

Remarks on Special Issue on New Materials



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Our New Materials Division celebrated its 20th anniversary last year. At the time of its establishment, the division was right in the midst of an age characterized by a “new materials fever.” Under such conditions, the division began developing various new materials, processes and products in order to achieve the company’s medium- to long-range vision of multifaceted management.

Materials and products the division developed include silicon wafers, bonding wires and fillers for encapsulation materials in the field of semiconductors; hard ferrite, soft ferrite and ferrite-applied transformers/motors and even electric cars in the field of magnetic materials; carbon fiber, stampable sheets and aramid honeycomb cores in the field of composite materials; structural ceramics for semiconductors/automobiles and functional ceramics for capacitors, actuators, etc. in the field of ceramics; and metal foils, metal catalyzers, porous iron, far-infrared heaters, shape memory alloys, and hydrogen absorbing alloys. As is apparent, the list seems endless.

Having gone through the “selection and concentration” cycle several times, the division now benefits from a solid business framework. It embraces stainless steel foil, metal catalyzer and CMP dressers of the Metal Foil Applied Products Div.; struc-

tural ceramics of the Fine Ceramics Div.; bonding wires and micro balls of Nippon Micrometal Corp.; power supplies of Yutaka Electric Mfg.; the carbon fiber business of Nippon Steel Composite Co.; fillers for encapsulation materials of Micron; and the HIP business that has been transferred to the division from the Engineering Divisions Group.

As a matter of fact, all those businesses were started and have been painstakingly nurtured by our predecessors. At the start of the division’s third decade, we reiterate our determination to create new materials and products and make our businesses more prosperous by capitalizing on our predecessors’ achievements.

What we must not lose sight of here is a review of our past R&D activities. We should not concentrate so much on the field we are too unfamiliar with, as we often did in the past. In other words, to assure the steady progress of our business, we should focus on “broadening” and “deepening” the extent of our existing technologies.

Applying a functional membrane to metal foil and developing bumping technology for mounting micro balls to a wafer are examples of broadening existing technologies, and developing a high-strength gold bonding wire is an example of deepening an existing technology. In this special issue on new materials, we spotlight the broadening and deepening of existing technologies that will support our R&D activities in the next decade.

This special issue also deals with a couple of themes concerning R&D activities aimed at “small but brilliant new materials business.” These are already producing tangible results in our niche markets.

We sincerely hope that this special issue will help our readers understand what we are doing to develop new materials. Any instruction, advice or support from the readers related to our new tasks will be highly appreciated.