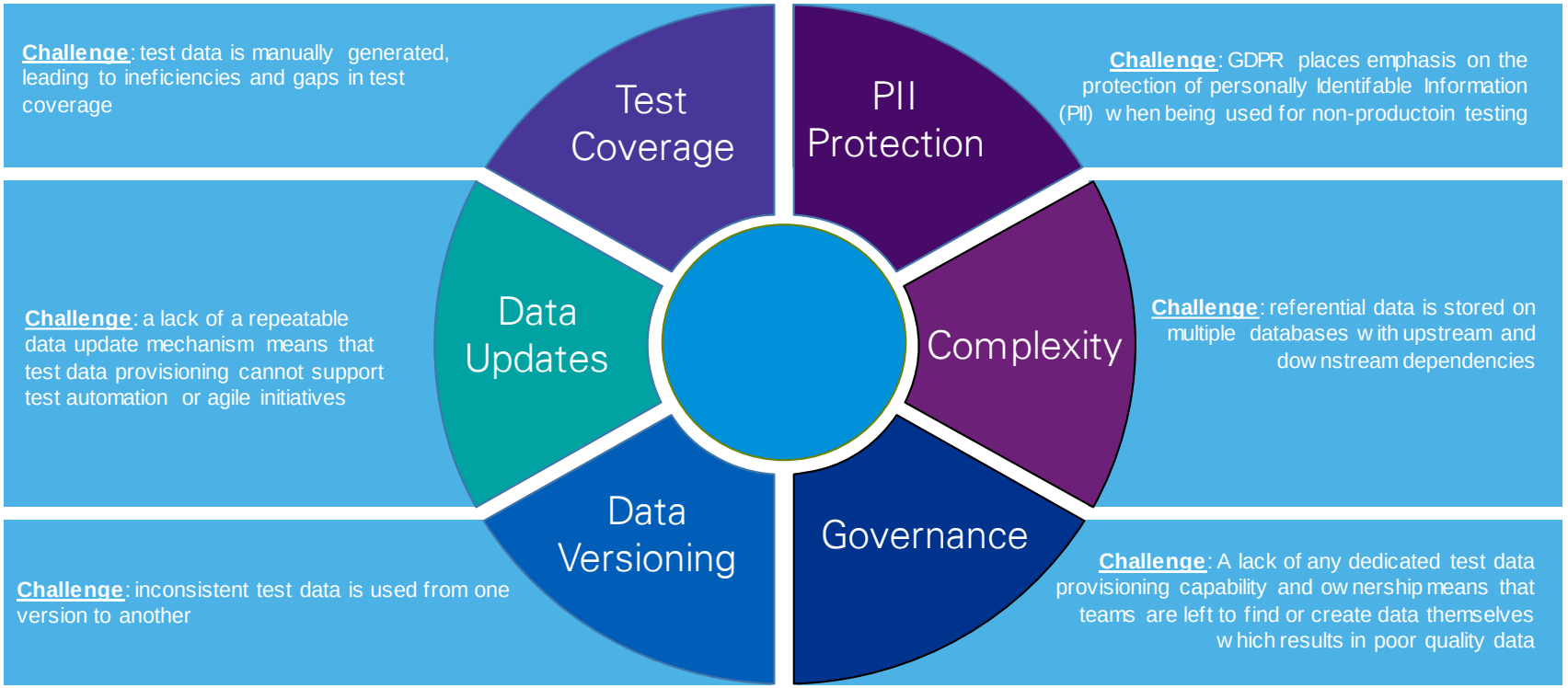
KPMG

Test Data Management

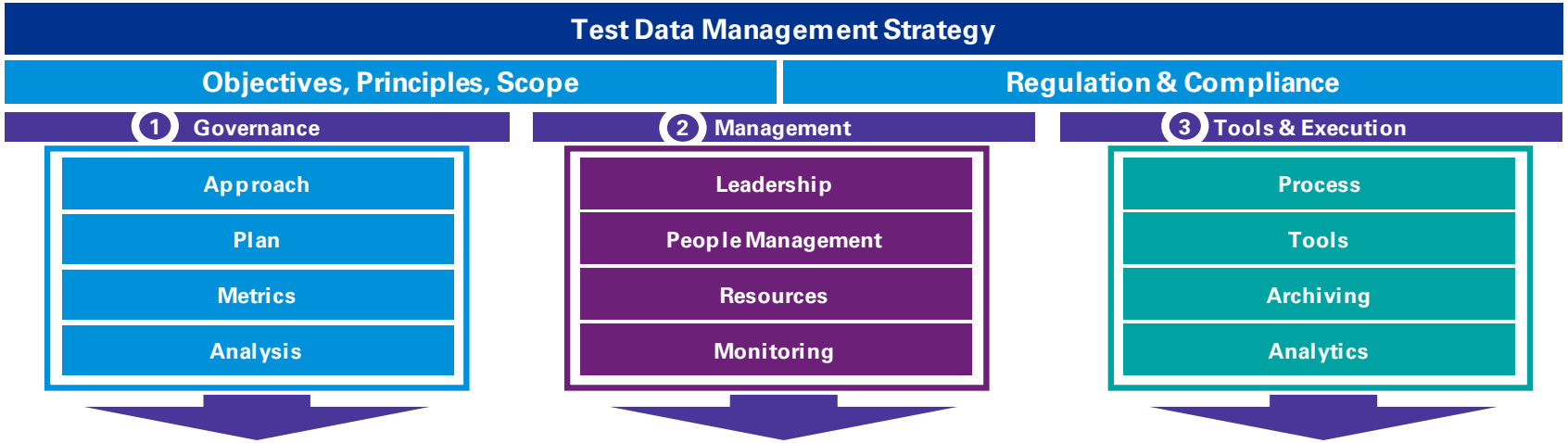
Test Data Management Challenges

High quality test data is a cornerstone of successful testing, but there are many challenges to effectively managing it. KPMG takes a structured approach to developing and implementing a test data management strategy that addresses these challenges to deliver quality test solutions.



KPMG Test Data Management Strategy

KPMG's approach centers on enabling the efficient delivery of relevant test data, helping reduce cost and effort, and lowering the risk of defects in production.



1 Test Data Governance

- **Approach**: sets the overall approach of monitoring the planning, oversight, SLA compliance, and execution of test data management
- **Plan**: outlines the scope, approach, resources, and schedule for data management activities
