

Demand Recovery Gives TDK Outlook a Jolt

Price \$104.79

Recent Add

August 23, 2021

- Solid-State Battery Innovator.
- Beneficiary of increases in technology in cars.
- Poised to capitalize on growth in the Internet of Things (IoT).
- Modest valuation with 1.54% dividend yield.
- Green energy push could be an expansion opportunity.
- 8.1% projected increase in sales for FY2022.

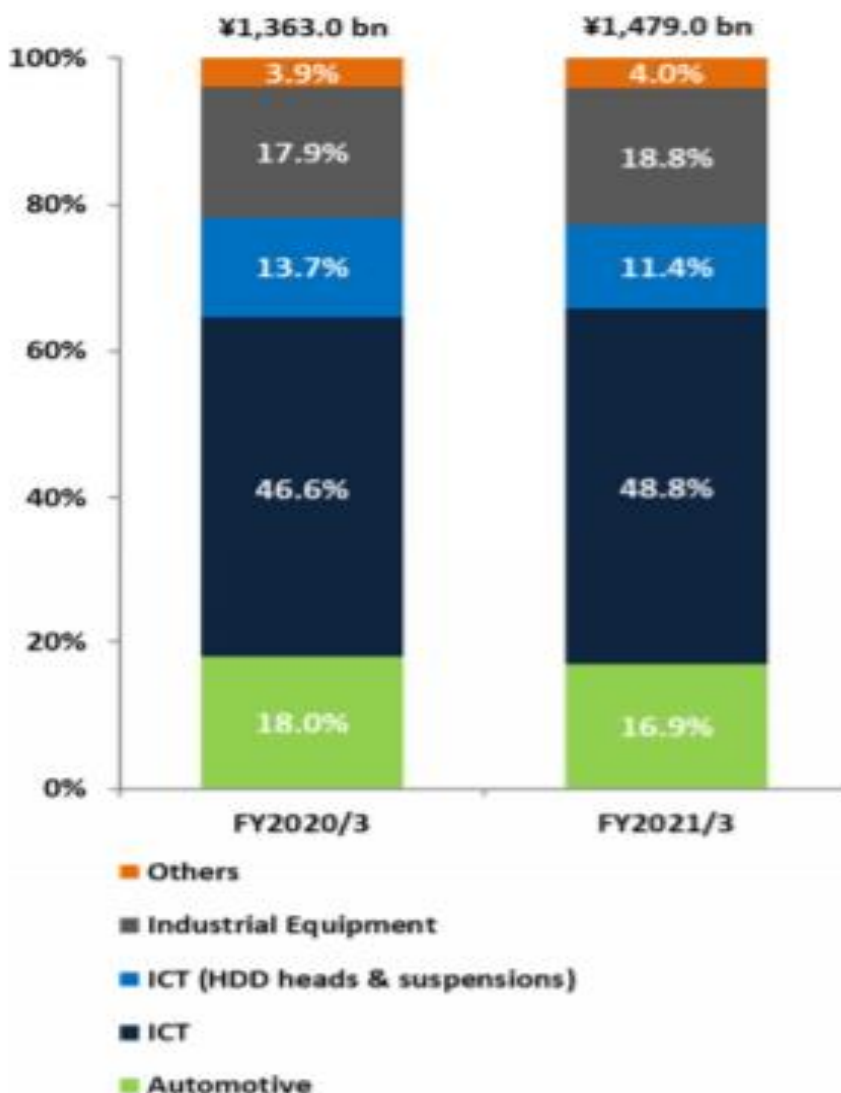
Investment Thesis

TDK (ADR: TTDKY) is a Japanese developer and manufacturer of electronics, including semiconductors, data storage, and other electronic components. Since its inception in 1935, TDK has been a global leader in developing electronic devices, including the invention that would lead to the semiconductor.

Today, TDK provides high-grade electronic and magnetic components for the automotive industry, consumer electronics, and several critical elements in renewable energy. With the demand for electronic devices spiking during COVID-19 and the increasing demand for renewable energy and smart vehicles, TDK will play an essential role in the future of electronics. Therefore, we believe TDK is an excellent choice for both dividends and capital appreciation.

Segments and Products

TDK is broken down into 3 sales sectors, Information Communication Technology (ICT), Industrial Equipment, and Automotive. ICT is components used in hard drives, cell phones, PCs, and any other consumer electronics. Industrial Equipment is large-scale semiconductors, sensory equipment, and even solar cells. Automotive includes sensors, batteries, and motors.



Source: FY2021 Report

TDK is further broken down into 4 manufacturing sectors: passive components, sensor applications, magnetic applications, and energy applications.

