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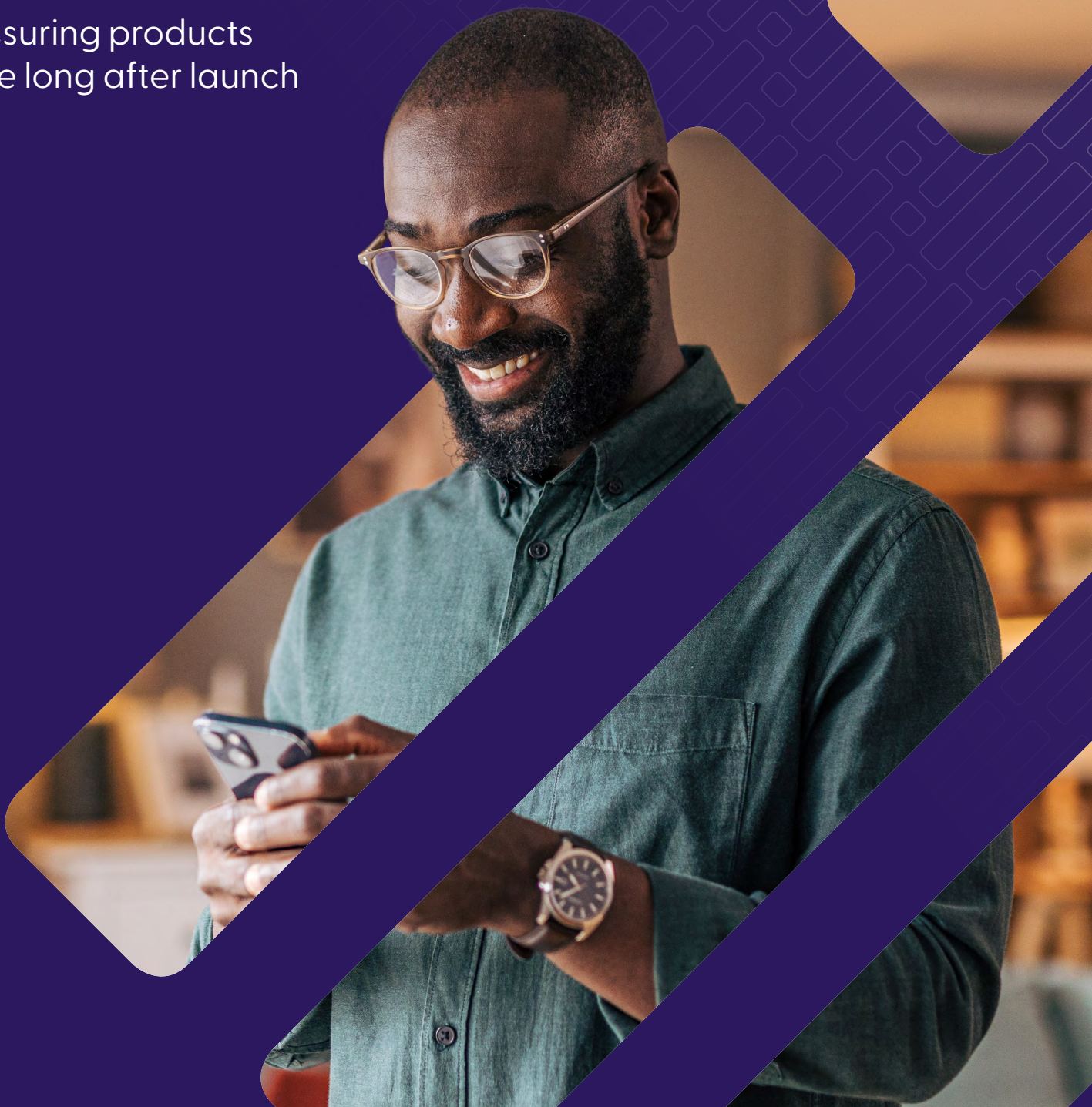
Assure. Secure. Innovate.

Total Quality for consumer electronics

Assuring products
live long after launch



A new era for consumer electronics

Consumer electronics products are becoming smarter, more connected and more software-driven. Devices now sit within complex digital ecosystems that combine hardware, firmware, cloud platforms, mobile applications and third-party services.

Devices continue to evolve after launch through updates and new integrations - and manufacturers remain responsible for making sure they stay secure, reliable and resilient long after sale.