- **Metrics**: set SLA-driven key performance indicators (KPIs), such as data provisioning turnaround time, data request % completion, accuracy, test data consistency, and % test data end-to-end coverage
- **Analysis**: provides visual indicators and key metrics on the overall status and health of TDM activities – providing progress on daily and cumulative activities

2 Test Data Management

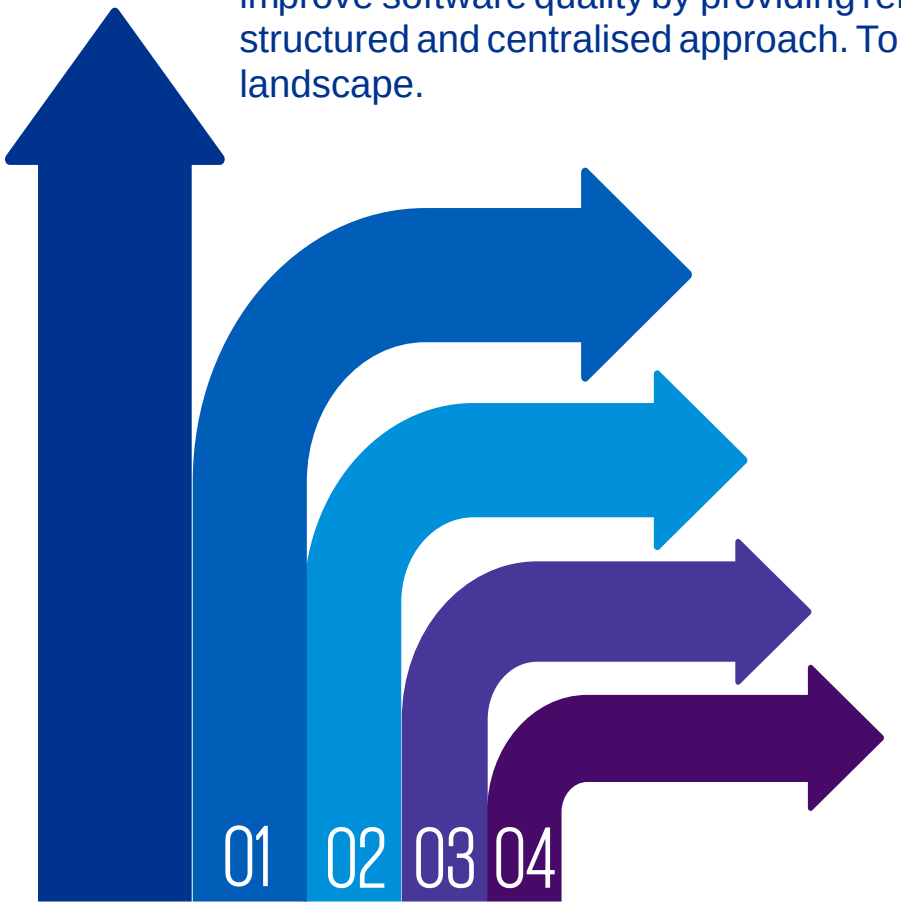
- **Leadership**: guides TDM resources and stakeholders with an understanding of how data management affects the project's quality and risk management processes
- **People Management**: ensures appropriate deployment and use of resources, adherence to system development methodology and standards
- **Resources**: deliver TDM execution, ensure delivery quality, provide reporting to leadership and stakeholders
- **Monitoring**: provides status updates and reporting outputs to ensure progress towards objectives and SLA compliance

