Japan's Medical Sector Finds Global Solutions to Domestic Challenges

By Bernard Thompson

In a world where aging populations and demographic shifts are creating profound global challenges, societies everywhere are struggling to find effective solutions. With the oldest population in the world, Japan is facing these complexities ahead of others, enabling its medical and dental device sector not just to respond to these global issues, but to create a roadmap for solving them.

As society shifts from curative care to prevention, Japan's medical sector is leveraging its historical expertise and advanced technologies. Satoshi Yamaguchi, president of Kuraray Noritake Dental, a company that is pushing the boundaries of dental science through experimentation with bioactive materials, attests to this: "The countermeasure to Japan's aging population is to increase the number of healthy seniors," he notes. Yamaguchi believes AI and digital tools are vital in enabling self-health maintenance, reducing medical expenses, and improving quality of life.

Japanese products have long been synonymous with excellence. Toshimasa Aso, president of Aso International, whose company is developing AI-based orthodontic solutions, argues that this reputation stems from a cultural commitment to superior quality and service. He says, "The strength of Japanese companies lies in the diligence of the Japanese. People in this country are very serious and self-disciplined." He believes this mentality, driven by a deep consideration for others, permeates both business and life. This ethos gives Japanese companies a competitive edge, allowing them to outpace international rivals.

At the heart of these efforts is the need to reduce medical expenses and improve patient outcomes. Keiichi Yamada, president of Daiken Medical Corporation, whose products are revolutionizing cancer care and who plans to tackle diabetes next, focuses on such innovations. "Reducing medical expenses is key for our R&D," Yamada says. He highlights the development of minimally invasive surgery techniques that allow for quicker recovery times and shorter hospital stays—critical for a future where health care efficiency will be paramount.

Collaboration and strategic acquisitions are also crucial. Olympus Corporation, a global leader in endoscopic applications and renowned for its commitment to improving healthcare efficiency worldwide, recently advanced its AI and digitalization efforts through the acquisition of Odin Vision, a firm specializing in AI endoscopy. "We are very happy with the way the integration of Odin Vision has gone so far," says Dr. Karsten Klose, global head of Olympus Digital Unit. Odin Vision's AI expertise has become a "key pillar" in Olympus' Intelligent Endoscopy Ecosystem, improving patient care and reducing costs.

However, with a shifting global market, Japanese companies recognize the urgency of staying ahead and not resting on their laurels. Norigi Kurihara, president of AuBEX Corporation, which expanded into the medical field three decades ago and has been a global niche leader in precision technology for pen nib processing, captures this succinctly: "Today, the second-generation pen nib business and the medical business are the two pillars," he says. "I believe that we are now at the starting point. We need to expand our business, invest more, and develop our market to lead to new applications and possibilities for our technology." Kurihara notes that this dual focus requires companies to optimize production and find efficient ways to sustain operations.

And for Mr. Aso, there are reasons to be optimistic. "As new technologies continue to emerge, medical practice needs to be transformed," he says. "We want to make the most of our more than 40 years of experience and technology." By embracing change and pushing the boundaries of what is possible in medical technology, Japan will not only thrive but also lead in global health care through its medical industry.

Kuraray Noritake Leads Dental Innovation

Kuraray Noritake Dental Inc. excels in dental technology, focusing on strength, aesthetics and global adaptability.

By Cian O'Neill

> "We aim to enhance global oral health and wellness."
>
> **Satoshi Yamaguchi**, President, Kuraray Noritake Dental Inc.

Kuraray Noritake Dental Inc., a leader in dental materials and technology, blends innovation with a deep commitment to oral health. Established from the merger of Kuraray Medical Inc. and Noritake Dental Supply Co., Limited, the company excels in providing dental bonding agents, fillings, cements, porcelains, zirconia and CAD/CAM blocks. This synergy has allowed the company to push the boundaries of dental science.

President Satoshi Yamaguchi highlights the company's approach: "We focus on strength, aesthetics and speed in our products. By developing our own zirconia powder and partnering with CAD/CAM system manufacturers, we achieve high-quality, durable and efficient dental solutions." This commitment is evident in the firm's flagship product, KATANA Zirconia Block, renowned for its durability and aesthetic appeal.

Kuraray Noritake Dental is also striving to develop new products for more long-term predictable dental treatment with bioactive properties.

