



NEWS RELEASE



August 22, 2019

**Air Water Inc.
Kairos Co., Ltd.**

**Releasing 8K Surgical Microscope System “Micro Eight”
~Ultrahigh resolution of 16 times the current High-definition (2K) and 4 times the pixels of 4K
accurately shows vessels and nerves~**

We are pleased to announce that Kairos Co., Ltd. (President and CEO, Hiroshi Nakatsuji; hereinafter “Kairos”), one of the group companies of Air Water, Inc. (Chairman of the Board, Chief Executive Officer, Kikuo Toyoda; hereinafter “the Company”), that manufactures and sells medical devices that incorporate high-definition 8K image technology has developed an 8K surgical microscope system “Micro Eight” equipped with new technology and is releasing it from Monday, September 2, 2019.

1. Development Process

Our medical business has been working on the expansion of business in the perioperative*¹ medical field by providing construction services of advanced medical facilities, such as operating rooms and ICUs, as well as proposing related peripheral devices and medical services comprehensively. In February 2018, we formed a capital and business alliance with Kairos, a company that applied 8K image technology and led the world in the manufacture of 8K rigid endoscope cameras, and acquired Kairos as a subsidiary in July 2018 to strengthen and expand out perioperative medical business.

“Surgical microscope” is a medical device necessary for microsurgery such as anastomosis*² of small blood vessels, nerves and lymphatics, and its market has expanded worldwide to date. In recent years, super-microsurgery, where small lymphatics, etc. that are cut during a cancer operation, for instance, are anastomosed, have started.

Given these circumstances, Kairos has applied its 8K image technology and achieved natural three-dimensional (3D) vision by the new developed technology and without using 3D. Combining with a 70-inch 8K large monitor, Kairos developed an 8K operating video microscope system “Micro Eight” that allows surgeons to perform operations with their heads up. This system will be sold mainly to medical institutions that offer plastic surgery, neurosurgery, cardiac surgery, etc.

In addition to using for operations, the 8K high-definition microscope technology is widely expected to be applied in pathological examinations and regenerative medicine. It is also expected to have wide-ranging demands not only in the medical field but also in the industrial field for product quality and detailed inspection.

Kairos aims to develop its businesses by applying the 8K high-definition microscope technology with a view to utilizing such technology not only in the medical field but also in the industrial field.

2. Main Features of the Product

(1) Visualization of the microscopic world

High-definition 8K image technology provides the amount of information that is 16 times as much as that of High-definition (2K), visualizing an object whose size is 1/10 of hair (70μm). This makes it possible to observe things more precisely to a cell level and to provide difficult operations and treatment, such as anastomosis of small blood vessels and lymphatics, in a safer manner. In addition, interchanging various focal length lenses that match relevant operative methods realizes super microsurgery with more detailed images. With these, it is expected that “post-operative QOL

(Quality of Life)” will be given the same importance as “reliable treatment” which has been prioritized until now and be improved accordingly.

(2) 3D vision and deeper focal depth using newly developed technology

This monocular device achieved a 3D vision with 8K high-definition image by adjusting the distance, angle and light source from an object to a right position that is calculated carefully. Making full use of the “presence and reality” that 8K high-definition image has, this system makes shadow purposefully and gives a 3D appearance (drop shadow effect), realizing a natural 3D vision without using 3D glasses. Deeper focal depth, which tends to be shallow in high-definition, is also achieved by tilting the axis to a certain angle.

(3) Ocular-free-heads-up surgery while looking at a large monitor

Surgeons can perform heads up operations while looking at a large monitor. They don’t need to look into the eyepiece for a long period of time, and stress on their bodies such as neck, shoulders and arms is reduced, ensuring the quality of surgeries. Moreover, this system allows surgeons and medical staff to learn detailed important points visually by sharing a large monitor. This also enables trainee doctors and students to receive more effective training.