Passive components add advanced functionality to anything with a computer chip. These include cars, smartphones, and PCs. The two primary products in this sector are the multilayer ceramic chip capacitors that store and modulate electricity in most electrical devices and thin-film common-mode filters that reduce electronic interference when devices communicate data at high speed.

Sensor Application products are included in everything from a refrigerator, robotic arms, cars, and even smartphones. In addition, TDK's lineup

provides temperature sensors, magnetic sensors for angle and position finding, and gyro sensors for detecting motion in 3D space.

Magnetic Application products include magnetic heads for reading and writing data for hard drives and powerful neodymium magnets, generally used in motors in electric vehicles, wind turbines, and industrial equipment.

Energy Application products include lithium polymer batteries, innovation to allow further miniaturization of mobile technology, and power converters to enable equipment to convert AC electricity to DC electricity. Additionally, TDK has created the first solid-state rechargeable battery (CeraCharge) at the millimeter size. CeraCharge has a high energy density, installation with existing techniques, and since it eliminates the need for liquid electrolytes, the risk of fire, explosion, or leaking is eliminated. This innovation is perfect for Bluetooth devices, IoT devices, micro energy harvesting devices, and time-keeping for processing.



Image: Noboyushi Shioda, From Nikkei Asia

Finally, TDK does have an additional product outside of all these categories, which is a "flip-chip bonder." This product is a manufacturing tool in semiconductor production, which helps automate the process to allow efficient production.

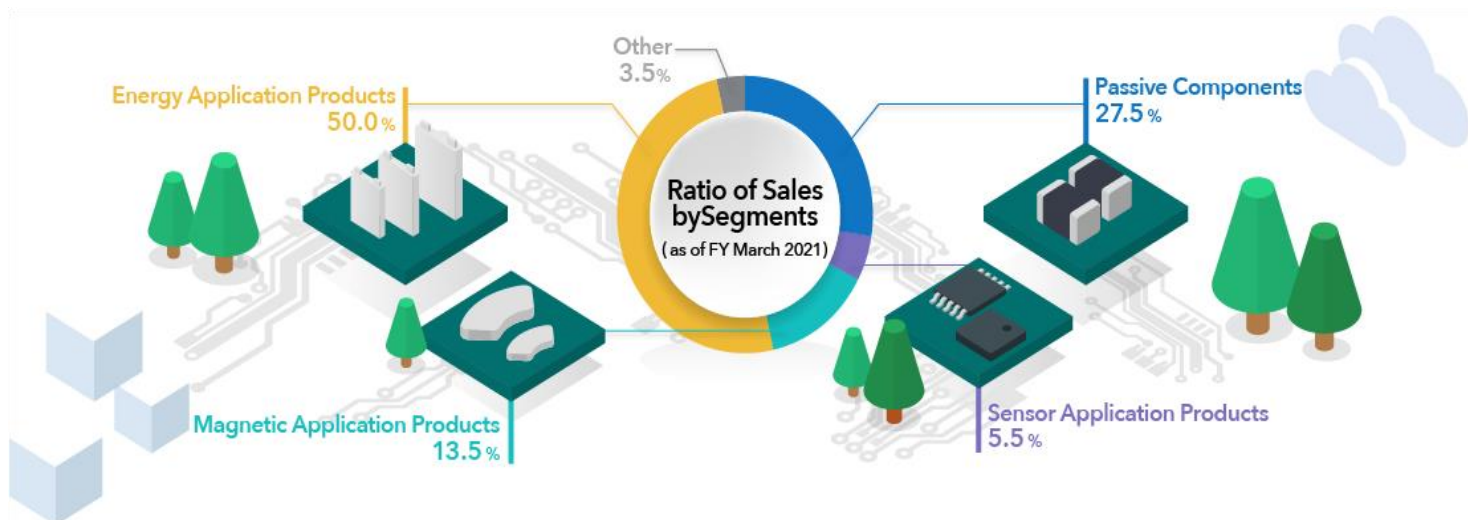


Chart: TDK Website

R&D

The primary goal of management is to grow its core business segments and, secondarily, improve other segments' profitability and efficiency. TDK classifies rechargeable batteries, 5G-related technologies, and data storage components as sectors with significant growth capability. The sensors business is one that TDK classifies as a fast-growing business but needs to improve profitability through better manufacturing efficiency.

Better efficiency of manufacturing is one of TDK's primary goals for 2022. Shortening the time to market manufactured components and enhancing manufacturing efficiency – without hits to sustainability or sacrificing environmental pledges.