The company is not just focused on developed markets like the U.S. and Europe. Yamaguchi explains: "Understanding local treatment situations is key. In addition to the U.S. and Europe, having sales offices in places like Brazil and China helps us tailor our products to regional demands." This global presence ensures the company remains at the forefront of dental technology, adapting to diverse market needs.

Looking ahead, Yamaguchi envisions Kuraray Noritake Dental as more than just a technological innovator. "In five years, I hope we are seen not only as a tech company but as a holistic provider of oral care solutions," he says.

Tooth crown made from "KATANA™ Zirconia"

"KATANA™ Zirconia" products

With a commitment to reducing "invisible stress" for dental professionals and patients, the company aims to enhance global oral health and wellness.

kuraray

www.kuraraynoritake.com

Olympus: Digital Health and 'Intelligent Endoscopy Ecosystem'

Olympus introduces its Intelligent Endoscopy Ecosystem, integrating AI and data-driven solutions aiming to enhance clinical outcomes, reduce burdens on health care providers and lead global health care transformation.

By Antoine Azoulay and Bernard Thompson

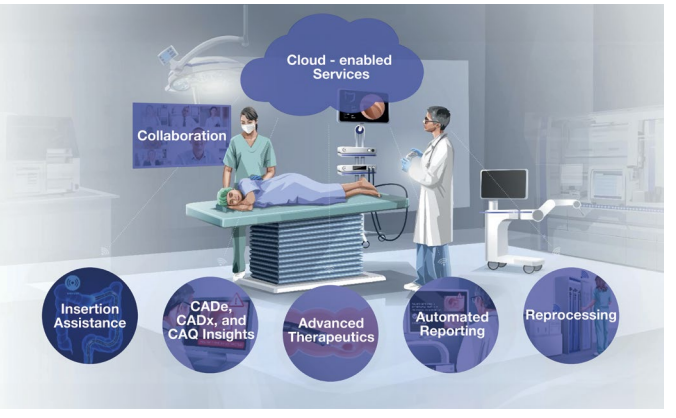


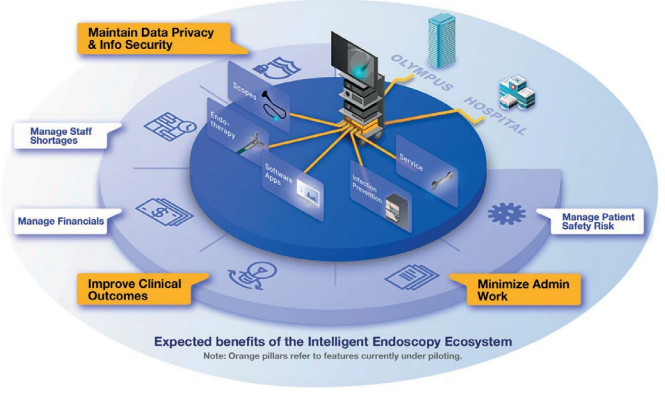
Image of future operating room with the Intelligent Endoscopy Ecosystem

> "Our commitment is to bring new technologies based on data and AI that will integrate seamlessly."
>
> **Miquel Àngel García**, Global Head of Endoscopy Solutions Ecosystem, Olympus Corporation

> "Using AI, you can have a third eye to guide you, it has the potential to reduce the burden of doctors and contribute to outcomes."
>
> **Karsten Klose**, Global Head of Digital Unit, Olympus Corporation

Olympus Corporation is introducing a new approach to medical technology with its Intelligent Endoscopy Ecosystem, a vision that integrates hardware, software, services and data aiming to enhance clinical decision-making and operational efficiencies. Miquel Àngel García, global head of Endoscopy Solutions Ecosystem, describes it as "the components of the endosuite[1] evolve in seamless communication. They are expected to be more intelligent through the data shared and generated in the clinical setting, as well as the application of different software."

The Intelligent Endoscopy Ecosystem is designed to address global health care challenges, particularly in gastrointestinal (GI) diseases. With an aging population and a projected 30 percent rise in cancer cases over the next decade, health care systems face increasing pressure[2]. García notes the urgency, stating: "These issues are becoming increasingly critical in the medical field and will require a long-term, multifaceted approach to resolve. Fortunately, we can leverage our technological expertise and commitment to our customers to tackle these urgent challenges."



