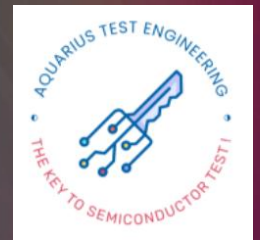


Aquarius Test Engineering



Unlocking Scalable Automated Testing for Fabless UK SMEs

The Challenge – The Cost of Automated Chip Testing

Currently more than 80% of UK semiconductor SMEs rely on manual loading of devices into test sockets, a process that is slow and typically achieves fewer than 50 units per hour per operator. It is repetitive and laborious, diverting highly skilled resource from other tasks and leading to higher scrap rates and longer validation times. Conventional automated handlers, designed for mass production, cost over £100,000, require dedicated docking hardware, and are impractical for businesses producing smaller, more specialised devices.

The Solution – FlexHandler

Aquarius is developing a novel modular robotic retrofit system - FlexHandler - that will revolutionise how low-volume, high-mix semiconductor devices are tested in the UK. This project will design and validate a compact, reconfigurable robotic module that mounts directly onto existing Automated Test Equipment. Their solution will eliminate the need for expensive retooling and critically, the system can be reprogrammed to handle different chip packages in minutes, rather than the days or weeks required by traditional handlers. This feasibility study is the first step towards building a scalable product offering that enables UK companies to test more devices domestically, reducing reliance on overseas test services.

The Funding

Neon was instrumental in constructing Aquarius' project proposal, securing a £50,000 grant through Innovate UK's highly competitive Growth Catalyst. This funding will allow them to transition from services to products, unlock IP and opportunities, create new skilled jobs and commercial opportunities, and help to deliver the objectives of the UK National Semiconductor Strategy.

The Impact

FlexHandler will deliver production-grade sub-millimetre accuracy, versatile chip handling without retooling, and rapid two-week deployment. This solution will cut annual test spend by £30,000–£60,000 for UK businesses and deliver ROI within 18 months. With tripled throughput and 60% fewer operator hours required, FlexHandler will also accelerate time-to-market by up to six weeks.



6 months



£50k Grant



Aquarius Test Engineering
(UK)

neon
innovation