Princeps

Why Sovereign Capability Matters

Sovereign Component Assurance: Why UK-Based Testing Matters

- Insights

For defence, aerospace and other high-reliability customers, component assurance is about much more than checking whether a part looks genuine. A lot of the challenge comes from the fact that the systems these components support can remain in service for decades, while the electronic components themselves may become obsolete much sooner. For defence, aerospace and other high-reliability customers, component assurance is about much more than checking whether a part looks genuine. A lot of the challenge comes from the fact that the systems these components support can remain in service for decades, while the electronic components themselves may become obsolete much sooner.

+44 1279 641641

sales@princeps.co.uk

www.princeps.co.uk

6 Astra Centre Harlow CM20 2BN

The Challenge

For defence, aerospace and other high-reliability customers, component assurance is about much more than checking whether a part looks genuine.

A lot of the challenge comes from the fact that the systems these components support can remain in service for decades, while the electronic components themselves may become obsolete much sooner. That means there will always be situations where authorised supply is no longer available and customers need to look at the open market.

The key question then becomes: **How do you manage that risk properly?**

For a lot of UK customers, there is another part to this as well. If components need to be sent overseas for specialist testing, that can introduce additional lead time, shipping, chain-of-custody concerns and potentially more export and import administration. Where possible, customers want to keep that activity in the UK.

That is why Princeps has invested in developing its own UK based **ISO/IEC 17025 accredited laboratory** capability in Harlow.

Keeping Testing in the UK

One of the biggest benefits for our customers is the ability to carry out component assurance here in the UK. That means parts do not automatically need to be exported overseas just to be inspected or tested.

Where the required test methodology sits within our capability, we can keep more of the process under one roof:

Sourcing ➤ Risk Assessment ➤ Inspection ➤ Testing ➤ Technical Review ➤ Supply

For defence and high-reliability customers, that can make a real difference. It can help reduce:

- Unnecessary movement of material
- Reliance on overseas test houses
- Additional shipping and logistics
- Export and import administration
- Chain-of-custody hand-offs
- Delays when an issue is identified

It also means the people sourcing the component and the people testing it can work much more closely together.

Princeps

+44 1279 641641 | sales@princeps.co.uk | 6 Astra Centre Harlow CM20 2BN

ISO/IEC 17025 Matters

Having the equipment is one thing. Being able to demonstrate that your laboratory is technically competent to perform the work is another.

Princeps achieved **ISO/IEC 17025 accreditation covering AS6171 counterfeit detection** test methods, giving customers additional confidence that the testing is being carried out within a controlled and independently assessed laboratory environment.

That covers areas such as:

- Staff competency
- Calibrated equipment
- Documented test methods
- Traceability of results
- Repeatability
- Technical reporting
- Controlled laboratory processes

For high-reliability applications, that is important. Customers do not just need to be told that a component has been checked. They need evidence behind the decision.

Our In-House Capability

Our laboratory capability includes a range of inspection and test methods used to identify suspect and counterfeit electronic components, including:

- External Visual Inspection
- 3D Digital Microscopy
- X-Ray Inspection
- XRF Spectroscopy
- Heated Solvent Testing
- Decapsulation and Internal Visual Inspection

These methods can help identify issues such as resurfacing, remarking, material inconsistencies, internal construction differences and other anomalies that may indicate a component is not what it is being represented as.

The important point, though, is that we do not believe every component should automatically go through exactly the same test process.

Through **ASSURE+**, we can build the inspection and test plan around the actual risk. That means looking at the component, the source, the intended application and the wider programme requirement, and then applying the right level of testing.

Managing Open-Market Risk

For long-life programmes, saying “we never use the open market” is not always realistic. Eventually, some components become obsolete. Original manufacturers stop making them. Authorised stock dries up. Lead times become unacceptable. But the platform still needs to be supported.

