CASE STUDY

Element Selects MVG As Preferred Vendor for the Expansion of their RF, EMC, & SAR Test Chamber Capabilities in the UK

element

Steve Hayes
Technical Director, Connected Technologies at Element Materials Technology

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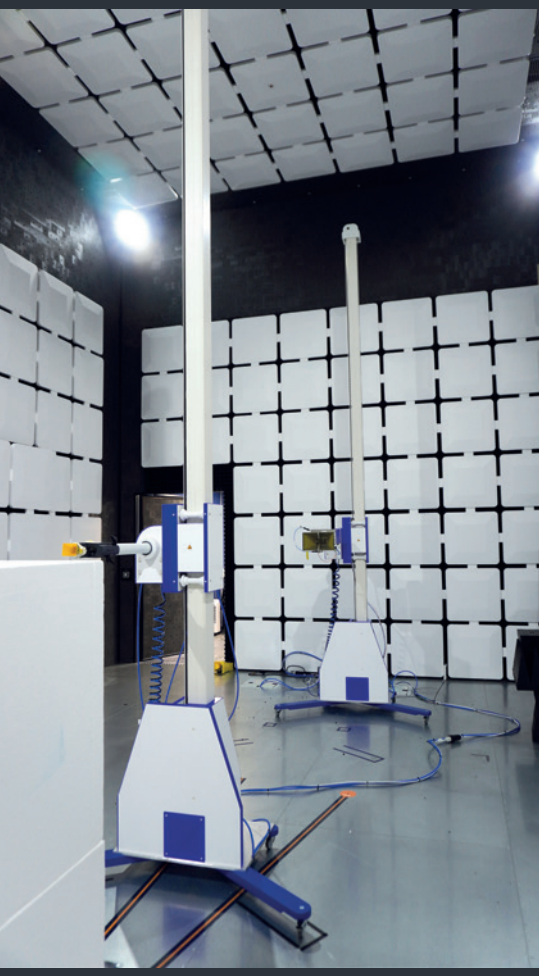
mvg
Microwave Vision Group



INTRODUCTION

The removal of wires from virtually all technology is having widespread effects throughout the electrical and electronics industries. The drive toward wireless technology is also providing a platform for enhanced communication and sensing applications feeding the growth of the Internet-of-Things (IOT).

All of these trends are manifesting a boom in electronic and wireless device design and manufacturing, along with the deepening complexity of these devices.

In turn, this boom is leading to a massive growth in the need for testing capacity for new electrical, electronic, and wireless systems.

"Increased product complexity is the driver for why we need more EMC/RF shielded boxes and chambers," shared Steve Hayes, Technical Director of Connected Technologies at Element Materials Technology.

Testing organizations like Element, a global provider of testing, inspection, and certification (TIC) services for a diverse range of products, materials, and technologies in advanced industrial supply chains, are experiencing these trends first hand. In response, Element has been working hand-in-hand with MVG to steadily enhance its testing capacity and capabilities to meet the needs of Element's existing and future customers.

This case study discusses these trends in testing volume demand, how Element is a forward thinking organization preparing to tackle the massive growth of testing, and why Element repeatedly chooses MVG as their EMC, RF, and SAR test chamber provider of choice to face the future of testing.

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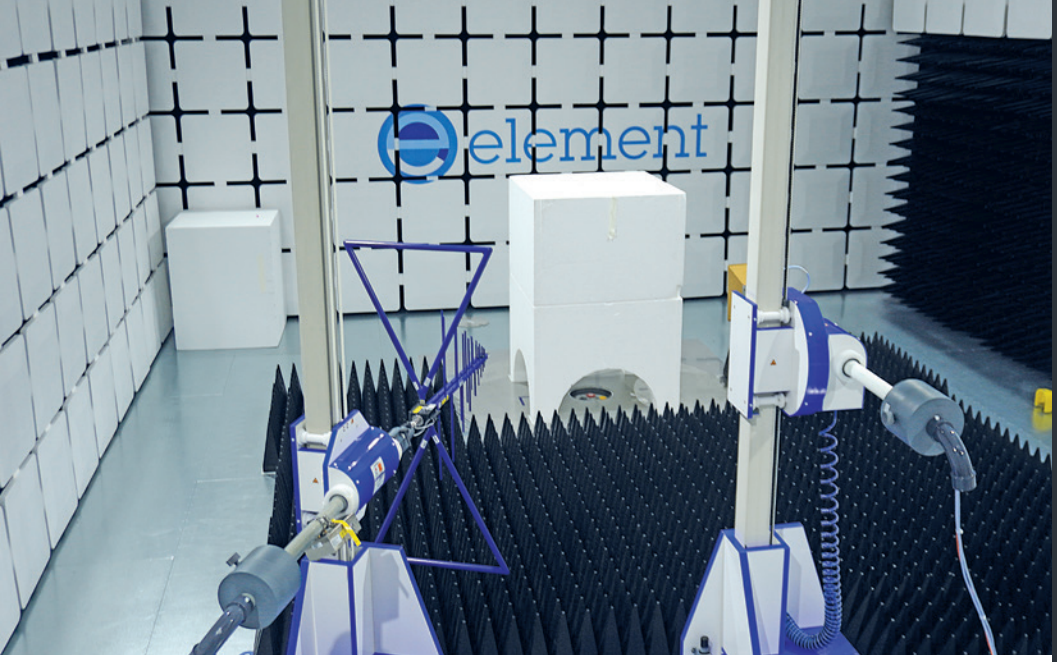
ELEMENT: RISING TO THE CHALLENGE OF MODERN WIRELESS TESTING

