

LEAP TO GLOBAL MARKET WITH 94 BASES ALL OVER THE WORLD



Nihon Denkei Co., Ltd. aims to expand its business globally by putting more values in its growth businesses, including electrification of automobiles and next-generation communication technology, on top of electric and electronic measuring instruments, which are the company's core business.

Nihon Denkei is a trading company specializing in electric and electronic measuring instruments, and generates the largest sales in Japan market. The company has 94 business bases around the globe, including 47 bases in Japan.

By exchanging information with more than 5,000 suppliers worldwide, the company has zoomed in on four growth markets: internet of things (IoT), new energy, fifth-generation (5G) communications technology, and car automation, particularly advanced driver-assistance systems (ADAS). As they are expected to grow remarkably in the coming years, the company leverages its outstanding marketing and solution capabilities to serve these markets.

To cater to the requirements of these growth fields, the company has tapped its Solution Business Promotion Department and Automotive Market Promotion Department. The Solution Business Promotion Department is responsible in the creation of solutions for scientific and optical instruments, precision machine, IoT and robot businesses, while the Automotive Market Promotion Department handles the cultivation of new automotive suppliers and the market introduction of testing machines in the international markets.

Industry Leader Zooms in on Potentials of Tests Systems, Solutions

Nihon Denkei Co., Ltd., a trading company specializing in electric and electronic measuring instruments, has been expanding its business globally. The company expands system measurement and solution businesses focusing on growth fields, such as automobiles. In a recent interview with AEI, Tanho Yanagi, President of Nihon Denkei Co., Ltd., described the company's business strategies.

AEI: Could you describe the direction your company's business is heading?

Yanagi: The demand for electronic measuring instruments as standalone equipment has been decreasing worldwide. On the other hand, automobiles, fifth-generation (5G) mobile communication technology, and internet of things (IoT) as new growth fields of electronic measuring instruments, have been attracting attention.

Our company has expanded business on the global market, and now, we are working on shifting the focus of our business from selling electronic measuring instruments as standalone equipment to selling them as systems and solutions.

AEI: What specific strategies are you going to employ to achieve this?

Yanagi: We will further step up efforts in the four markets of automotive, centering on advanced driver-assistance systems (ADAS), 5G next-generation communications, IoT, and new energy. On-board cameras, millimeter wave radars, and many sensors, including ultrasonic sensors, are incorporated in ADAS, and the importance of measurement increases further.

In the 5G market, innovative technological development advances through the integration of sensors and high-frequency components. Making the most of its high-speed and large-capacity communication technology, the application of 5G mobile communication technology to industrial equipment and automobiles advances.

The IoT market in Japan alone is said to be a one-trillion-yen market. Various scenarios where measuring instruments are used will increase. We have started preparations by setting up the Solution Business Promotion Department.

For the new energy market, we offer a wide range of commerce products, including battery materials evaluation and analysis equipment, charge and discharge equipment, and motor performance evaluation equipment, targeting the rechargeable battery and motor markets. These markets are expected to expand along with the integration of a greater



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Tanho Yanagi, President of Nihon Denkei Co., Ltd.

number of electronic components in vehicles, electronic control of vehicles, and proliferation of next-generation vehicles.

AEI: Can you describe the company's consigned testing business?

Yanagi: Denkei Technology R&D (Shanghai) Co., Ltd., which was established in 2006 in Shanghai, China, specializes in consigned testing services mainly to automotive electronics-related customers and has been continuing full operation. In order to meet strong demand for its testing services, the company has established No. 2 testing laboratory in Pudong New Area in Shanghai.

Denkei Technology R&D (Shanghai) undertakes a wide range of consigned tests from automotive-related companies in the United States and countries in Europe. At present, with the approval of Volkswagen AG, the company is conducting tests on behalf of the automaker. It is also planning to provide testing services to General

Motors Corp. as well. We will expand the consigned testing services business responding to ever-advancing measuring technologies.

AEI: How do you see the future development of consigned testing service business?