At that point, the open market may become necessary. The important thing is making sure it is managed properly. Princeps combines component sourcing experience, counterfeit mitigation and laboratory testing to help customers reduce that risk.

Where fully traceable or authorised material is not available, we can provide additional inspection and test evidence to support the customer’s decision-making process. For us, it is about giving customers another option rather than simply saying a part cannot be sourced.

+44 1279 641641 | sales@princeps.co.uk | 6 Astra Centre Harlow CM20 2BN

Fewer Hand-Offs, Better Control

The more times a component moves between organisations, the harder the process can become to manage. Traditionally, a component may be sourced by one company, sent to another company for inspection, exported to another laboratory for additional testing and then moved back through the supply chain.

By bringing sourcing and testing capability together, Princeps can reduce the number of hand-offs involved. That gives the customer better visibility of what has happened to the material and clearer accountability throughout the process.

For sensitive, expensive or hard-to-replace components, that is particularly important.

More Than Just a Test Report

When something unusual is identified, customers usually need more than a simple pass or fail. They want to understand:

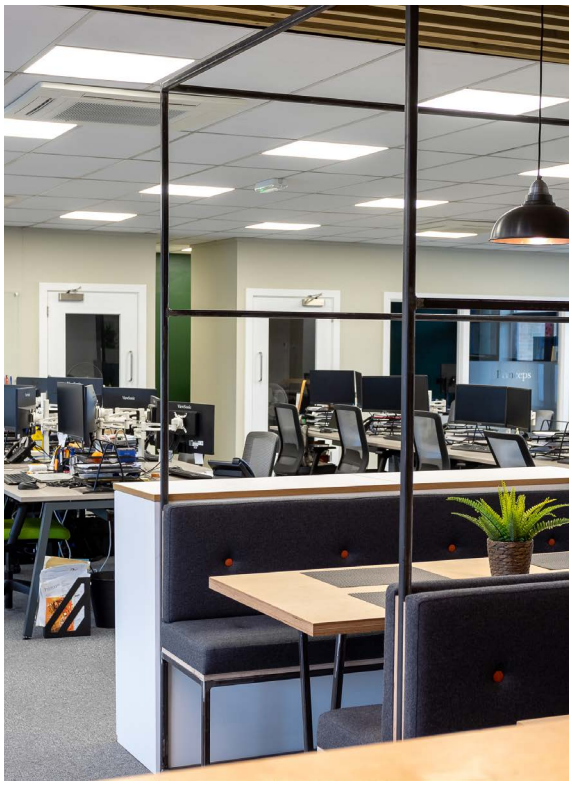
- What have you found?
- Why does it matter?
- What is the risk?
- What would you recommend next?

Because the laboratory sits alongside our sourcing and quality capability, we can have those conversations quickly. The aim is not just to test a component. It is to give the customer enough evidence and technical information to make the right decision for their programme.

Supporting Long-Life Platforms

This is especially relevant in defence. A platform can remain operational for 20, 30 or even 40 years. The components inside it may have a much shorter commercial life. That means obsolescence is not really something that can be avoided completely. It has to be managed.

Having UK based capability to inspect and test obsolete, difficult-to-source and open-market components gives customers another route to support those programmes without immediately relying on overseas laboratories.



Why Sovereign Capability Matters

Modern electronics supply chains are global, and that is unlikely to change. For us, sovereign capability does not mean pretending every component can be manufactured in the UK. It means making sure the UK retains the skills, equipment, knowledge and accredited capability needed to understand and manage supply-chain risk here.

That is the value of the investment Princeps has made in its laboratory. It gives customers the ability to:

- Keep more testing within the UK
- Avoid unnecessary export of components where possible
- Reduce dependence on overseas laboratories
- Maintain better control of chain of custody
- Support obsolete and difficult-to-source components
- Access accredited test capability
- Get quicker technical support when issues are found
- Build more resilience into long-life programmes

For high-reliability customers, that is what the capability is really about.