

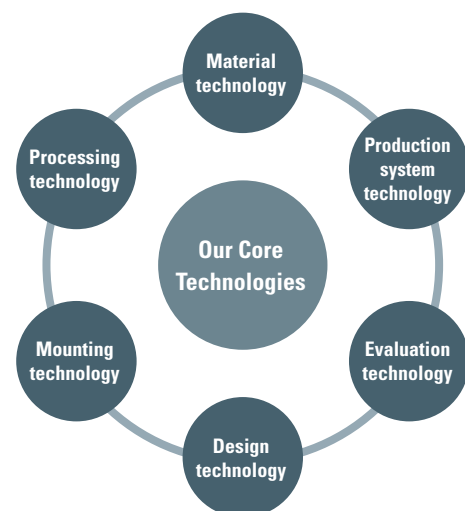
## Research and Development Activities

### The Foundation of Our Research and Development Activities

Hikohachi Sato, the founder of TAIYO YUDEN, was a researcher in ceramic materials. Since its establishment, TAIYO YUDEN has believed that product commercialization should start from the development of materials. This has been one of the strengths of TAIYO YUDEN, and has resulted in us creating many products that have been “world firsts.”

The TAIYO YUDEN Group’s research and development activities are aimed at further honing the many elemental technologies it has so far developed to create products that contribute to the ongoing development of electronic devices. In particular, the Group is focusing on the development of leading-edge products and high reliability products, as well as on creating new businesses by proposing solutions.

Over the past few years, we have been working to develop small all-solid-state batteries ideal for embedding in wearable and healthcare devices.



### Achievement of Our Vision through Development of Smart Products

The TAIYO YUDEN Group aims to manufacture “smart products” and is actively working to develop and supply steadily such products.

We develop smart products to eliminate the three M’s— muda (wastefulness), mura (inconsistency) and muri (overburden)— over their entire life cycle from design through production, sales, and incorporation into the final product right up to final disposal, to add value for customers and local communities we serve as well as our employees.

We believe that our research and development activities aimed at creating a higher standard of smart products will enable us to realize our vision of “becoming an excellent company that enjoys the trust and highest regard from our customers.”

#### — Research and Development Principles — “Innovative advance”

##### Technology precedence

Promote leading edge technological development as the precursor to innovative product development and become a global leader in technology

##### Reproducibility

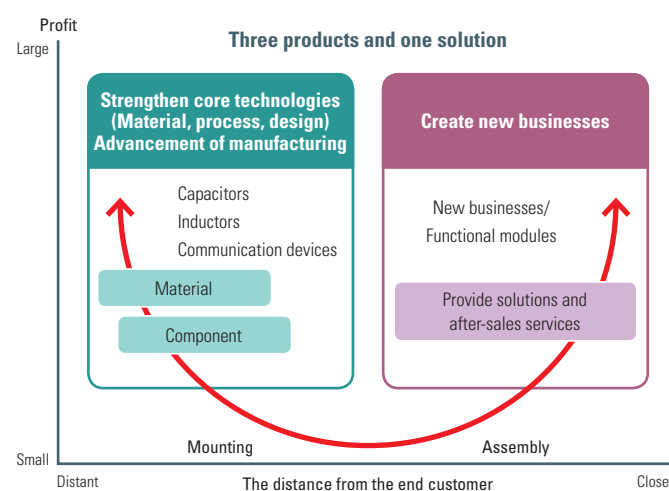
Logically verify the reproducibility of the technology we develop

##### Technological applicability

Devise technologies which can be applied not only to specific products but also to other areas useful to the markets we serve

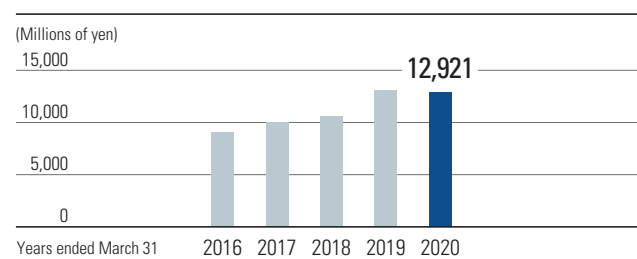
##### Environmental consideration

Develop technologies that are feasible and applicable economically to our manufacturing process and that meet critical environmental standards



### R&D expenses

We recognize that continuing innovations and advancement in our technologies through R&D is the foundation for the Group to create the future. With this belief, we will continue to invest in R&D activities.



### R&D Center, TAIYO YUDEN’s Research Facility (Takasaki City, Gunma Prefecture)

As we were committed to continuing to create the world’s best products and uphold our claim to be “the TAIYO YUDEN of technology and the TAIYO YUDEN of development,” we opened the R&D Center in 1998. In 2003, we established an Anechoic Chamber Test Facility in the same complex, and accelerated our proactive R&D activities in the field of radio communication. Currently, the R&D Center of the TAIYO YUDEN Group drives development and technological progress and takes a role of a foundation of creativity focusing on the future.



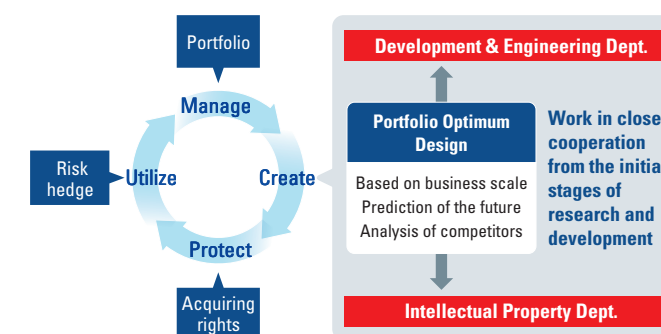
### Activities on Intellectual Property Rights

#### Basic Policy

We, the TAIYO YUDEN Group, endeavor to obtain, maintain and protect intellectual property rights for proper use, and also to respect the intellectual property rights of third parties, in accordance with our CSR Code of Conduct.

#### Protection of Intellectual Property Rights

At TAIYO YUDEN, the Intellectual Property Department and the Development and Engineering Department work in close cooperation with each other from the early stages of developing new technologies and obtaining intellectual property rights. In addition, we pursue a unique management approach in a way that is optimized for each of our businesses to create, protect, and utilize intellectual property.



### DEVELOPMENT INTERVIEW

**Nobuhiro Sasaki**  
General Manager, Materials Research & Development Department



### Leveraging Our Material Technology to Differentiate Our Products

TAIYO YUDEN employs barium titanate in the manufacture of its mainstay multilayer ceramic capacitor (MLCC) products. A major mission of the Materials Research & Development Department is to produce barium titanate, which is integral to the manufacture of high-performance, high-quality products, through a variety of measures. This includes the development and application of innovative raw material combination, the use of additives, and adjustments to heating conditions. It is not too much to say that this mission is critical to the quality of our products. TAIYO YUDEN takes great pride in the competitiveness of its materials manufacturing process, based on many years of experience and a proven track record nurtured through repetitive trial and error. In addition, because we are involved in the entire process from material development to completion, a great strength is our ability to develop optimal materials that best fit the production process.

As an inherent strength, our material technology also enables us to develop new materials including the metallic magnetic material used in our metal power inductor products. Moving forward, we will undertake research and development focusing on materials as well as a host of other activities. Through these means, we will continue to create new businesses and differentiate ourselves through materials, as we work to find solutions.