3 Test Data Tools & Execution

- **Process**: identifies test data requirements, sourcing, masking, refreshing, and automation approach to guide execution
- **Tools**: defines selection and application of automation tools to provision test data so it can be delivered in minutes
- **Archiving**: records all changes to test data and maintains version-controlled libraries, allowing data restorations from any point in time with fast retrievals for test activities
- **Analytics**: provides quantitative measures on test data execution, such as % test data coverage achieved , % reduction in test data due to defects, and % test data that could be repurposed for one or more additional test cases

Test Data Strategy - Discovery

A test data management strategy should aim to drive down the cost of testing and improve software quality by providing relevant and timely data to testers through a structured and centralised approach. To do this you need to understand your data landscape.



Review your data requirements

Look at your testing coverage to understand what data will be needed. Consider any upstream/downstream systems that will be involved in your end-to-end customer journeys.

Understand what you do (and don't!) have

It is likely that individual programmes or teams are already managing their data in certain ways. They may also be struggling to obtain data for certain scenarios that currently require manual intervention or workarounds.

Understand your compliance restrictions

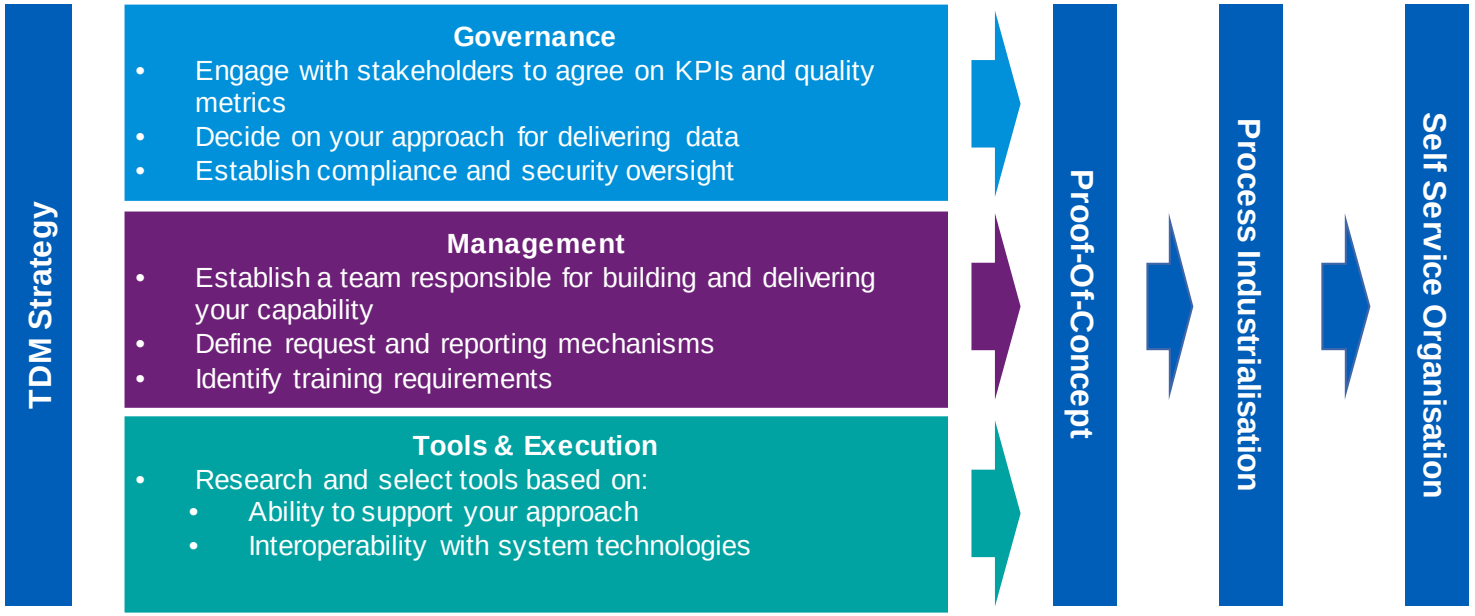
Your approach will be shaped by GDPR. The legal basis for using existing customer data for testing will have been defined by your organisation and will set limits on the use of that data, and therefore what you need to do to protect it.