At the same time, regulatory scrutiny is increasing. Manufacturers must navigate overlapping requirements spanning product safety, cyber security, privacy, sustainability and interoperability – often across multiple markets and standards bodies.

All too often, however, assurance functions aimed at making sure products work safely, securely and as intended remain disconnected, even as risks converge.

Assurance isn't keeping pace

Most organisations still manage quality engineering, cyber security, and conformance and interoperability as separate disciplines.

This approach made sense when devices were simpler and failures easier to isolate. Today's more connected and more sophisticated products make that model increasingly difficult to sustain.

In consumer electronics, issues rarely sit neatly within one domain. They emerge at the intersections – between hardware and software, between firmware updates and cloud services, and between regulatory requirements and real-world use.

As a result, internal issues too easily become external problems: delayed launches, interoperability failures, cyber security vulnerabilities, product recalls and reputational damage.

Where fragmented assurance breaks down

Across consumer electronics, assurance gaps have operational impacts:

- **Components conform but systems can fail under real-world, at-scale operations**
- **Certification is achieved at a point in time, then undermined by product updates or changes in the environments where devices operate**
- **Security controls are applied late, destabilising performance or user experience**

These gaps widen as product ecosystems grow more interconnected and supply chains more complex.

Introducing Total Quality

Your single assurance model through the product lifecycle

Total Quality connects quality engineering, cyber security, and conformance and interoperability into one continuous workflow across the full product lifecycle. It replaces handovers with shared requirements, shared evidence and shared decisions. Each discipline retains autonomy, but responsibility for outcomes is shared across the product ecosystem rather than handed off between teams. The entire ecosystem is treated as one environment where performance, standards and security shape development from the start and continue through live operation.

This matters in consumer electronics because failure rarely occurs within a single component. It emerges in the spaces between them – where devices interact with platforms, ecosystems, standards and users in the real world. When assurance is fragmented, no one owns what happens in between.

A single system of assurance treats the product ecosystem as one system rather than a collection of parts. It makes interactions between quality, security and conformance visible earlier, reduces late discovery of issues that delay launches or destabilise products in market, and supports continuous readiness as products evolve.

Assurance shifts left to the earliest design decisions, where issues are easier and cheaper to resolve. It also shifts right into post-launch operation – including real-world use, updates and user behaviour – using insight from updates, incidents and change to strengthen products over time.

An integrated system of assurance means:

Earlier insight, faster delivery. Unified testing and security validation surface issues sooner, reducing late-stage rework and shortening release cycles.

Compliance by design. Regulatory and standards requirements are embedded early, supporting readiness for regimes such as RED, PSTI, the Cyber Resilience Act and global trust marks.

Real-world validation. Products are tested in environments that reflect how they are actually used – across devices, platforms, firmware versions, cloud services and third -party integrations. This reveals failures that only surface under real-world conditions.

Continuous improvement. Post-launch insight feeds directly back into testing, governance and update strategies.

Smarter governance and accountability. Integrated data and shared evidence give leaders clearer visibility into product readiness, risk and compliance maturity.

Delivering value with Total Quality

- **Standards adoption and certification**

  Interoperability standards such as Matter, Zigbee, Wi-Fi, USB-C and HDMI require early alignment across hardware, firmware and software. Total Quality reduces last-minute certification risk and rework.

- **Regulatory readiness across markets**

  Overlapping regimes including RED, PSTI, CRA and emerging trust marks create compound risk. Total Quality supports coordinated assurance rather than fragmented compliance efforts.

- **Product refreshes and software updates**

  Frequent firmware and platform updates introduce risk long after launch. Total Quality supports safe, repeatable updates without destabilising products in market.

- **Incident response and vulnerability management**

  When issues arise, integrated assurance shortens diagnosis time and reduces the likelihood of unintended consequences during remediation.