Expected benefits of the Intelligent Endoscopy Ecosystem

A key feature of the ecosystem is its potential to reduce the cognitive load on doctors through AI tools that act as a "third eye" during procedures. Dr. Karsten Klose, global head of Olympus Digital Unit, explains: "Using AI, you can also have a third eye, observing the procedure and providing guidance." This support is expected to reduce stress and help improve clinical outcomes. However, García emphasizes the importance of seamless integration to avoid adding stress, "that ultimately depends on how the information is presented."

Olympus is piloting the ecosystem in Europe, chosen for its diverse hospital landscape and readiness for cloud solutions. These pilot sites serve as learning hubs, providing valuable feedback that helps refine and improve the ecosystem. The feedback from professionals has been overwhelmingly positive, validating the potential of the ecosystem to address unmet needs in endoscopy. Following the success of the pilot programs, the company plans to expand the implementation of the ecosystem globally.

In 2022, Olympus announced the acquisition of Odin Vision, a cloud AI endoscopy company. This acquisition is expected to accelerate Olympus' digital health strategy by advancing AI-based real-time diagnostics, minimally invasive treatments, and the Intelligent Endoscopy Ecosystem. "Odin Vision has become a vital component of our team setup and a cornerstone of the algorithms we are developing as part of the Ecosystem. ... We are very happy with that acquisition and the way the integration of Odin Vision has gone so far," says Klose.

For Olympus, the Intelligent Endoscopy Ecosystem is just the beginning. "The offerings in Medtech have just started," says García. "The application of data and AI technology has not been limited to endoscopy, and has fundamentally altered the entire concept. It is not a mere opportunity for us; it is a responsibility. It is our responsibility to demonstrate the value we bring to the market."

As the company continues to innovate and expand its digital health capabilities, it remains dedicated to improved health care outcomes and supports medical professionals in its quest to provide the best possible care for its patients.

1. Main area where endoscopy procedures take place
2. GLOBOCAN 2020

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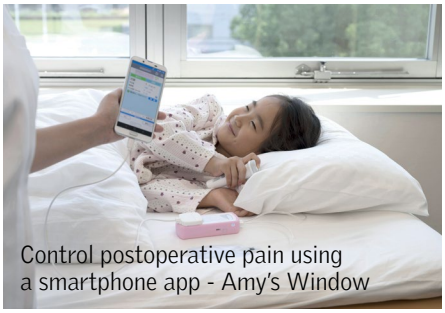
www.olympus-global.com

Daiken Medical: Pioneers in the Medical Industry

Japanese medical device manufacturer Daiken Medical is revolutionizing the medical industry with its cutting-edge products by leveraging advanced technology. *By Bernard Thompson*

Established in 1968, Daiken Medical is lauded for its patient-centric approach and dedication to R&D. Unlike its competitors, company president



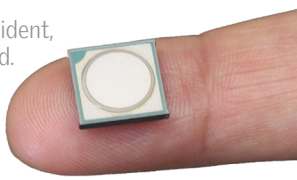
Control postoperative pain using a smartphone app - Amy's Window

Amy PCA

Dr. Keiichi Yamada points out, "We do everything from fundamental research and manufacturing to distribution of merchandise. We also have a direct line to Japanese hospitals covering the entire Japanese market. This approach is the key to developing innovative products."

The company owns Micro Electronics and Mechanical System (MEMS), a device that distributes drugs to patients. Yamada explains that during the development of this accurate and compact drug delivery system, Daiken Medical discovered the need to develop a completely new micro pumping unit that was small and inexpensive. After 10 years of research in collaboration with a German institute, it succeeded in the mass production of its micro pump (MP). In 2021, the company's product brand, COOPDECH, launched Amy PCA, a device equipped with its MP that accurately injects patients with pain relief and anticancer drugs at programmed intervals or over a long period of time. Such innovative technology allows cancer patients to receive drug treatments at home. Yamada believes this technology can be leveraged to manufacture many more medical devices, highlighting the company is "eager to expand our R&D reach to fields such as internal medicine and surgery and will drastically increase investment for R&D."

Keiichi Yamada, President, Daiken Medical Co., Ltd.



