

Business briefing: « GIGAPHOTON's growth-strategy Q&A »

Q1: When the existing business of DUV light sources for lithography is divided into memory (DRAM, NAND) and logic (cutting-edge, legacy) devices, what will the current sales and composition ratio be in 2030? What are the reasons for it?

A1: In the components business, memory uses more pulses, so the sales ratio of the memory and logic components is roughly 1:2. In the main equipment business, logic makers, such as TSMC and Samsung, invest more in high-priced ArFi (ArF immersion) than memory makers, resulting in a roughly 1:1 investment. Looking at the market, from a macro perspective, we believe that sales of all devices will grow. However, it is said that the growth of memory in FY2023 will slow down a little to the level of FY2020.

Logic has also experienced a slight decline in growth, but we perceive it is transient.

We expect both logic and memory markets to recover from around the second half of FY2023 or the first half of FY2024 and grow toward 2030.

Given that TSMC is actively investing in the U.S., Taiwan, Japan, and other countries in tandem with growing demand for logic devices, which require high-priced equipment, and that Samsung is also actively investing, we believe logic device manufacturers will be the driving force behind capital investment on a value basis.

The answer will differ depending on whether you think on a volume or value basis.

According to the prospects of our key customer, a Dutch company, EUV as well as DUV (ArFi, ArF dry and KrF) will grow.

Demand for EUV will increase for state-of-the-art logic, and many DUVs are used in the manufacturing process. In memory (DRAM, 3DNAND) and CCD sensors, investment will center on DUVs.

Q2: Regarding the DUV light source for processing (for packaging) that is currently under development, what is the future market size and the timetable for launch?

A2: Compared to DUV light sources for lithography, we expect the market size will be small at present. There are other methods of packaging besides using excimer lasers, and it has not been determined which method will become mainstream in the future. We believe the business size in the next four to five years will remain in the billions.

However, if this method becomes mainstream, it can grow significantly in the future. Like our business model of the DUV business for exposure, we don't make profits from selling the main equipment alone, but rather from selling laser beams after sales of equipment. Therefore, we believe that we will be able to continuously generate earnings in the maintenance business in this field, and we will firmly work on it regardless of the market size.

Compared to the front-end process, customers in the back-end process are extremely cost-conscious and use light sources that are simple and inexpensive, so we expect the potential of this business will remain around ¥10 billion per year.

Q3: What is the current status of developing EUV light sources? What are the areas of R&D where you are having a hard time? Also, what are your thoughts on the future development of EUV light sources after ASML's acquisition of Cymer?

A3: Currently, ASML is the only company in the world that manufactures EUV photolithography equipment at a factory-ready level, and ASML manufactures all of its light sources in-house. When Gigaphoton develops EUV light sources for exposure, ASML will become our customer and competitor. In this sense, we regard the priority of development is low.

Currently, we are advancing development by capitalizing on our accumulated EUV light source technologies and expertise in order to make our EUV light sources for a variety of applications. The most technological difficulty we have experienced in the development of EUV light sources for exposure was the inadequate control of the tin fuel when generating high-power light.

Compared to EUV light sources for exposure, other applications, such as those for inspection, do not require so much power. Therefore, the technological hurdles are lower.

Our prototype light source in the current R&D stage is performing very well, and we are advancing it for commercialization.

Q4: Compared to your competitor, Cymer, what are your strengths and market share by product (KrF, ArF)? What are your sales by region?

A4: Currently, the market shares are almost even and range between 40% and 60%. At present, our market share is slightly higher.

By product, the two are evenly matched with ArF light sources, and we are a little better with KrF light sources.

As a good rival, we are working to improve the level of our products.

Neither one is stronger or weaker in terms of products.

There is not much regional difference between the two either, but if I had to say, Gigaphoton is a little stronger in Japan and China, while Cymer is a little stronger in Europe. Our sales breakdown is around 25% in Taiwan and South Korea, 15% in China, and the remainder in Japan, the United States, Europe, and Singapore.

Q5: What is the competitive edge in DUV's light sources for exposure?

A5: It's different depending on the customer, but basically it is judged on the overall strength of the product with respect to technological capabilities(performance), durability, service capabilities, and running costs.

(end)