Define your Objectives, Principles and Scope

You can now document what your data management needs to deliver and the high-level principles needed to achieve it. Aim to build a self-service test data management capability that is on-demand and repeatable

Strategy Creation and Implementation

There are a series of activities that need to be done in order to develop and implement your strategy. These can be run as separate work streams, each addressing a fundamental aspect of your test data management. These activities would culminate in a proof-of-concept exercise to validate your approach and help refine your strategy to ensure you achieve your objectives.



Solving The Test Data Management Challenges

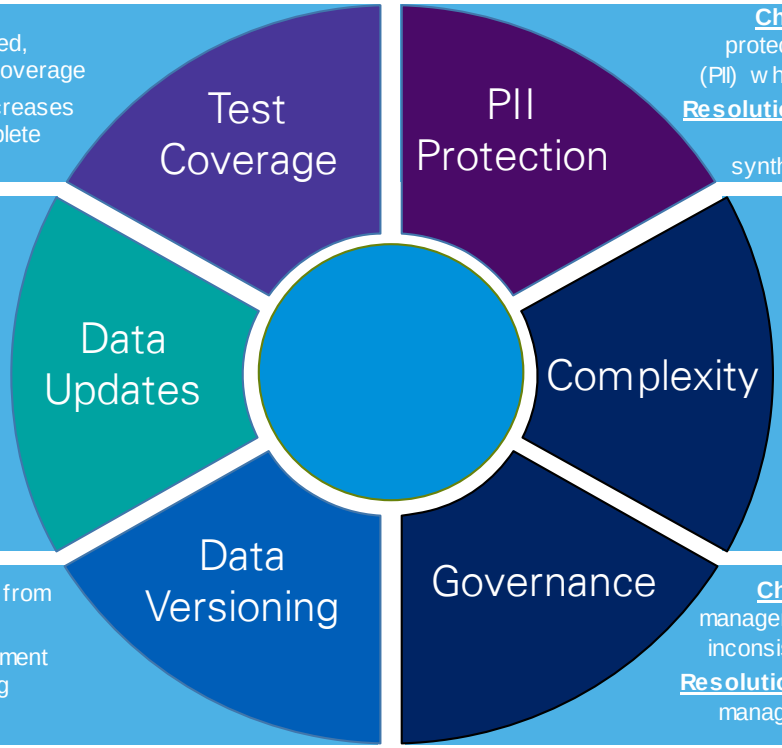
To successfully meet the challenges in managing test data in your organization a strategy must be underpinned with tools that automate your processes. With our deep technical knowledge and industry expertise, KMPG can help develop and implement the most appropriate strategy for your organisation.

Challenge: test data is manually generated, leading to ineficiencies and gaps in test coverage

Resolution: automated test discovery increases coverage whilst lowering the cost to complete

Challenge: GDPR places emphasis on the protection of personally Identifable Information (PII) when being used for non-productoin testing

Resolution: automated test data managment can either obfuscate sensitive data or create synthetic test data to remove compliance risk



Challenge: a lack of a repeatable data update mechanism means that test data provisioning cannot support test automation or agile initiatives

Resolution: automating test data provisioning enables test teams to request data via self-service portals

Challenge: referential data is stored on multiple databases with upstream and downstream dependencies

Resolution: advanced tooling can discover data and relationships across systems

Challenge: inconsistent test data is used from one version to another

Resolution: automated test data management can enable continuous and uniform testing accross environments

Challenge: lack of any dedicated test data management ownership and oversight results in inconsistent approaches and unnecessary cost

Resolution: a centralised capability will allow you manage data efficiently and measure success