

Shining Light on the Path to Success

In business, achieving success is one thing; achieving continued success can be quite another thing entirely.

Singapore-based Moveon Technologies SG – an optics solutions provider established in 2007 – has done both. For Moveon, success arrived on a wave of innovative, high-quality, in-house designed optics solutions that addressed real-world problems faced by their customers. Their continued success has depended on meeting challenges associated with embracing mass production, maintaining uncompromised quality, and extending their market reach, all while continuing to deliver the level of innovation the fast-moving optics market demands.

From goals to challenges to solutions

As they scaled up to meet the demand that followed their early success, Moveon faced the task of maintaining the quality of their coating and testing operations – processes they initially outsourced. “The performance of coated lenses produced by our external suppliers often varied from the design specifications,” said Jacob Weng, business development manager at Moveon. “The result, as you might expect, was customer complaints.” These inconsistencies among their external suppliers made it difficult for Moveon to guarantee the quality of the finished products that bore their name.

Another challenge they faced involved scaling up production – or more correctly, scaling up production testing. Customers needed coatings that met rigorous specifications – consistently – over hundreds of thousands of samples. Rigorous batch testing, in transmission and reflectance, was going to prove essential. Moveon also faced difficulty in characterizing even more complex coatings, especially in critical industries like defense, where such lenses and coatings are essential.



Jacob Weng

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Leveraging spectrophotometry

To continue to produce the sort of innovative solutions that had brought them success, Moveon embraced innovative solutions themselves, investing in advanced spectrophotometry technology from Agilent. The acquisition of a Cary 7000 Universal Measurement Spectrophotometer (UMS) has been, in Jacob's words, "a game-changer". One transformative impact of this acquisition has been to greatly enhance their quality control.

"Maintaining our quality standards has always been a priority, and the Cary 7000 UMS has been instrumental in achieving that," Jacob said. "It allows us to perform more detailed lens characterizations than were previously possible through outsourcing, ensuring that each and every optical component meets its necessary specifications before it leaves the factory." Combining in-house coating processes with spectrophotometric data enables the robust quality assurance that showcases Moveon's commitment to delivering high-quality products. The scope of lens characterization testing has increased from testing three samples per coating batch to ten samples per coating batch without significantly impacting throughput.

Improving efficiency and integration

Of course, success brings demand, and demand urges supply. Moveon responded by integrating a **robotic autosampler** into the Cary 7000 UMS, which allowed high-frequency testing to be conducted with minimal manual intervention. This level of automation enabled them to run tests overnight and during weekends, improving productivity almost four-fold* and substantially reducing turnaround time. The outcome? An increase in supply, with no compromise in the quality of the results.

Having sophisticated testing capabilities in-house has also enhanced the vertical integration at Moveon, ensuring a more seamless operation. "Our integrated approach ensures that we maintain full control over our production quality and timelines," Jacob noted. "Minimizing our reliance on external suppliers has transformed our ability to deliver a one-stop solution."

* based on test time increasing from a standard 40 hr week to full time 24/7 (168 hrs).

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Fueling innovation

Moveon's commitment to supporting startups and new technologies in augmented reality (AR), virtual reality (VR), and medical devices is evident in their approach to fostering innovation – an area in which the advanced capabilities of the Cary 7000 spectrophotometer play a key role. "By investing in advanced spectrophotometry, we can accelerate the development of cutting-edge optical solutions," Jacob remarked. "It allows for detailed analysis and characterization of new optical components, especially in emerging fields. The ability to provide precise data and feedback accelerates the development of innovative products and solutions."

Meeting future needs

Customer feedback is a vital indicator of success, and Moveon's feedback has been overwhelmingly positive – particularly regarding the quality and consistency of their optical components. They are now considering further investments in spectrophotometers to enhance their capabilities to produce IR-coated optics and other products of interest to their defense and military clients. This move aligns with the company's strategy to diversify and address new market demands, while keeping the spotlight shining on their dedication to maintaining the quality, efficiency, and innovation needed to set the benchmark for excellence in optical solutions.