

Newsweek INTERNATIONAL

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CAN EUROPE HANDLE THE STRAIN?



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ANDR CHANG 04:12
 ALBANIA 04:25
 AUSTRALIA 04:11
 AUSTRIA 04:20
 SAHRAVI 04:15
 BELGIUM 04:25
 CHINA 04:10
 CROATIA 04:22

CYPRIUS £6.50
 CZECH REP. £12.10
 DENMARK £10.50
 DUBAI DIRT
 EGYPT £11.00
 FINLAND £7.60
 FRANCE £6.50
 GERMANY £10.00

GERMANY 15.05	1
GREECE 05.50	2
HOLLAND 05.95	3
HONG KONG 14.30	4
HUNGARY 15.00	5
IRELAND 05.25	6
ISRAEL 14.15	7
ITALY 05.00	8

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SWEDEN \$6.70	SE
TANZANIA \$2.90	TA
THAILAND \$1.10	TH
TURKEY \$5.50	TR
UNITED STATES \$1.00	US
VENEZUELA \$1.00	VE

ANALYST	62.00	98
HARASSIA	58.00	94
SIA	55.00	92
DWE	51.00	88
APOPE	41.00	72
ARIA	30.00	58
ENEA	20.00	42
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TED: DRIVING DIGITAL TRANSFORMATION

Leveraging the synergy of a trading firm with manufacturing functions, Tokyo Electron Device (TED) provides total solutions that encompass leading-edge devices with a mission to drive digital transformation.

Although Japan is renowned for being a high-tech society, somewhat surprisingly it has been relatively slow in implementing digital transformation (DX) across its economy and industries in comparison to other OECD countries, and is ranked 28th in the World Digital Competitiveness Ranking 2021. However, there are a growing number of Japanese firms committed to advancing the technologically-driven transition in line with the Japanese Ministry of Economy, Trade, and Industry's campaign to promote DX in core sectors.

"Our mission statement is to drive digital transformation," says Atsushi Tokushige, President of Tokyo Electron Device (TED), a technical trading and development firm that provides semiconductor products and business solutions. "There are many different kinds of technologies in DX, but one of the key technologies is AI. We've opened the TED AI lab at our Engineering Center and installed two types of ultra-high speed AI accelerators for deep learning. We offer this AI environment to customers, and they then sell it as verification systems or time-based subscription services to their own clients. Through this experience, we have deepened our knowledge and understanding of AI and the customer requirements regarding it. This is our investment in the market."

"Our private brand business, which is one of our unique features, is based on the idea that we should make the products that our customers need and that cannot be found anywhere else in the world. Based on this idea, we established our design development center in 1985 and since then have been providing contract design and semiconductor substrate manufacturing services for over 35 years."

"In today's rapidly changing electronics industry, the TED Group is dedicated to delivering high-value-added solutions to meet the unique needs of each customer through collaboration and innovation," adds Mr. Tokushige. "Leveraging the synergy of our trading firm and manufacturer functions, we are committed



TriMath

to challenging convention to create new value together with our customers, through technology, products, information and services. In this way, our ultimate aim is to hone our customers' competitive edge in the international marketplace and foster sustainable growth along with all our stakeholders."

TED's current contract design and mass production services provide one-stop services for substrate design – leveraging the company's development capabilities – and are then manufactured by TED NAGASAKI, a subsidiary established in 2017. In addition, TED's FAST CORPORATION – another consolidated subsidiary set up in 2018 – develops products for

the robot vision field using image processing technology.

"In this way, we have spent the past few years developing the infrastructure to become a manufacturer," explains Mr. Tokushige. "In our mid-term management plan we have set out to become a manufacturer with technology trading company functions as our corporate vision, and our private brand business will be the key division for achieving this objective."

One of TED's key product lines today is the CX series, which provides equipment abnormality detection and failure prediction systems, as well as TriMath, a work robot system that combines robots, hands, and system control with optical equip-

ment and unique image processing, with AI technologies at its core. TriMath enables flexible transportation and sorting of a wide variety of irregularly shaped objects, which has traditionally proven difficult at manufacturing and distribution sites in the past. However, with TriMath a single operation can be easily constructed by combining the necessary functions from the three pre-defined operations: picking, recognition and sorting according to the target objects and on-site operations.

"This drastically reduces the amount of work that has to be designed and integrated at each site and enables quick introduction and efficient system operation," says Mr. Tokushige. "So far, it has been installed on manufacturing lines, but we want to expand this to agriculture, construction work and even the medical and nursing fields, to give just a few examples."

"The second is the RAYSENS macro inspection system. Instead of visual inspection, RAYSENS can automatically inspect compound semiconductor wafers. It is already in operation at a wafer manufacturer and, going forward, TED will continue to promote larger diameter wafers."

"Through TED's private brand business, the company is now targeting the manufacturing automation segment as an increasingly important field, with specific focus on the development of so-called Monozukuri Systems. Our development concept is a fusion of image processing, data science and robotics, and we will promote this through collaboration among group companies and with other leading companies."

TED is also focusing its foreign businesses on the international semiconductor market, with key clients in the industrial and automotive sectors. "In terms of overseas expansion, the challenge is to expand into Europe," says Mr. Tokushige. "As for our private brand business, we want to strengthen our position in China."



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