Environmental Social Governance (ESG)

TDK operates with multiple manufacturing and supply partners around the globe. To ensure positive social impact, TDK operates several levels of audits. TDK recognizes that the semiconductor industry that it operates in can be environmentally detrimental and has a responsibility to ensure ethical sourcing. In 2019, TDK revised its mineral sourcing policy, which will eliminate mineral sourcing from places it indicates as "high misconduct risk" areas. Misconduct includes conflict areas, areas with poor human rights records, and places with little regard for environmental destruction.

TDK additionally meticulously tracks the carbon emissions in its supply chain and manufacturing processes to more effectively reduce their impacts. As a result, by 2035, TDK has pledged to reduce its total emissions by 50%; already, they have managed to beat targets, reducing emissions by 8.4% since the plan was implemented in 2016.

Risk

TDK manufactures a large portion of its products within China. However, increasing trade tensions between China and the United States have strained TDK's supply chains and could worsen if further tariffs are levied, or relations break down further.

COVID-19 caused a demand crash in certain technologies and a demand surge in others. As a result, while TDK is experiencing fast recovery, COVID-19 remains a significant uncertainty to operations.

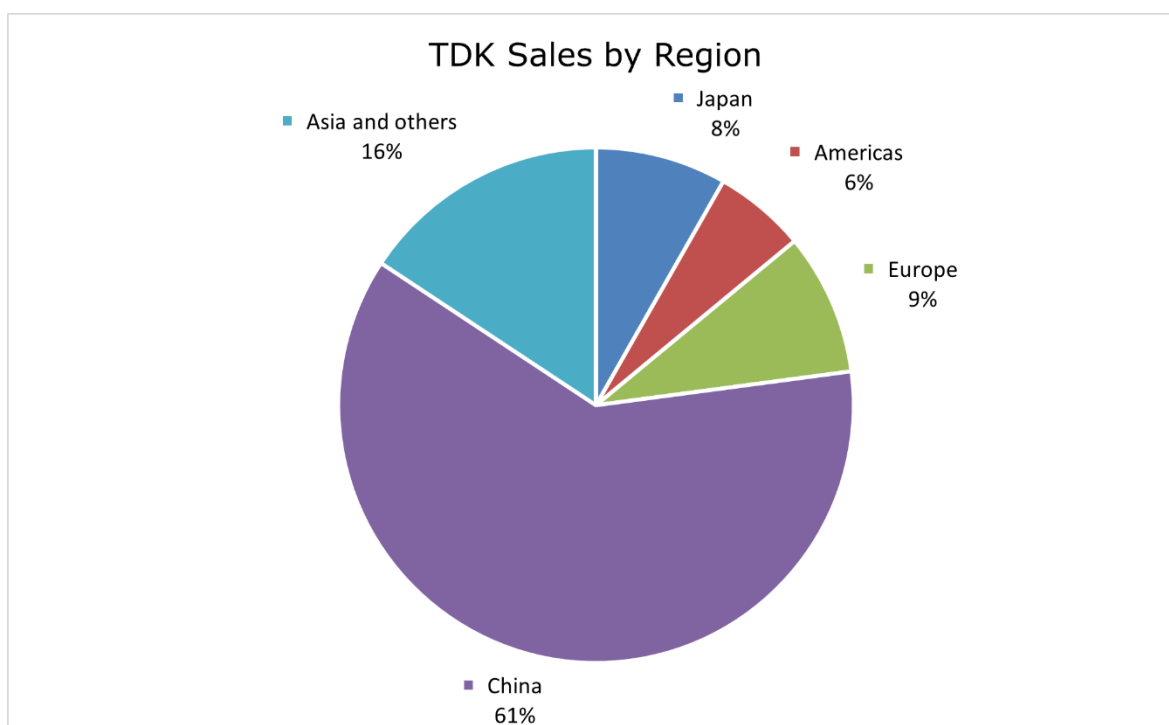
Partly related to COVID-19 is the semiconductor shortage. While this may be favorable in pricing, sales of semiconductors are limited by supply constraints, decreasing TDK's potential sales.

TDK is based in Japan and operates in more than 30 countries. As with any multinational, foreign currency exchange is a risk that TDK must manage.

Metrics

Electronic components were hit by COVID-19 demand shocks during the early stages of the pandemic but have now begun to recover. As a result, net sales have increased 8.5% year-over-year, primarily driven by a rapid recovery in the automotive market in the June quarter of 2021. Overall, net income has increased by 37.2% in FY2022 compared to FY 2021.

