名人講堂

安藤時夫

檢測技術在電子產業的競爭中關鍵要素

作為電子產業的一部分，電子技術在競爭中處於關鍵地位。因為電子產品的質量和性能在很大程度上影響著產品的競爭力。因此，電子產品的檢測技術就顯得格外重要。

安藤時夫認為，電子產品的檢測技術主要集中在以下幾個方面：

1. 機器檢測
2. 機器測試
3. 訓練和測試
4. 機器設計
5. 機器材料
6. 機器製程

檢測技術在電子產業中的競爭中扮演著重要角色。所以，電子產品企業在競爭中應該不斷提升檢測技術，提高產品的質量和性能。
Clinical Analysis & Diagnostics and Customer Services are key in the competitive electronics gas market. Both are indispensable.

As a part of electronics materials, electronics gas market has not received too much attention while in fact, electronics gases are integral to the production of semiconductors, displays, LEDs and solar power panels. The semiconductor processes in particular have become more and more sophisticated, and the requirements of gas recipes are higher and higher. The electronics gas industry is facing more and more challenges in developing their products and customer services. On the other hand, the challenges can present breakthrough opportunities.

The management strategy of the electronics gas market focuses on two aspects: close cooperation with customers and advanced technologies. After all, staying at the front line, understanding customer demands, solving their problems as soon as possible are what it takes to build trust. Secondly, the electronics gas businesses have to always be ahead of their clients in terms of technologies. That is the minimum requirement for everyone in the electronics material business. Through communication with clients, suppliers can find out what materials may be needed for the next-generation technologies and processes, and invest early to deliver such products. In terms of purity, suppliers have to anticipate higher standards to prepare for the future. The two aspects are complementary. Any imperfection in one aspect can influence the other aspect.

The two aspects are significant to the growth of business. Like other electronics material suppliers, electronics gas industry focuses on managing existing customers, and as the performances of their customers improve, their scales increase, and electronics gas suppliers are beneficiaries of such growth of course. With trust and brand images built, more business opportunities will follow. For example, China has been encouraging the development of semiconductor industry, our experiences and credibility in Taiwan has helped us gain access to the market. In other industries – displays for example – we can fulfill their demands with our portfolio.

In the current competition, localization and diagnostics are definitely our strongest advantages, as well as two ingredients that top electronics gas suppliers cannot live without. Localization means we are closer to customer demands, and it contributes to
significantly lowering the risk for product supply. C₄F₈, for example, is an important material for semiconductors, especially the 7-nanometer process, which has raised its requirement for the quality of this gas. In the past, Octafluorocyclobutane was mostly imported from Japan or China while the risks of oversea supply cannot be underestimated. Geopolitical issues, natural disasters and uncertainty in long hauls are only a few of the risks. On top of that, local suppliers definitely have a closer and stronger connection than international suppliers. That applies to quality assurance too.

Clinical Analysis & Diagnostics not only guide product development but they allow us to solve all problems our customers encounter when they use the gases. Now that the processes and products are getting increasingly sophisticated, any slight difference in electronics gas recipes can impact yield rate. Our diagnostics technologies have to be precise to parts per billion to meet customer demands. It is more difficult than searching for a needle in a haystack and to accomplish that, a considerable capital investment in facilities and talent pool is necessary. The amount of investment determines the level of your service, and therefore is a key to company credibility, reputations and image.

With the development of new technologies, the importance of the semiconductor industry in global economy will only increase. To mirror the accelerated growth of the semiconductor industry, electronics gas industry cannot save on the long-term investment in technology development and customer services. A large number of details need to be optimized continuously, including delivery, product safety and contingency responses. This industry tolerates no mistake while we have to win the technology race. As I mentioned, material suppliers have to anticipate the needs of their customers, and to stand out in the competition, we have to be more than a step ahead.

(This article is a summary of the interviews of Jason Chow, Anshul Sarda and Carl Jackson by Jay Liu from Digitimes)