Yanagi: Since 10 years ago, we have been working to increase sales in the automotive market where measuring instruments related to environmental testing, such as those for temperature, humidity, vibration, and noise are the mainstream. Furthermore, the practical implementation of ADAS has progressed, and research and development of autonomous driving has become active, necessitating the measurement of all parameters. In particular, automobiles must meet various global standards, including environmental tests.

AEI: What was the objective of the opening of a laboratory in Japan?

Yanagi: In Japan, as part of efforts to bolster our company's automotive business, we have opened Nihon Denkei Yokohama Test Room in Yokohama. It conducts tests of on-board camera monitor systems (CMSs). It has been established through a business partnership with TÜV Rheinland Japan Ltd., a Japanese subsidiary of TÜV Rheinland Holding AG based in Germany, a third-party organization that tests, monitors, and certifies products, processes, management systems and services for compliance to United Nations Regulations No. 46 (UN-R46), which stipulates regulations on indirect vision.

AEI: Could you also share the company's globalization efforts?

Yanagi: At present, we have 47 bases in Japan and 47 bases overseas, and have been expanding business globally. In October last year, we set up a U.S. sales subsidiary. In addition, we have also established a joint venture company with Japan Quality Assurance Organization (JQA), one of certification organization representing Japan, in Hanoi, Vietnam. We also plan to establish a base in Europe in the future. □

Well-Defined Business Plan to Spell Sustained Growth

Nihon Denkei Co., Ltd. has been earnestly expanding business as its annual sales crossed ¥100-billion mark (around US\$1 billion) for the term ending Mar. 2019, a year earlier than scheduled.

From Mar. 2020, the company expects to grow further as the market environment for electronic measuring instruments has been largely steady with the robust investments poured by automotive and information and communications technology (ICT) industries in research and development (R&D) as well as in plants and equipment expansions. Nonetheless, the company is also precautious on the possible prolonged impact of the trade tensions between United States and China.

Step up Efforts in Four Markets

To magnify its business strategies for continuous growth, Nihon Denkei has been stepping up efforts in four core markets that are expected to make remarkable expansions in the coming years. These are the internet of things (IoT) market, new energy vehicles market, fifth-generation (5G) mobile communications market, and advanced driver-assistance systems (ADAS)

and autonomous driving market.

In order to deeply cultivate the markets in the priority fields, Nihon Denkei continues to propose systems that meet market needs and increase competitiveness of its products. At the same time, it is also harnessing investments in marketing and support capabilities, making the most of the entire Nihon Denkei Group, comprising of 47 bases and four subsidiaries in Japan and 47 bases overseas.

Cultivate Markets of Priority Fields Deeper

In order to meet diverse needs of growth industries, Nihon Denkei handles increasing number of new commercial materials. Main commercial materials include automotive testing systems, such as camera monitor systems, driving simulators, and radar alignment systems. Among equipment contributing to labor-saving measures include automatic assembly machines, robot systems, transfer systems, and electric furnaces. Handling of commercial materials related to artificial



Denkei Technology R&D (Shanghai) Co., Ltd.
Denkei Trading (Shanghai) Co., Ltd. Puxi office



Testing facility for standards certification

intelligence (AI) has also been increasing.

Nihon Denkei has been stepping up to propose solutions that meet the needs of industries and inspection items by offering products of Japanese and overseas manufacturers by application areas in order to construct a sales and support system for overseas products.