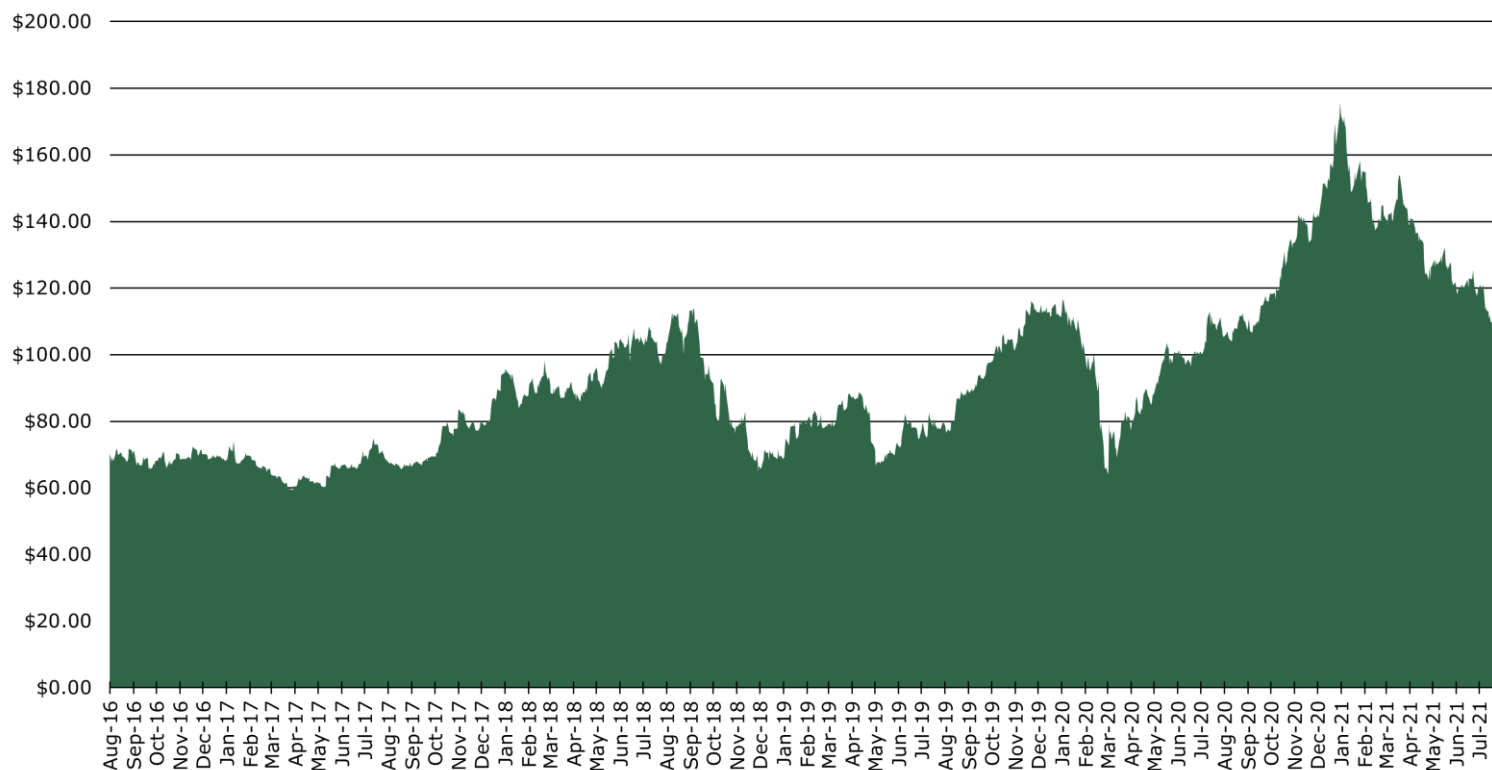
The vast majority (92%) of TDK's sales come from outside Japan, with China the largest country for sales and mirroring China's global leadership in electronics assembly and manufacturing.



TDK Corporation (TTDKY)	FY Mar 2021	E2022	E2023
Price-to-Sales	0.94	0.90	0.85
Price-to-Earnings	18.0	13.5	11.5
EV/EBITDA	6.1	5.1	4.7

Estimated Next 12 Months	TDK Corp (TTDKY)	Murata MFG (MRAAY)	Kyocera Corp (KYOCY)	TE Connectivity (TEL)	Omron Corp (OMRNY)	Nidec Corp (NJDCY)
Price-to-Earnings	12.7	19.2	18.2	21.8	31.0	42.0
Market Cap (\$ Billions)	13.8	54.9	22.9	50.3	18.3	66.4
Price-to-Sales	0.9	3.4	1.4	3.2	2.7	3.8
EV/EBITDA	5.1	10.3	8.9	14.4	14.9	23.5
Dividend Yield (%)	1.7%	1.5%	2.6%	1.3%	1.0%	0.6%

TDK Corp (TTDKY)



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