Most regions of the world require some form of electromagnetic compatibility (EMC) testing for electrical/electronic products to be brought to market. In regions with safety limits and health restrictions on wireless technologies, specific absorption rate (SAR) testing is also a necessary step in getting product approval for products that are used on or close to the body. Every wireless communication/networking standard has a set of requirements that devices must meet in order to be certified.

Many organizations perform testing at the prototype stage to troubleshoot failures early in product development, reducing lead times and costs at the later stages of the product development cycle.

Element has expanded its facilities to accommodate the growing volume and diversity of customers' testing needs. Headquartered in the UK, the leading TIC provider operates a network of over 270 laboratories in more than 30 countries, with 50 acquisitions made across the business since 2011. Element supports customers from early R&D, through complex regulatory approvals and into production.



Within its Connected Technologies division in the UK, this wide range of experience has given Element's experts a unique perspective on the trends impacting the electronics and wireless industries. This is why they are prepared to enhance the capabilities and capacity of their facilities to meet customer demand. In this case, a need for more testing capacity and the ability to rapidly iterate through testing stages to shorten their time to market.

Element has done something unique in the testing industry by providing EMC, RF, SAR, and other diverse testing capabilities in a single facility in the UK.

"We have several service capabilities in many of our facilities around the world," Hayes discussed, "We do this because the tests often have interdependencies, and instead of having a customer go around to different facilities, they can tune and test their product to completion in one location."

This has been an invaluable service to Element's customers over the years who don't have to juggle their prototype and product testing between several different facilities and vendors. Instead, customers experience expedited full testing services with a test service provider they know is experienced and more than capable of handling their testing requirements.

"Shipping to a different location adds time, and time is money," Hayes shared, "Also, by being full-service we are more aware of our customer's needs, and better optimize our service to meet customer expectations and requirements."

ADDRESSING THE GROWING DEMAND FOR TESTING CAPACITY

This vision is exactly why Element approached MVG about adding new chambers to their facility in a multiphase project of expansion. This expansion involved contracting MVG to build, install, and calibrate a number of new test chambers. These chambers included a large RF test chamber, multiple smaller RF test chambers, transient test labs, large radiated immunity chambers, conducted RF chambers, and SAR chambers. Before fielding the contract to MVG, however, Element did its diligence and requested bids from several test chamber vendors. MVG won this bid due to their competitive pricing and their long standing relationship with Element.

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Steve Hayes

"The reason we selected MVG, is that we have a long established relationship with MVG… they know us," Hayes said," Of course we go out and get competitive bids, but the reason we keep coming back to MVG is that we have the confidence that if things go wrong, MVG will step in and make it work."

Moreover, Element understands the value of having a consistent approach to testing. Working with the same vendor for test chambers can help ensure that their testing is as consistent as possible within a facility and with their facilities throughout the world. This is another advantage MVG brings to the test chamber market, is that MVG has business units around the globe that are able to ensure a high level of quality of their test chamber solutions, and the follow through beyond installation that keeps their test chambers operating with as little down time and the high standards MVG customers expect.

THE FUTURE

Element's next round of chambers will likely be selected on account of shifting trends in the industry, for example, higher frequency testing. There are a host of new applications, and hence products, being developed that operate well into the millimeter-wave (mmWave) frequency ranges.

"When we talk about mmWave we are talking about 5G FR2 frequency bands ultra-wideband (UWB), 60 GHz point-to-point communications, automotive radar, and many other applications emerging at higher frequencies."

With the growing demand for higher testing capacity and higher frequencies, it may make sense to explore expanding with a greater number of high frequency chambers, which are smaller, hence with limited real estate more testing chambers can be added.