## **Foreword**



Representative Director President

## Toshikazu Umatate

In today's globalized society, in 2020, we find ourselves in the midst of a pandemic the likes of which the modern world has never experienced. Rapid changes are required, and it is unavoidable that macroeconomic and social structures will be affected. However, I do not believe that the direction of business and technology needed for the future will fundamentally change. For Nikon, we think that the long-term growth area will remain the same, although there will be many aspects that must be moved up ahead of schedule. This has made us realize once again how critical it is to react quickly.

The ability to react quickly can only be acquired through the accumulation of everyday efforts. Nikon possesses two valuable core technologies: "opto-electronics technologies" and "precision technologies" which have been steadily built upon since the company was established. In addition, we will incorporate new technologies inside and outside the company, build up, refine, and make better preparations so that we can react immediately and realize the value unique to Nikon.

This year we will publish the second issue of The Nikon Research Report, which was first published in 2019. It reports on Nikon's achievements in which its accumulated technologies have expanded into areas of long-term growth for improving enterprise value. I am pleased to share some of the progresses Nikon has made through this report.

General Manager Research & Development Division

## Kazuhiro Kido



Now that the world is facing a great deal of difficulty, the way we think about technological values as well as their applications requires greater diversity and flexibility than ever before. Given these circumstances, we believe that the importance of communicating to everyone the development results at each Nikon research and development section is further increasing.

Continuing from last year, we are issuing the Nikon Research Report to widely disseminate the newest achievements of our research and development. This issue contains technical explanations of products released in 2019, and papers valued by external organizations during the same year. It also describes the successful results of applying the technologies cultivated since the company's foundation to Nikon's basic business, and the annual best in the field of theoretical research award received from the largest academic society in Japan, as an example of sophisticated technological achievements.

I hope that this report provides you with a deeper understanding of the technologies we are working on and an opportunity for you to widely utilize the results.