



## Quality & Test Engineering

With its deep industry experience with next-generation technologies, Deloitte brings a full breadth of Quality and Test Engineering services to help clients build better and more reliable software products while maintaining cost efficiency

### Introduction

The way IT solutions are imagined, delivered and run is going through a significant period of change driven by new approaches, more complex solutions, and a demand for increased speed to market. In line with this, we are seeing a reduced appetite for risk, production failures are no longer deemed acceptable or to be expected.

In this fast-paced market, we are aware that we need to deliver faster, more innovative and far-reaching testing solutions than ever before, being part of the end-to-end approach to quality for a programme, more importantly for an organization. ➤

Today's IT organisations must meet the following criteria:



**Future Ready**

Get ready to respond to tomorrow's business challenges



**Customer Centric**

Develop products and services with improved consumer experience



**Resilient & Adaptive**

Manage risk and ensure continuity of core functions during uncertain times



**Adopt Technology**

Adopt new technologies quickly to increase employee productivity and throughput



**Control Cost**

Reduce overall cost of software development by automation and AI based testing

Therefore, we recognise the importance of developing quality engineering solutions that are future ready, customer centric, resilient, adaptive, technologically up-to-date, and cost-efficient. With an understanding of strategic industry issues and client-specific business challenges, complemented by an extensive technology practice, Deloitte brings market-leading testing services and solutions to their clients. Our vision is to cultivate an intelligent automation-based quality engineering mindset by leveraging a state-of-the-art technology tool set.

Deloitte's more-than-20,000-strong global workforce and depth of industry resources, methods, assets, and accelerators enable quality engineering projects to be delivered in a consistent manner with quality, rigor, and value across all industries and sectors.

**Tailored for your business**

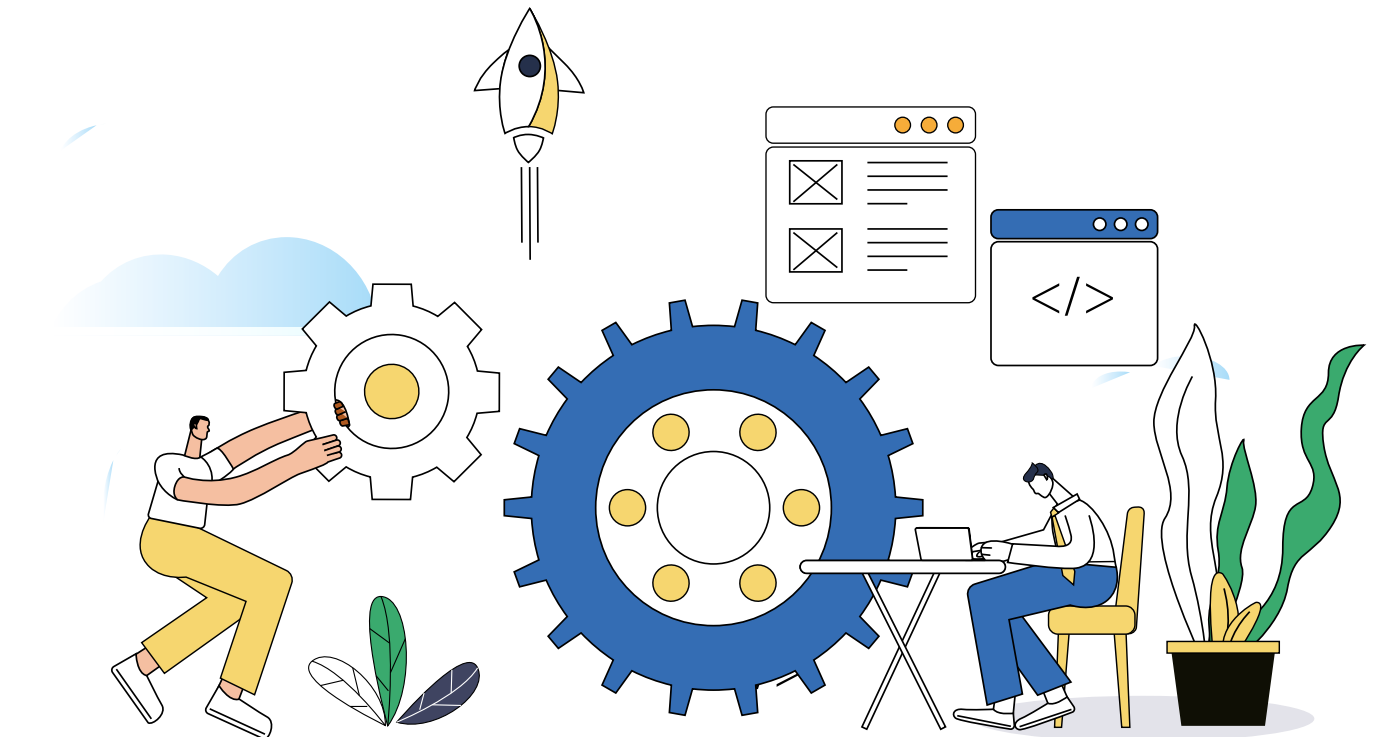
Our focus is to help clients gain efficiencies in time to market and higher quality production releases.