Ultra-small micropump

Daiken Medical partners with manufacturing companies in Taiwan, Thailand and Vietnam and exports to countries including Brazil, Germany and various other Asian countries. Yamada states that the company is looking to branch out through global collaboration with partners that are eager to introduce its unique technology to the world, highlighting Northern America and Europe as markets with the most potential for growth.

DAIKEN MEDICAL CO., LTD.
www.daiken-iki.co.jp/en

AuBEX: Precision Technology for Medical Innovation

AuBex Corporation, known for its high-precision pen nib processes, has launched a medical division focused on advanced infusion technology. *By Paul Mannion*

"Our core technology is pen-nib extrusion applied to medical innovations."

Norigi Kurihara, President, AuBEX

AuBEX CORPORATION
www.aubex.co.jp/en

AuBEX Corporation, a company with more than 130 years of history, is making significant strides in the medical industry with its cutting-edge product, the Vessel Fuser, a pressurized medicament injector. Initially renowned for its precision in pen-nib manufacturing, AuBEX used its technical expertise to successfully develop advanced medical devices, which it began working on in the 1990s and launched in 1996.

"By applying our pen-nib extrusion technology, we've been able to innovate in the medical field without being confined to our original domain," says Norigi Kurihara, president of AuBEX. This adaptability has allowed the company to transition from producing high-precision pen-nibs to creating sophisticated medical devices like the Vessel Fuser.

The Vessel Fuser, which features a unique combination of a control tube and a flow rate switching device, is a standout product in its portfolio. Unlike similar devices, which offer only 3 to 7 levels of flow rate adjustment, the Vessel Fuser boasts 12 levels, providing doctors with greater flexibility to manage pain for their patients. "This contributes to improving patients' quality of life by allowing more precise control over pain management," Kurihara explains.

Since its launch, the Vessel Fuser has become AuBEX's flagship product, initially used primarily for post-operative pain but now expanding into home health care and painless delivery applications. The device's portability and ease of use make it suitable for various health care settings, offering significant advantages over traditional mechanical infusion pumps.

Eye liner


VESSEL FUSER
for Chemotherapy


VESSEL FUSER
for Labor Analgesia


Cosmetic tip


Precision extrusion technology

Looking forward, Kurihara emphasizes the company's commitment to innovation: "We aim to develop new medical products by utilizing our extrusion technology and fine flow control expertise." With its strong foundation and focus on quality, AuBEX is poised to become a significant player in the global medical device market.

SINCERE: SUPPORT FOR ENTERING *the Japanese Medical Device Market*

Sincere Co., Ltd. provides comprehensive support for obtaining regulatory approval for medical devices, quasi-drugs and cosmetics, primarily focusing on contact lenses in Japan, from application preparation to distribution management. *By Sasha Lauture*

Sincere Co., Ltd. is a pioneering company dedicated to facilitating market entry for medical devices and related products in Japan. Leveraging its extensive experience as a manufacturer of medical devices, particularly contact lenses, Sincere provides comprehensive support for Regulatory Affairs (RA) and approval applications. In addition, it is also familiar with and can handle not only medical devices such as contact lenses, but also quasi-drugs and cosmetics.

To manufacture and sell medical devices in Japan, companies must obtain approval from the Pharmaceuticals and Medical Devices Agency (PMDA) or a third-party certification body. Sincere offers robust support in preparing application documents, consulting on the establishment of internal systems, and liaising with manufacturing plants to meet approval requirements. The company's services are backed by ISO 13485 certification, ensuring adherence to international standards specific to medical devices. Sincere's knowledgeable staff provide tailored support to meet diverse client needs.

Additionally, Sincere provides Designated Marketing Authorization Holder (DMAH) services, which are crucial for foreign manufacturers seeking to sell products in Japan without a local business presence. The DMAH services acts as the marketing authorization holder, overseeing manufacturing management, quality control and safety management operations in compliance with Japanese regulations. This service allows foreign companies to efficiently manage their distribution and sales networks in Japan.

Sincere holds several key licences, including licences for the manufacture and sale of medical devices, cosmetics and quasi-drugs, as well as licences for the manufacture of these products. The firm's extensive experience in regulatory processes and importation makes it a valuable partner for companies aiming to navigate Japan's complex approval process and permits. Through its dedicated support, Sincere helps clients achieve successful Japanese market entry and compliance, ensuring the high standards of product safety and efficacy.

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RA

DMAH