IR Day for Analysts and Institutional Investors – Spring 2022
Q&A Summary

Date and Time: **Wednesday, June 1, 2022, 15:00-16:30**
Presenters: **Keiichi Iwata – Representative Director & President**
Masaki Matsui – Representative Director & Senior Managing Executive Officer
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<Energy & Functional Materials>

Q. I would like to ask about the reason why there has been no progress in expanding sales of heat-resistant separators to new customers, as well as your sense of the potential consumer applications. At one time I think there was talk of working on an in-house substrate as well, but is that project still frozen? In addition, I would like to ask about your measures to address the fact that the earnings environment for your resorcinol business is gradually deteriorating.

A. The first reason I can give as to why sales of separators for automotive applications have not expanded to new customers is that, while we have a strong track record, we do not have much of a track record in non-cylindrical batteries. Previously, our evaluations of the physical properties and workability when incorporating the separators into non-cylindrical batteries were insufficient, but currently we are working on improvements, and the separators are now usable in pouch-shaped batteries as well. The second reason I can give is that the battery industry is quite dynamic, with significant changes happening, such as the ramp up in high capacity batteries (46xx cylindrical) that I mentioned earlier. With these changes, even previously cost-focused users are evaluating our products, and we feel that it is important for us to continue technology development to seize these opportunities.

As for expanding the separator business through the use of an in-house substrate, that is not something we are considering at the moment. Our current direction is toward securing space in the coating business and increasing added value there. In terms of consumer applications, in addition to increasing the number of customers who evaluate our separators from the perspective of increased durability, there have also been dramatic increases in demand in areas such as electrically-assisted bicycles, so I think we will be able to achieve numbers in line with our goals.

With regard to resorcinol, because it is not a product with a simple price formula, increases in raw material prices put pressure on profits, but fortunately we have been able to secure some degree of volume because we have built good relations with our customers. We would also like to consider expanding into other applications, beyond just tire-related applications, where it can be sold for a somewhat higher price, and to expand into applications for derivatives, such as electronic components, but I think the most important factor as we move forward will be getting our existing resorcinol customers to accept price increases due to raw materials.

Q. Because I do not believe that purchases of various types of electric vehicles will be subsidized in 2030 the way they are today, that means that battery prices will have to come down significantly in the next eight years. In a battery-related business environment where pressure to reduce costs will get stronger going forward, how will you be able to generate profits? In addition, I would like to ask about your thoughts on hedging against risks, such as how your company would react if battery architecture begins to really change – for example, if we enter an era of sulfide-based solid-state batteries rather than chloride-based solid-state batteries.

A. We do expect that battery prices will gradually decrease going forward, and we will need to respond to that, but I think what is most important is increasing productivity. The cathode materials we are working on now have high production efficiency, and costs can be limited considerably compared with previous products. We are trying to take the sort of approach where we develop radical production methods that reach all the way through the production process, for example, to the precursor stage or even beyond. We are also thinking about what sorts of rationalizations can be done with regard to the supply chain for raw materials as well.
Moreover, with regard to a situation where the era of sulfide-based solid-state batteries has arrived, because we are currently developing cathodes and anodes, in addition to the electrolyte I spoke about today, then even if, for example, sulfides became used as the main electrolyte, it would be possible to use existing cathodes with a coating, and we are already in talks with battery manufacturers about this. We are also working on development from a variety of angles on the anode side as well, and I think we are also making progress in development here that would still be effective even if sulfides became the main electrolyte.

Q. With regard to LCP, is it more important to work together productively with the high-frequency module manufacturers who are your users, or is the performance of the LCP itself more important?

A. Naturally it is important to evolve the product by enhancing its fundamental performance, but it is necessary to work closely with module makers on areas such as permittivity. Also, with regard to FPC, workability is also important. We had an extremely good polymer with a reduced dielectric tangent that was well received by a customer, but that did not work with their manufacturing process. Nevertheless, by working hard on the polymer's composition, we were able to get the workability to meet their requirements, and we moved on to the next stage of the evaluation. It really is not just a case of receiving customer evaluations, but rather it is essential to proceed by taking small steps and getting feedback on them.

Q. For separator use in automotive batteries, I think some time is required to go from qualification to mass production, so will your growth in these three years primarily come from consumer applications? Also, my understanding is that your company's strength is its in-house production of aramid as well as your process technology for applying thin coatings, but have you given any thought to reducing costs through an integrated production system from the raw fabric through to the coating? In addition, is there an option to license out the coating technology and adopt a model of just selling the resin and collecting license fees?

A. Under our current Corporate Business Plan, we would like to promote growth in consumer applications. In addition, because we are expecting to grow alongside our existing customers in automotive applications as well, we are expecting to see growth on both fronts. As you point out, because it would be advantageous from a cost perspective to have integrated production starting from the base film, we had initially considered that option, but at present it would be difficult. While there are naturally issues of cost, our current fundamental way of thinking is that we are not competing with cheap separators, such as those from Chinese manufacturers, but we are instead prioritizing getting customers to properly appreciate the features and functionality of our separators. In the sense that the prices of our coated separators are competitive with the coated separators of other Japanese manufacturers, we feel quite proud of how much we have increased productivity. When you think of it in terms of the fact that Japanese manufacturers are actually struggling, however, I think we will need to also consider licensing as an option for the future. In that case, rather than just being satisfied with licensing the coating technology alone and simply supplying the resin, I think we will need to consider something more comprehensive that also includes the technology for synthesizing the resin, post processing, and evaluation.