We work closely with our clients to understand what's important, and we are committed to using our expertise to find the right solution for different organizations, industries, and levels of test maturity.

**Our offering**

Our offering has adapted to the needs of the market and our clients. We offer best of breed quality engineering methodologies as well as deploying industry-leading tools and accelerators to bring you the highest quality solutions. The following two capabilities highlight our current focus areas:

- Testing Transformation and Advisory
- Technical Engineering Services



### Testing Transformation and Advisory

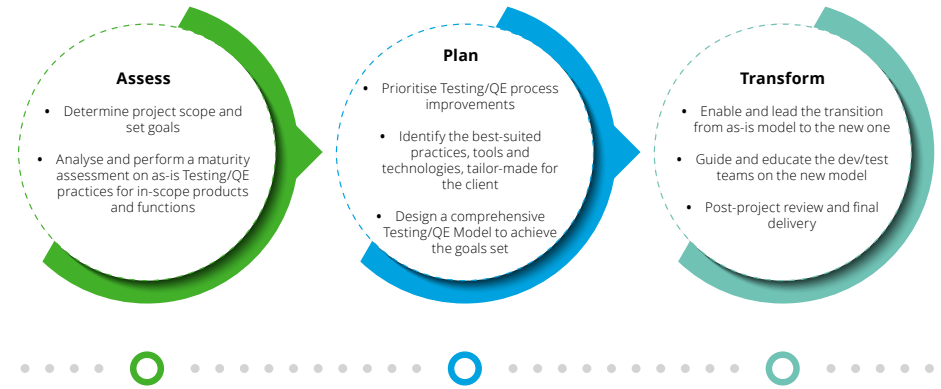
**Bring down the cost of quality by continuously improving your quality engineering teams.**

Digital and Agile transformation is in motion across the globe, and with that, agile ways of working are disrupting traditional approaches to delivering software quality. As with any disruption, there are organisations that are riding the wave, some that have missed it, and some trying to keep up.

We can help you to scale Agile properly, leverage automation in the right way and embed true DevOps tooling, principles, and culture, empowering you to gain maximum value and reusability from the assets we build.

We provide a comprehensive assessment using agile principles to define scope and provide valuable insights at the end of each sprint. Identifying the most critical pain-points across the enterprise. Examples include developing blueprint designs of what the future testing area should look like, intelligent reporting to drive decision-making through metrics over 'gut-feel' as well as sharing a holistic view on the cost of quality.