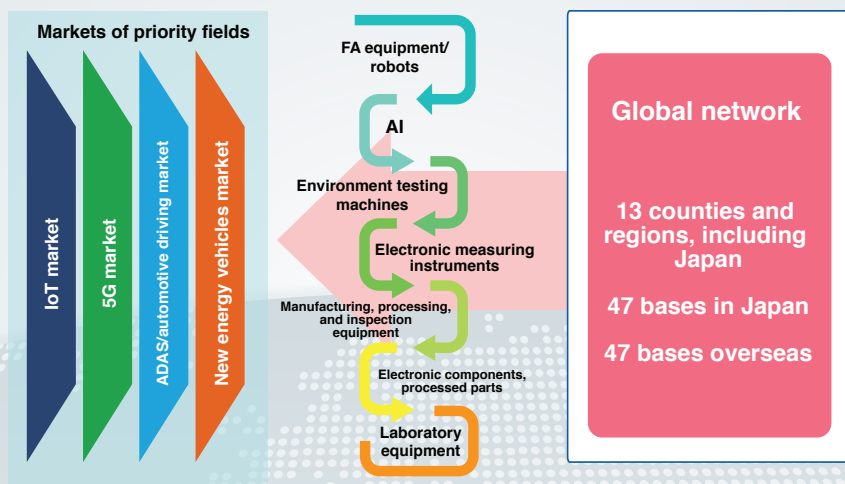
The company also aggressively deploys standard certification support business. In the automotive-related field, it has formed a business tie-up with TUV Rheinland Japan Ltd. to support test, certification, and manufacture and development of on-board camera monitor systems. It is also set to start testing business in relation to the establishment of a unified standard for rapid charging with TUV Rheinland Japan.

The company has also started business cooperation with China Automotive Technology & Research Center.

In April 2019, Nihon Denkei established a Marketing Department to solidify strategic and efficient marketing systems by collecting customer information and the use of data in the digital region. In close cooperation with the Solution Business Promotion Department and the Automotive Market Promotion Department, the Marketing Department vigorously promotes deep cultivation of the markets in priority fields. □

Deep Cultivation of Markets of Priority

Nihon Denkei vigorously promotes deep cultivation of the markets in priority fields with the Solution Business Promotion Department and the Automotive Market Promotion Department as axes, by making the most of the Nihon Denkei Group's global network. The company proposes systems that meet market needs, brings to the markets competitive products, and invests for growth.



IoT Market

Manufacturing and creation of mechanism using internet of things (IoT) as a tool to enhance added values, improve productivity, and reduce costs of every product and service, including home electric appliances, vehicles, information equipment and life infrastructure, increase.

Recognize potentials of electronic measuring instruments market, which accounts for ¥100 billion of the entire ¥1 trillion-strong Japanese IoT market.



5G Communications Market

Many customers have edge in the integration of sensors and high-frequency components and sensor fusion in the fifth-generation (5G) communication market, and innovative technological development of IoT devices advances. 5G market grows in the industrial equipment and automotive industries wherein high-speed, large-capacity communications technologies are used.

In testing 5G devices during development, measuring instruments capable of high-frequency and broadband analysis and signal generation are indispensable.

ADAS and Automotive Driving Market

Development of automotive-use electronic devices and sensors is certain to accelerate in the coming years, and electronic and electric equipment manufacturers, which are Nihon Denkei's customers, invest aggressively in plants and equipment. Also, many firms are making foray into automotive-related business.

Phenomenal growth can be expected in the automotive sensor market.



New Energy Vehicles Market

The advancement of fifth-generation (5G) networks, proliferation of IoT and progress in the use of big data, and wider use of artificial intelligence (AI), including deep learning, herald the "Connected Car" society, wherein vehicles and networks connect. In the field of electric vehicles (EVs) and advanced driver-assistance systems (ADAS) as well, Nihon Denkei steps up marketing activities in markets wherein new energy technologies are established.

Use of greater number of electronic components in electronic control of vehicles. Rechargeable battery and motor markets grow in tandem with the popularization of next-generation vehicles.

Nihon Denkei Steps up Marketing Activities Targeting Growth Industries

Solution Business Promotion Department

Meets Latest Market Needs, Standard Certification of Automotive Market

In order to meet the latest market needs, the Solution Business Promotion Department of Nihon Denkei has been promoting and supporting businesses dedicated to the physical and chemical science field, automation field, rechargeable battery field, and standard certification field.



Susumu Kanbe, General Manager, Solution Business Promotion Department, Nihon Denkei.

