NextGen Assurance Engineering

As we emerge into the post COVID world having experienced the largest digital transformation to date, the need for robust, functioning systems is paramount. Organisations are faced with demands to increase speed to market whilst cost effectively delivering new digital services aligned to low-cost fully automated solutions that are quick to deploy and deliver the necessary levels of quality. In addition, many organisations face skills shortages that is placing real pressures on their ability to deliver.

To address the above challenges Edge has developed its **NextGen Assurance Engineering** service providing complete automation of the functional, non-functional and cyber arenas. We achieve this by utilising highly effective services that blend the expertise of full stack engineers coupled with open-source tools delivered on cloud platforms to deliver previously unseen levels of assurance in record times.

Key benefits of the NextGen Assurance Engineering Service:

- **Cost Efficiency** – Reducing the cost of defects, the need for large test teams and increasing the efficiency of assurance and testing reduces project and BAU costs
- **Speed to Market** - Conducting thousands of tests per day and automating deployment means testing can be completed in a fraction of the time
- **Quality** – Increased coverage and test cycles infinitely improves software quality
- **Flexible engagement** – Our engagement model means the move to NextGen Assurance Engineering focuses the priorities of your business and builds out as you require
- **Industry standard** – We use industry standard tools, techniques and infrastructure to deliver unprecedented levels of automation in record times
- **Fast Start** – Using our Central Assurance Framework we can be up and running in a matter of hours

What is NextGen Assurance Engineering?

We conceive, design, build and maintain fully independent assurance platforms to support programmes and projects as well as operational environments. The **NextGen Assurance Engineering** services can be broken down into the following focus areas:

NextGen Assurance Engineering		
SERVICE	**SERVICE DESCRIPTION**	**SERVICE FEATURES**
Automation Engineering	System, Application and backend automation of enterprise solutions across public and private sectors, utilising the full spectrum of techniques, tools and processes to achieve the required coverage and business outcomes.	• Functional Requirements • UI, API and Unit Testing • Process automation and service integration • Device, Networking, OS and End User emulation
Performance & Capacity	Assures non-functional and elastic aspects of your solution from user experience to networking, environmental impact and system performance.	• Performance Engineering • Capacity Management • Modeling, Analysis and Design • Non-Functional Requirements Design
Consultancy & Advisory	The focus here is to ascertain the appropriate services model to deploy to meet each client's desired goals and determine the service relationship required.	• Risk Management • Maturity and Delivery Assessments • Change and Transformation Management • Enhancement and Policy Initiatives
Enterprise Assurance Platforms	Providing Enterprise Platforms and Infrastructure to enable advanced, scaled, and performant assurance services remotely or embedded.	• INT Operations, CICD & Process Automation • Deployment Clusters, Nodes and VPCs • Networking and Hosting • Enterprise Monitoring
Cyber & Operations	Cyber Service, Security and Operations management across cloud environment. Providing enterprise standard security and Pen testing as part of QA Delivery.	• Penetration Testing • DoS, DDoS and Network Attacks • Logging, Alerting and Monitoring • Incident and Vulnerability Management

Our **NextGen Assurance Engineering** modular platforms are driven by frameworks developed and maintained by our deep engineering expertise to reflect the needs of your business.   These platforms and frameworks can be deployed and operational within hours and deliver complete automation.   Our services are hosted across the internet and integrate into solutions across each client's estate.

How We Do It

Our **NextGen Assurance Engineering** service can be delivered on a fixed price, outcome or subscription basis with no set up costs. We provide the expertise, infrastructure, tools, frameworks, scripts and reports which can be set up rapidly and deliver unprecedented levels of automation in record times. This is achieved by utilising advanced engineering disciplines across, design, analysis and implementation to leverage outcomes across the delivery spectrum.

At Edge we do not constrain ourselves by the limits of traditional thinking when it comes tools, environments or processes. We use the best tool to achieve the desired outcomes, this can mean using tools in imaginative ways or deploying multiple tools for each requirement. Tools are interchangeable and therefore can swapped in and out for each need that arises.

Here's what NextGen Assurance Engineering achieved for the 2021 Census:
- 100% automation of functional, non-functional and cyber arenas
- The service was operationally effective within 2 months / fully operational within 6 months
- We were able to execute up 25,000 tests per day
- We targeted and achieved 0 production defects / incidents
- We delivered 100% coverage across the functional, non-functional and operational arenas
- This was delivered by a team that peaked at 6 FTEs

We focus our **NextGen Assurance Engineering** on using a tools landscape that is constantly evolving in terms of both scope and usage but currently includes:

- Automation: Cypress, Webdriver.io, GoDog, Selenium
- Performance: JMeter, K6, Locust, FastHttps
- Security Operations: Splunk, IAP, DDoS, SoC, SoC2
- Infrastructure: AWS, Azure, GCP, Terraform
- Deployment: Concourse, Team City, Circle CI
- Monitoring: Grafana, Prometheus, New Relic
- Big Data and Brokers: Kafka, Zookeeper, Rabbit MQ, Hadoop, Spark.

It is in our Engineers' DNA to be constantly engaged in the pursuit of innovation, improvement and efficiency within assurance. Our Engineers are initiators of technical advances within software engineering and testing.

"We have launched our NextGen Engineering Assurance service which is delivering unprecedented automated test coverage in record times. This is helping our clients reduce costs and risks, improve quality, speed and agility, grow revenues and increase profitability whilst protecting their brands. Our world class engineers thrive in the challenge of creating something new and doing things that haven't been done before – these engineers are the best in class. NextGen Engineering Assurance is the future of Assurance and Testing." **Sharon Hamilton, Managing Director – Eurofins Digital Testing UK**