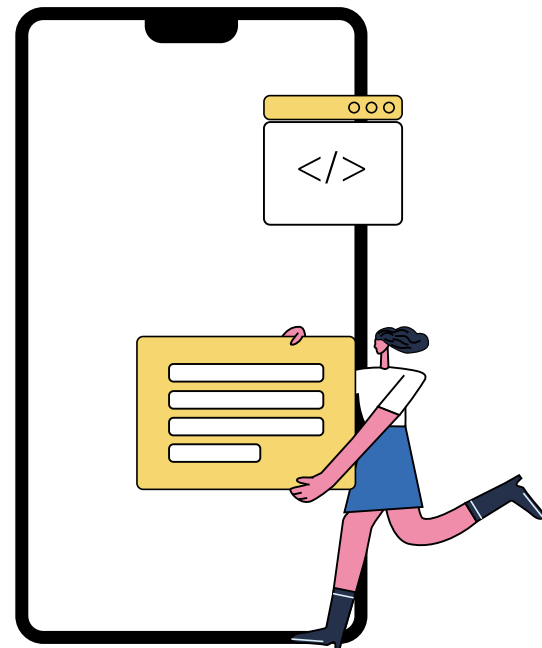
Our working model consists of three phases: We **ASSES**, we **PLAN**, and then we **TRANSFORM**:



Our clients have always looked to us to provide insights and strategies to tackle the continual changes in working styles and practices, this has become more prevalent in recent times.

Software delivery in the digital world is a complex activity that is not deterministic, and each organisation we work with is itself a complex adaptive system. That combination rewards emergent practice rather than any pre-ordained "best practice."

Our deep experience in making teams thrive in person or remotely makes us ideally suited to support you in evolving your ways of working. Our solutions draw a roadmap for our clients, leveraging next gen testing capabilities to improve overall maturity, increase consistency, efficiency, and standardization of Testing/QE processes.



## Technical Engineering Services

### Deliver the quality engineering services you need, faster and more efficiently.

Having a robust product spans several disciplines. From automation, compatibility and performance to data services and business acceptance procedures, our deep expertise can get you the support and results your business needs to succeed.

### Test Automation

Understanding what works in different environments allows us to create test automation strategies and build automation frameworks which are robust enough to handle unique challenges all programmes face whilst implementing good practices from the outset.

With our test automation solutions, what we offer to our clients is rapid and high-quality delivery of their software products, significantly reducing the time it takes to perform repetitive Testing tasks. This allows their Agile or DevOps teams to fix a broader spectrum of bugs in a much shorter time, and therefore to focus more on development activities and improve their product further.

Using multiple fields of experts; the test automation frameworks that we build for our clients is a service in its own right, and requires a collaboration of development, platform engineering and test to run reliably and effectively. Often this time can't be dedicated in busy project environments and by providing our own test automation framework that we have crafted with lessons learnt from different engagements, we can start a project with confidence in the testing platform. This approach also allows our clients to focus on their product delivery and future roadmap and not worry about re-inventing the wheel building automation tools and frameworks from scratch.

## Requirements Engineering

We help our clients reduce requirement gaps manifesting later in the program by working closely with BAs and technical stakeholders to ensure requirements are integrated, traceable and testable.

Aside from the financial benefits of resolving requirements issues earlier on, Requirements Engineers also ensure knowledge retention moving throughout the phases of a delivery and promotes collaboration between development and test. By applying a 'prevention is better than cure' approach, we help our clients achieve smoother delivery of large-scale programs whilst ensuring that user expectations are met.