In the physical and chemical science field, personnel who are experts in physical and chemical equipment, including X-ray inspection equipment and element analyzers, select the optimum products in accordance with customers' requirements. They are also well informed on various consigned tests. In the automation field, technical staff have been using deep learning software to solve various problems. In the rechargeable battery field, electrochemical measuring instruments and charge and discharge testing equipment are indispensable for research

and development.

In the standard certification field, Nihon Denkei has established Denkei LAB Yokohama, a partnership laboratory with TUV Rheinland Japan Ltd. and specializes in the test of camera monitor systems (CMS) for compliance with United Nations Regulations No. 46 (UN-R46) for the automotive market. Equipped with test environment and measuring instruments necessary for the development of electronic mirrors, the Yokohama Test Room provides support for compliance with certification.

Automotive Market Promotion Department

Targets Developers of Next-Generation Vehicles-Related Technologies

The Automotive Market Promotion Department of Nihon Denkei proposes products that can perform tests, including tests on ad-



Suda Katsuhiko, General Manager, Automotive Market Promotion Department, Nihon Denkei.

vanced driver-assistance systems (ADAS), exhaust gases, and autonomous driving for compliance with global regulations and standards, and also provides after-sales sup-

port. It also handles products related to passive safety and active safety and coordinates consigned services of standard tests.

Moreover, with products handled only by Nihon Denkei, the Department provides integrated services from installation through maintenance. With U.S.-made products, the Automotive Market Promotion Department also carries out sales promotion for Soft Car made by Dynamic Research, Inc. (DRI), which is compliant with regulation tests by European New Car Assessment Programme (EuroNCAP), National Highway Traffic Safety Administration (NHTSA), and Insurance Institute for Highway Safety (IIHS).

With anechoic chamber-related business, the Automotive Market Promotion Department creates wide range of materials from those that meet specifications to layout using computer-aided design (CAD) in order to meet users' needs.

The Automotive Market Promotion Department also constructs a system for installation, trainings and after-sales maintenance for large equipment sold to customers through its global network.

Marketing Department

Promotes Digital Marketing, Disseminates Useful Information

When selecting products, customers mostly obtain initial information online. Therefore, Nihon Denkei updates its homepage to always provide fresh and complete information on new products and technological trends, and send up-to-date information through e-mail.



Akira Shirafuji, General Manager, Marketing Department, Nihon Denkei.

In order to provide comprehensive information, the Marketing Department uses its online portal to provide customers with information on functions that are unique to Nihon Denkei. It carries out strategic and efficient marketing support by collecting various information and using data in the digital realm. □

GUIDED SOFT TARGET (GST) TEST SYSTEM

The Guided Soft Target (GST) test system was developed by Dynamic Research, Inc. (DRI) for the evaluation of advanced driver-assistance systems (ADAS). The GST system comprises a hardened, satellite guided (DGPS), selfpropelled Low Profile Robotic Vehicle (LPRV) which serves as a means of conveyance for a variety of surrogate targets which acts as a realistically moving collision partner. The surrogate vehicle pictured above is DRI's Soft Car 360®. In the event of a collision with the GST, the Soft Car 360® separates into durable components, minimizing risk to test personnel and damage to expensive test vehicles.

Soft Car 360® Key Features:

- Industry-confirmed as the global 3D target at EuroNCAP, NHTSA, and IIHS-sponsored events
- Resembles a real vehicle to a variety of sensors
- Stable at speeds over 80km/h
- Capable of enduring impacts
- Breaks into sections upon impact to minimize forces on the test vehicle
- Reassembly in as little as 5-10 minutes



Nihon Denkei Anchors Global Growth on Domestic Characteristics

Nihon Denkei Viet Nam Co., Ltd.