<IT-related Chemicals Sector>

Q. Even though the IT-related Chemicals Sector is among your newer units, you have been able to grow that business, mainly on the strength of your display business. For your semiconductor materials business, how do you plan to compete with your competitors? Please also tell us whether there is a possibility that you will establish business locations in the US. In addition, while we can say that your IT-related Chemicals Sector is certainly the most profitable of your business areas, we cannot say that it is very profitable when compared to your competitors. Please tell us how you plan to further raise profitability in the future.

A. Regarding the process chemicals part of our semiconductor materials business, we acknowledge that we have built a position in this business by following a strategy of establishing production facilities near our customers to quickly respond to their needs and build close relationships with them. On the other hand, in the area of photoresists, we have multiple competitors. For us, following the way we have succeeded in the ArF immersion business, the key is to keep in close contact with our customers and work with a sense of urgency in developing products to help them. Today, we think our initiatives in advanced methods, such as materials informatics, will also give us a competitive advantage.

Regarding the expansion of our business in the US, I would like to talk about that when the timing is right.

Regarding the sector's profitability, I fully understand your point about how it compares to competitors focused on the semiconductor materials business in the same ICT area. From the perspective of core operating income in relation to sales revenue, the figures for our polarizing film business, especially for large-screen displays, are low in comparison with other materials, and we will be making efforts to achieve further improvements. On the other hand, because the rotation of capital in the polarizing film business is fast, from the perspective of returns on invested capital, we do not believe that it compares unfavorably. Regardless, by enhancing our strengths in the OLED business and products for vehicles, as well as foldable films and dye-based color resists, we would like to further raise the earnings of the entire sector.

Q. In applying gap analysis in core operating income to your display-related materials business, the level of core operating income you have in your plan for fiscal 2024 represents a deterioration compared to results for fiscal 2021, with an increase in unit sales volumes and an improvement in the product mix insufficient to make up for the decline in the profit margin. For fiscal 2021, I think you were able to raise your performance, with a high market share in the display materials area. In looking at the changes between your results in fiscal 2021 and your plan for fiscal 2024, however, it seems that you are not taking full advantage of your market position. I would like to ask about your views on this point.
In addition, the development costs for downstream processing of semiconductors are all rising, and, for example, purchasing on your own the latest equipment for evaluations would place an extremely heavy burden on you in terms of fixed overhead costs. Therefore, we are concerned that there is a risk that you will not be able to deliver the profits you expected. On the other hand, is there not a risk that semiconductor manufacturers will select only materials manufacturers that can purchase the latest evaluation equipment for cutting edge processes or that can access that equipment, leaving development within a closed group of companies?

A. Coupled with the extremely tight display market in fiscal 2021, the fact that the new manufacturing lines of materials manufacturers in China that have been aggressively expanding their investments were not yet fully operational to deliver supplies was a beneficial factor in our performance. Accordingly, if we assume that special factors impacted the market in fiscal 2021, we think the overall profit levels for display materials in we have planned for fiscal 2024 should not be considered low at all. Moreover, considering that we were able to take the technology we refined in polarizing film for televisions and make full use of it in the mobile market, we should not trivialize our technological advantage in having a full line of polarizing film products, for markets ranging from large-screen displays to mobile displays. Still, we fully understand that, over the medium to long term, we cannot be optimistic about market conditions, and we will need to make further efforts in next-generation displays for televisions.
The technological degree of difficulty for EUV is high, and, moreover, because multiple semiconductor manufacturers are competing at the same time in parallel, we, as a late entry, still have plenty of opportunities. In the areas in which we have technological strengths, we have already received several positive evaluations. In addition, although you have stated that owners of evaluation equipment will pose issues for us in expanding our business, we disagree. Because EUV lithography equipment is extremely expensive, we think it would be very difficult for materials manufacturers to purchase it on their own. That said, however, it is not the case that we think market conditions will continue to be ideal, and we need to continue to think about how we can get evaluation equipment for cutting-edge processes.

Q. Regarding the transparent thin-film antennas for high-speed communications you talked about as a product under development, how much of the entire product could you handle? I understand how you could leverage your technology for the antenna wiring, but we think that compatibility with the front-end module and the high frequency module will also be important, so wouldn't your approach to this business have to differ from the way you have approached your existing business?

A. We have technologies we have refined in our color filter business and our touchscreen panel business, as well as existing production facilities, so we will be responsible for these areas in which we can leverage our strengths, and we will move forward in the business in collaboration with outside companies that will handle the remaining components. In the case of repeaters for mobile communications, we are pursuing joint development with academia for the product development phase, and we will collaborate with telecom companies in the trial validation phase, so we are consistently collaborating with third parties as we advance towards commercialization. In the case of Antenna on Display technology, because it will be incorporated into smartphones, we are working with an even greater emphasis than in the repeater area on collaborating with outside companies.

Q. You mentioned that, since your acquisition of Sanritz in July of 2019, your sales revenue from polarizing film for automotive applications has roughly doubled, and considering the long time it takes from qualification to mass production, can we say that the increase in sales revenue is mainly from the mass production of the model types for which Sanritz had originally been developing? In terms of past increases in sales revenue, did the acquisition have an additive effect, or is it the case that the impact of the acquisition will become fully apparent in the future?

A. As you point out, we acknowledge that the majority is from the mass production of model types that Sanritz had originally been developing. Still, regarding some models that did not go into mass production because of concerns over the long-term stability of supplies, stemming from the scale of the company, we think that some of these eventually moved forward because we took over the business, and we think those types of effects will become fully apparent in the future.
In the future, particularly for luxury vehicles, there will be a demand for polarizing film with even higher level features. By combining Sanritz's technologies with ours, we are nearing the development of what could become the next-generation standard, and we want to aggressively expand this business during the current Corporate Business Plan period as well as in fiscal 2025 and beyond.

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