History of Innovation

Origin of the Company Name

Maximum Capacity Dry Cell

The Company name originates from the brand name "Maxell" (Maximum Capacity Dry Cell = a dry cell with the highest performance) created for the dry batteries that constituted its business at the time of its foundation.

Foundation

1961

The dry battery and magnetic tape divisions were spun off from Nitto Electric Industrial Co., Ltd. (currently Nitto Denko Corporation), and established as Maxell Electric Industrial Co., Ltd.

Please refer to the following website for the Company's history and development.
https://www2.maxell.co.jp/corporate/history.html

1963 First in Japan
Commenced production of alkaline dry batteries

1966 First in Japan
Commercialized audio cassette tapes

1976 First in Japan
Commercialized floppy disks

1978
Commercialized VHS video cassette tapes

1981
Commercialized coin-type lithium manganese dioxide batteries

1983 First in Japan
Commenced production of lithium thionyl chloride batteries for memory backup

1984
Commercialized 12-inch, write-once-read-many optical disc cartridges, IC cards and memory cards

1987
Commercialized the world's smallest-diameter silver oxide battery

1989
Commercialized data cartridges for computer use. Entered the professional video tape market for broadcasting stations

1995 First in the world
Commercialized optical modulation overwrite magneto-optical (MO) discs

1996
Commenced production of lithium-ion batteries

1998 First in the world
Commercialized rewritable DVD-RAM discs

2004
Commercialized heat-resistant coin-type lithium manganese dioxide batteries

2005
Commenced shipments of in-car camera lens units

2008
Developed heat-resistant separators that improve the safety of lithium-ion batteries

2017
Developed "RIC-FOAM*1," a proprietary injection foam molding technique

*1 Resilient & Innovative Cellular Foam

2018
Developed Air Patch Battery for medical/healthcare patches

2019
Commenced shipping samples of coin-type all-solid-state batteries using sulfide-based solid electrolytes

Commercialized head up displays (AR-HUD*2)

2021 First in the world
Developed ceramic-packaged sulfide-based all-solid-state batteries that are surface-mountable on boards

2022
Commercialized aerial image display "Advanced Floating Image Display (AFID)"

2023 First in the world
Commenced shipments of mass-produced small-size sulfide-based all-solid-state batteries

*2 Augmented Reality Head Up Display

1960s-1980s

Led the way in developing and launching a succession of consumer products during Japan's period of high economic growth, and established development, production, and sales systems in Japan and overseas.

In 1966, Maxell succeeded in commercializing the first audio cassette tape in Japan. In 1976, we commercialized the first floppy disk in Japan, and in 1987, we commercialized the world's smallest-diameter silver oxide battery. We led the world in creating new value in these ways. In addition to the "Mixing & Dispersion" technology that we cultivated through the development of dry batteries, our founding product, we further refined the magnetic powder-coating technology and technology for forming housings that we cultivated with our cassette tapes, and they are now being used in a variety of products as our "Fine Coating" technology and "High Precision Molding & Forming" technology.

Furthermore, we completed construction of a plant and a technology research laboratory in Kyoto. Overseas, we established sales bases in the United States, Germany, and the United Kingdom, and production bases in the United States, the United Kingdom, and Malaysia, to build a system for global expansion.

Audio cassette tapes

Floppy disks

1990s-2010s

While supporting the digital society with highly-functional recording media, the mainstay of the business was shifted from consumer products to industrial components.

The market for cassette tapes, video tapes, and floppy disks, which had its heyday in the 1980s, shrank on the one hand, while PCs, mobile phones, smartphones and other products rapidly gained popularity on the other. Against this backdrop, we shifted the mainstay of our business from consumer products to industrial components, while supporting the transformation from the analog era to the digital era.

By applying the technologies that we cultivated in magnetic tapes, we entered the market for data cartridges for computers and professional video tapes, and in 1996, we also started producing lithium-ion batteries. Furthermore, in 2004, we commercialized heat-resistant coin-type lithium manganese dioxide batteries for tire pressure monitoring systems (TPMS) modules, and in 2005, we commenced shipments of in-car camera lens units, which served as the foothold for our automotive channel-oriented business subsequently.

Professional video tapes

Lithium-ion batteries

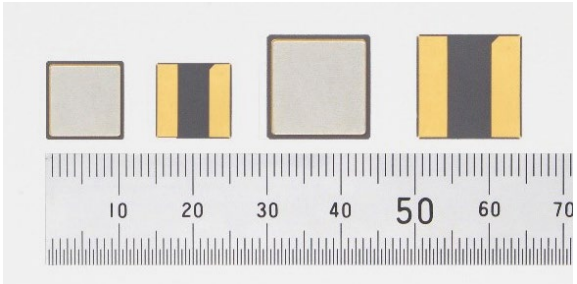
2020s

Further enhancing value creation through our unique analog core technologies, and contributing to a sustainable society

In the 2020s, we are supplying products for the 5G/IoT, healthcare and mobility areas that capitalize on the analog technologies that the Company has cultivated, including tape for semiconductor manufacturing processes, highly-reliable coin-type lithium batteries for medical applications, and LED headlamp lenses. Alongside this, in light of the growing global awareness for a sustainable society, we are also focusing on developing and commercializing all-solid-state batteries, which are being counted on as permanent power sources, and aerial image displays that answer demand for contactless solutions. In June 2023, we commenced mass shipments of all-solid-state batteries for FA*1 equipment, and in the future we will offer them for the infrastructure, in-vehicle (back-up power source), and medical fields as well, as we continue to respond to the world's needs with state-of-the-art technologies.

By drawing together synergies with Maxell Frontier, Maxell Izumi, Maxell Kureha and Ube Maxell Kyoto, which have newly joined the Group since 2013, and by leveraging our unique analog core technologies going forward, we will continue to create new value that contributes to a sustainable society.

*1 Factory Automation



Ceramic-packaged all-solid-state batteries