Focuses on automotive-related market

In Nov. 2005, Nihon Denkei Viet Nam Co., Ltd. set up local units in Hanoi and Ho Chi Minh in Vietnam. With a total of 28



**Le Duc Doanh, General Director,
Nihon Denkei Viet Nam Co., Ltd.**

employees, the company handles sales and maintenance services. In Jan. 2019, the company set up JQA Calibration Vietnam Co., Ltd. (JQACV), a joint venture company with Japan Quality Assurance Organization (JQA), in order to expand an ISO17025-accredited calibration business, thereby deploying Japan-quality advanced calibration business to Vietnam. Amid the U.S.-China trade war in recent months, Vietnam is said to have the biggest economic advantage. At the moment, manufacturers are already relocating their production bases from China to Vietnam. In the automotive industry, automotive suppliers that focus on Vin Fast, a Vietnamese domestic car manufacturer, are anticipated to significantly grow to meet the government's target of 35 percent domestically procured automotive components by 2020. Hence, the company focuses on the automotive-related market.

By optimizing the network of bases in 13 countries and regions, which is the strength of Nihon Denkei, the company intends to expand sales of measuring instruments and various testing equipment by approaching many companies regardless of capital relationships, in addition to Japanese companies. Furthermore, it also

intends to participate in new official development assistance (ODA) projects to expand its business. As a national undertaking, past ODA projects have achieved significant results.

Nihon Denkei India Private Limited

Proper, timely service

Statements such as, "India's economy has been growing rapidly," and "India maintains the supremacy in the global economy in the 21st century," served as Nihon Denkei Co., Ltd. motivators in its establishment of a local company in India in April 2008, ahead of other Japanese companies at that time. At present, with three bases in Gurgaon, Bangalore and Chennai, Nihon Denkei India Private Limited is working aggressively in the sales and maintenance business of electronic measuring instruments and test equipment, targeting mainly customers in the automotive industry. India imposes various restrictions on exports and imports, which are not implemented in other countries. Despite these market conditions, over the past 15 years, Nihon Denkei India Private has accumulated various know-how. With the motto of meeting customers' needs properly in a timely manner, the company intends to continue contributing to the development of the Indian market as a good technical partner of its customers



**Hasegawa Koji, Managing Director,
Nihon Denkei India Private Limited**

and suppliers. To this end, the company also focuses efforts on the education of

its employees to nurture an outstanding pool of human resource. In addition, amid construction of infrastructure in India, new foreign-affiliated companies are expected to make inroads into India at an accelerating pace. Under these circumstances, Nihon Denkei intends to make efforts in the handling not only of equipment to be installed in manufacturing sites, but also of prospective commercial materials to be used in research and development.

Nihon Denkei Thailand Co., Ltd.

Steps up Japan-quality after sales

Nihon Denkei (Thailand) Co., Ltd. has entered into its 23rd year of operation since



**Kano Masami, Managing Director,
NIHON DENKEI (THAILAND) CO., LTD.**

its founding in May 1997. It is headquartered in Bangkok, Thailand, and maintains the Laem Chabang branch office in Chonburi Province. As of July 2019, the head office in Bangkok has 20 employees and Laem Chabang branch office has four employees. In total, 24 sales representatives operate in entire Thailand. Main customers of Nihon Denkei (Thailand) are electric and electronic equipment-related and automotive-related Japanese companies. In the coming years, the electrification of automobiles and introduction of advanced technologies, such as advanced driver-assistance systems (ADAS), are expected to accelerate in Thailand as well, and technologies of Japanese companies will be deployed in Thailand. Nihon Denkei (Thailand) updates its head office in Japan daily of these developments, allowing the com-

pany to introduce electric measuring instruments, inspection equipment, and testing equipment, ahead of other companies, for its customers to deploy advanced technologies. It also has Japanese engineers to provide after sales to Japanese customers.

Nihon Denkei Philippines, Inc.

