

Company Article
For Immediate Distribution

Andy Naisbitt, CEO, GEN3 Discusses ‘Objective Evidence’



Forewarned is forearmed

As the successor of [Graham Naisbitt](#), [Andy Naisbitt](#) became the CEO of GEN3 at the beginning of 2021, as Graham stepped into the role of President.

One of Graham’s lasting legacies for GEN3 will be the relentless work that he carried out to bring ‘Objective Evidence’ to life, and since, his unremitting campaigning to educate all on its importance within the electronics industry.

In this article, Andy picks up the mantle to ensure that everyone understands Objective Evidence and the significance that it holds.

Andy details: “GEN3 were heavily involved in the development of two new revised test methods, that the electronics industry holds themselves accountable to, to reduce electro-chemical failure risk and increase reliability.

The aforementioned new revised test methods are ‘**International Standards**’ and part of the **IEC 61189-5 Series**: Test methods for electrical materials, printed boards and other interconnection structures and assemblies:

- IEC 61189-5-501: Surface insulation resistance (SIR) testing of solder fluxes
- IEC 61189-5-502: Surface insulation resistance (SIR) testing of assemblies

Our focus is on SIR testing of Assemblies to provide the necessary **Objective Evidence** required by the recently published IPC-J-STD-001 Revision H and the accompanying white paper, WP019B.

This revision has removed the sole requirement of $<1.56\mu\text{g}/\text{cm}^2$ of NaCl equivalent of the old ROSE test and is a fundamental change in approach. This SIR test is augmented by a modified ROSE test, which is better known as Process Ionic Contamination testing (PICT) and detailed in IEC 61189-5-504. This test method provides the fastest and most effective method of process control, taking less than 15 minutes.

This achievement is the culmination of more than six-years of research, bringing the very latest in test and measurement methodology to the forefront.”

Why Objective Evidence is of Relevance to You

“With ever increasing packaging density, coupled with ever more hostile operating conditions, the susceptibility to electro-chemical failure has increased exponentially.

SIR testing is the first stage. Unlike other test methods, SIR testing will inform whether the end product production process is likely to produce electro-chemical reliability of a material set.



It will NOT inform of what is present and/or causing the problem, this is where other “extract” tests, such as Ion Chromatography, FTIR etc., come into play. These tests CAN identify what is present and causing the problem, but CANNOT predict reliability.

Having the ability to evaluate a customer’s process is an essential requirement and even more so, due to the increased demand in cleaning.”

Help is Always on Hand from GEN3

“GEN3 has been in the test and measurement industry for over 40 years. There aren’t a lot of challenges left that we’ve not seen, heard of, and addressed. Helping our colleagues and peers in the electronics industry is why we get out of bed in the morning. We continuously improve and innovate. It’s why we are known in our field as, ‘the people who protect’, as very often we set the standard by engineering reliability into electronics.

When customers approach us to assist them with Objective Evidence, we discuss our industry leading and award winning [AutoSIR2+](#), [AutoCAF2+](#), and [CM+ Series Ionic Contamination Equipment](#). Why? The answer is simple, this equipment is leading the way in measurement capability, and they are specifically designed to answer our customers’ needs to establish successful Objective Evidence.

The susceptibility of electro-chemical failure is rising. The key is 2-fold. All fluxes leave residues and, in particular, most modern process materials such as flux, use non-ionic surfactant additives to aid wetting or dewetting. These non-ionic residues are not detectable by “extract” tests such as IC and FTIR.

SIR Testing is not a fast test, so having the ability to link your entire process of cleaning/no cleaning, SIR and subsequent process control is the key to bringing your testing times down. SIR testing qualifies your process, then the Ionic Contamination testing is your process control.”

Being Aware and Part of the Improvement Movement

“Our President, Graham Naisbitt, has made it his life’s work to educate the electronics industry on the importance of testing and measuring. He has achieved global respect from the industry and recognition from our associations as a trusted and neutral source of information for those seeking compliance.

Part of his knowledge transfer was to write a book entitled; [‘The Printed Circuit Assemblers Guide to Process Validation.’](#) This book contains everything that anyone who wants to establish Objective Evidence will require. It explains in detail the new standards change to J-STD-001 Rev H, as well as all IEC standard changes aforementioned.

Of course, as the people who protect, if anyone has a question, they can also reach out to us directly by dropping us an email at sales@gen3systems.com. We are, as we have been for 40+ years, here to help.”

About GEN3





GEN3. Testing and measuring the electronics industry for over 40 years. For three generations, GEN3 have designed, engineered, manufactured, and distributed their test and measurement equipment into the electronics industry to shield their clients from failure in the field.

Their reputation for excellence has grown to a global scale. The team is made up of industry experts who work to set the standards around circuit testing, measurement, and compliance. They collaborate with key industry associations, offering our unique experience and expertise to educate all on what it takes to succeed. For product protection the preferred way is GEN3, where precision comes as standard, acting as a mentor and knowledge partner.

In the high-reliability arena, there is too much at stake to allow room for error. Testing must be finite and flawless. GEN3 understand the need for precision. Get closer to perfection by minimising your risk.

GEN3. Precision as Standard.

For more information, please visit our various platforms;

Website: <https://www.gen3systems.com/>

LinkedIn: <https://www.linkedin.com/company/586317/>

Twitter: [@Gen3Systems](https://twitter.com/Gen3Systems)

YouTube: <https://www.youtube.com/user/Gen3Systems?ob=0>