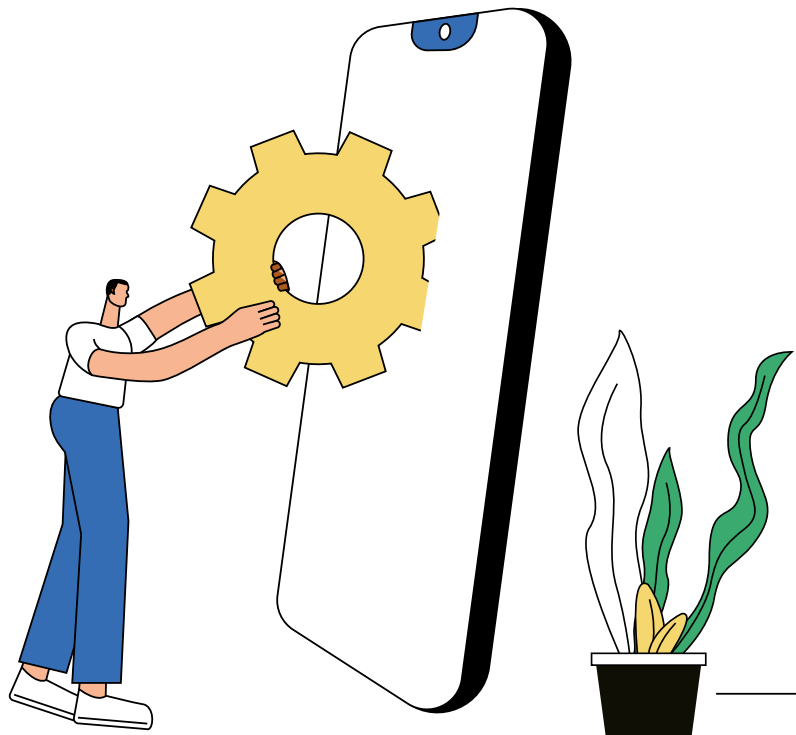
We understand that customer expectation and satisfaction go hand in hand. We work individually with our clients and their 3rd parties, to ensure that their requirements are specific, measurable, attainable, relevant, and time-bound, whilst factoring in continuous improvement which increases 'right first time' deployments.

## User Acceptance Testing

User Acceptance Testing (UAT) is a crucial part of a Software Development Lifecycle, which ensures that all the business requirements are fulfilled, and the delivered product meets end users' expectations as well as the industry standards.

UAT provides confidence to business stakeholders. Having the ability to provide confidence early and often is the core of our approach, de-risking go-lives and reducing the likelihood of late business validation issues. UAT is traditionally manual, time consuming and often repetitive, and our approach automates high-use user journeys allowing the business to focus on the high-risk business critical cases.

Using their industry-level expertise, our testing specialists support business users in UAT by releasing them from the burden of requirement gathering, test case preparation, test execution, defect reporting and monitoring.



## Data Services

Data is at the core of almost all technical delivery, therefore ensuring the quality of data through to visualisation is critical for projects, products, and businesses to succeed.

As data volumes grow, the desire to store and analyse data increases, leading to a demand of big-data testing tools, techniques, and frameworks. More data results in the increased risk of errors whilst also potentially impacting upon the performance of applications.

Our dedicated team of Data Quality & Test Engineers are able to help clients with the analysis, design, and implementation phases. From data mining to data visualization, we specialize in various stages of testing across a wide range of cloud technologies, products, and industry sectors. Our core focus is delivering clean and accurate data to help make informed business decisions.



Our expertise is split across three areas:

- **Data Analytics:** Understanding data by inspecting, cleansing and modelling is key for businesses to make informed decisions on the progress of their product, company or even their customer base. Using specialist automated and manual techniques, we can build and interrogate data stores from the source upwards to ensure clean data is brought into the visualisation layer within BI reports.
- **Extract-Transform-Load (ETL):** ETL is the process of extracting data from many different source systems with all-different structures, transforms the information into a consistent data model, then loads the data into a single depository, such as a Data Warehouse. In a complex and multi-layered process like this, the data flowing through such pipeline is under great risk of being lost or distorted on the way, therefore ETL Testing is crucial to maintain data completeness and correctness throughout this whole process. With both manual and automated solutions, our ETL Testing Specialists tackles issues such as data loss, data duplication, incorrect or badly formatted values, and data disintegration to ensure their clients' data is always complete and correct in every point of their ETL pipeline.
- **Data Migration:** Data Migration is also an extremely complex process, whether it be a lift and shift, or an extract, transform and load from one data storage location to another. Providing testing solutions across both on-premises and cloud-based platforms is important to help minimise risk and ensure the correct data is used. Our blend of product-based knowledge, coupled with years of industry experience, effectively positions us to achieve the very best testing solutions across the data journey for clients

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