Ready for industry changes

Supporting the robust Philippine economy are contractual employees called operators working on production lines. While



**Yoda Daisuke, Managing Director,
Nihon Denkei Philippines, Inc.**

recent talks about ending contractualization in the Philippines did not prosper, it might still be a possibility in the future. As a specialized trading company, Nihon Denkei Philippines, Inc. handles measuring equipment and various types of testing equipment. Locally, the company is faced with issues related to employment behind the ever-changing Philippine policies, and on corporate taxation, specifically the removal of tax incentives in economic zones, as proposed by the government. To address this, the company has been putting in place a system to diversify the categories of products to be sold. In anticipation of the conversion of contractual employees in factories to regular (full-time) employees, which will likely occur in the future, the company makes pre-emptive measures, like selling equipment to pave way for possible automation. Nihon Denkei Philippines has concluded an outsourcing contract with a robot maker, and started sales and services of desk-top robots, which is a new field for the company. The company has also added to its lineup a product, in which the company's robot is applied, for another application. Concurrently with this move, it collaborates with a company specializing on systems adoption in the Philippines. In addition, it also promotes the introduction of measuring instru-

ments with semiconductor characteristics and other semiconductor-related products to the semiconductor market to accelerate the pace of deep cultivation. Targeting to become a one-of-a-kind company, Nihon Denkei Philippines makes the most of its unique characteristics that are not seen in other companies and other countries.

Denkei Trading (Shanghai) Co., Ltd.

Backs China's automotive industry

Denkei Trading (Shanghai) Co., Ltd. has strategically put in place 28 bases in the coastal and inland regions in order to provide speedy services in China, which is characterized by vast land areas. Taking into consideration convenience of both its customers and suppliers, the company has been endeavoring to enhance staff's technological levels and to fully equip its bases so that about 90 percent of all equipment can be repaired in China. The company has also launched an online sales business that mainly handles standard tools and measuring equipment, providing business-to-business (B2B) services from a new perspective. Adapting to the evolution of the industry and to changes of the times, Denkei Trading (Shanghai) has newly established an IoT Business Division by adding experienced and knowledgeable staff members to construct an intelligent data analysis system for system data and provide business solutions. Recently, the company has entered into a business partnership with CATARC Automotive Industry Engineering (Tianjin) Co., Ltd., which holds a leading position in the Chinese automotive industry, and its affili-



**Zhang Kang, General Manager,
Denkei Trading (Shanghai) Co., Ltd.**

ated companies. The company backs the development of the Chinese automotive industry in the measurement and testing

field. It provides high-quality comprehensive services from the viewpoints of customers and suppliers.

Denkei Technology R&D (Shanghai) Co., Ltd.

Provides advanced technology on consigned tests

Denkei Technology R&D (Shanghai) Co., Ltd. took note of the necessity of consigned tests early on, and correspondingly, launched a consigned testing center in Shanghai. At present, the company has two bases. The Puxi test center is equipped mainly with equipment for environment and materials tests, while the Pudong test center is equipped mainly



**Chen Xiaoming, Managing Director, Denkei
Technology R&D (Shanghai) Co., Ltd.**

with equipment for reliability evaluation of automotive components. The company has been providing consigned testing services not only to Chinese companies, but also to Japanese companies. Moreover, the company has bolstered its marketing department to enhance information collection capabilities, and be on the radar to the changes in the industry. It also installed equipment for battery packs and driving motors for new energy vehicles. Recently, it has passed Volkswagen AG's qualification as a new energy testing laboratory. With this as a start, the company intends to approach American and European companies as well. It has also expanded the range of testing items to encompass dismantling of vehicles and materials analysis in order to quickly introduce advanced technologies to China, thereby enhancing the company's value. Denkei Technology R&D (Shanghai) intends to expand its business in the future by flexibly responding to changes of the times and cooperating with Denkei Trading (Shanghai) in charge of sales, repair and solutions. □



network

94 bases all over the world,
of which 47 in Japan
Largest network in measuring instruments

<http://www.n-denkei.co.jp/en/company/>

We are a leading company in the electronic measurement industry, and has top share in sales in Japan. We have recorded our growth and achieved outstanding results in cooperation and with mutual reliance with users and suppliers through the years. We invest in the future with our knowledge, information, creativity and ingenuity, which are supported by our continuous endeavor to comprehend trends and dynamics in cutting-edge technologies. Our strength is our steadiness and solidity in this business through strategic foresight we have made.



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