Lifetime assurance in action

Matter certification: embedding assurance early

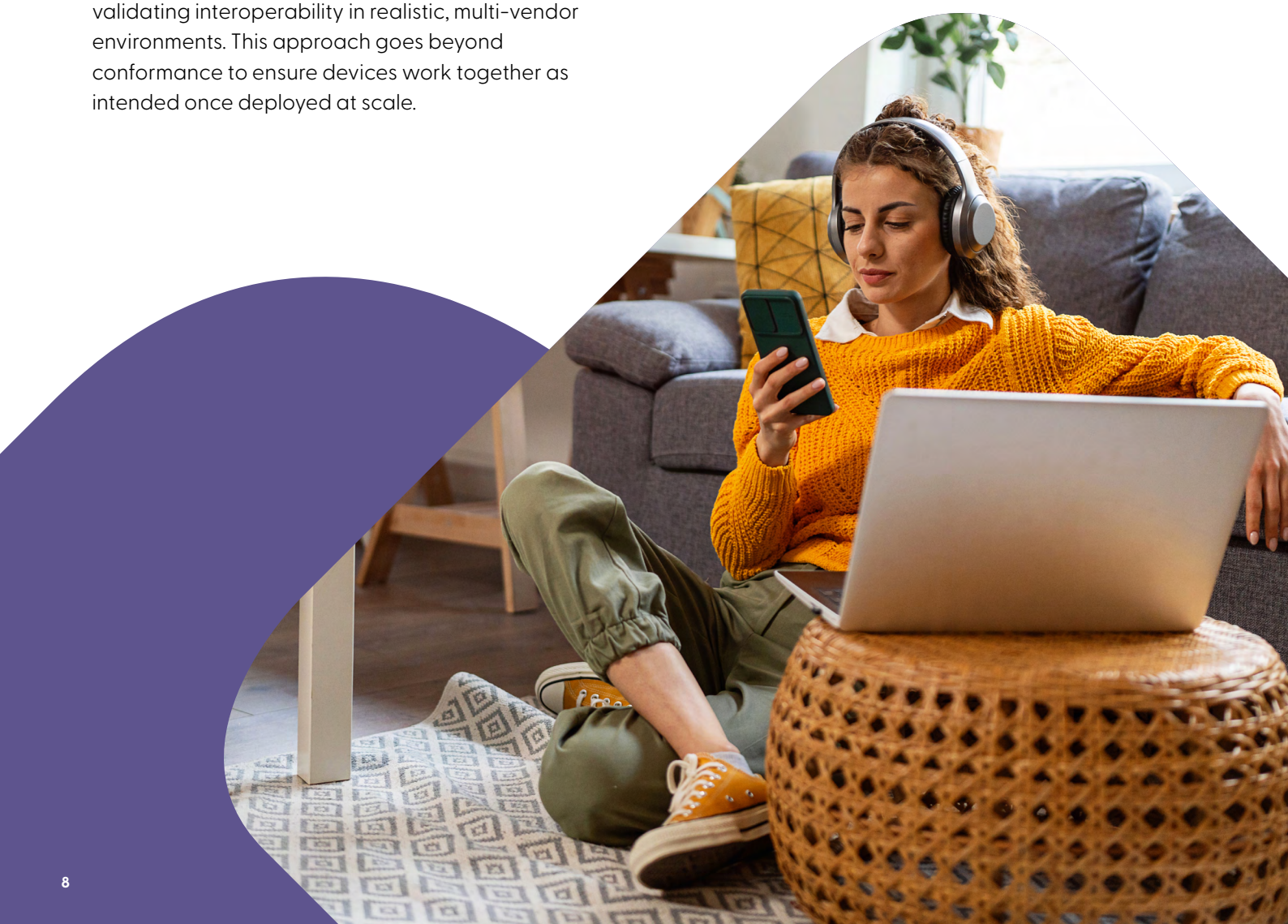
Resillion supported a novel Matter implementation by working with the customer from an early stage to interpret requirements, adapt implementation approaches and automate conformance and interoperability testing. This reduced friction in the certification process and avoided treating compliance as a late-stage stamp at the end of development.

Standards-led interoperability testing

Across ecosystems such as HbbTV and Qi wireless charging, Resillion has supported manufacturers by validating interoperability in realistic, multi-vendor environments. This approach goes beyond conformance to ensure devices work together as intended once deployed at scale.

Cyber security and regulatory alignment

Resillion supports manufacturers in aligning cyber security testing with evolving regimes such as RED, PSTI and the Cyber Resilience Act. By integrating security assurance with quality and conformance activities, manufacturers reduce duplication and improve confidence ahead of market entry.



A single model for success

A single system of assurance allows consumer electronics manufacturers to move faster with confidence – reducing late-stage risk, protecting brand reputation, and supporting innovation across increasingly complex product ecosystems. As devices become more connected and update cycles accelerate, Total Quality offers a more predictable and resilient way forward.

"Total Quality isn't something you buy off the shelf. It's a way of looking at how risk, readiness and responsibility fit together, and a starting point for a different kind of conversation."

Yaron Kottler
CEO & Chairman, Resillion

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