3. Product Overview

(1) Product name: Micro Eight *Trademark pending

(2) Generic name: Transportable Surgical Microscope (JMDN:36354020, Class 1)

(3) Brand name: High-Definition Surgical microscope V1

* (2) and (3) are the names listed in the “Notification of manufacture and distribution of medical devices”

(4) Medical device notification No.: 13B2X10311000003

(5) Sales goal: 100 devices in 3 years (including rental)

<Product Image>



8K 手術用ビデオ顕微鏡システム *Micro Eight*

8K Main Monitor

Camera Arm

System Cart

8K Surgical Microscope System “*Micro Eight*”

4. Comments from Clinicians

We received advice to commercialize the product.

(1) Isao Koshima, M.D., Ph.D. (Chief International Center for Lymphedema, Hiroshima University Hospital)

Microsurgery in the field of reconstructive surgery started in 1965 when engraftment (recovery) of an amputated finger involving vascular anastomosis less than 1mm in diameter succeeded in Japan first in the world. In the 1990s, it became possible to connect lymphatics and nerve fibers of approximately 0.3mm in diameter, enabling drastic recovery of lymphedema and paralysis.

The 8K surgical microscope provides very clear images and is expected to support the microsurgery, vascular anastomosis, nerve suture and lymphatic anastomosis that we have been doing in the field of reconstructive surgery and to contribute to the dramatic progress of microsurgery techniques in the future. A traditional microscopic surgery requires surgeons to look into the eyepiece in the same position for a long period of time. This causes damages to their necks and arms, and they have to quit performing operations at a certain age. I believe that this 8K operation with a large monitor, though some training is required, will be a very useful operational tool not only in Japan but also in other countries as a device to protect necks of young microsurgeons of the future.

(2) Eiji Kobayashi, M.D., Ph.D. (Project Professor, Department of Organ Fabrication, Keio University School of Medicine)

If we can see what we could not see, we can sew what we could not sew. If so, can we cure a disease we could not cure? We developed "Micro eight" with Kairos staff to make such dream come true. This system was realized through collaboration between industry and academia by combining the world of 8K high-definition system image where Kairos was first in the world to put to practice in endoscopic surgeries with the world of medical technology of microsurgery that has been widely used as expert surgery technique in various clinical departments.

5. Outline of Kairos Co., Ltd.

(1) Company name: Kairos Co., Ltd.

(2) Established in: February, 2016

(3) Address: 13-4, Shiba 2-chome, Minato-ku, Tokyo

(4) Representative: Chairman and CEO, Hiroshi Nakatsuji

(5) Business description: Research and development, manufacture and sale of 8K rigid endoscope cameras, 8K imaging equipment and related systems

(6) Capital: 250 million yen (End of March, 2019)

(7) Shareholder composition: Air Water Inc. 88.7%, other 11.3%

(8) Number of employees: 30

6. Outline of the Medical Business of Air Water Inc.

Air Water provides a broad range of products and services from the field of "high level medical services", including the latest hospital facilities which are the providers of ever-advancing state-of-art healthcare, provision of medical gas, undertaking of hospital services outsourcing and facility equipment maintenance, to the field of

"community healthcare" that is close to our daily lives, such as dental and sanitary materials and injection needles used at local clinics and home medical care. The sales in FY 2018 was 176.7 billion yen, accounting for 22% of the total sales (801.5 billion yen).

*1 Perioperative period: A time period of a patient's surgical procedure that consists of peroperative, preoperative and postoperative periods. This includes ward admission, anesthesia, surgery, and recovery.

*2 Anastomosis: A connection made surgically between separate blood vessels and nerves

End

【Inquiry about this release】

◇ Noda or Fukushima, PR & IR Division, President's Office, Air Water Inc.

Address: 18-19, Toranomom 3-chome,
Minato-ku, Tokyo, 105-0001, Japan
Telephone: 03-3578-7804
E-mail: info-h@awi.co.jp

【Inquiry about this product】

◇ Yamamoto, Marketing Division, Kairos Co., Ltd.

Address: 13-4, Shiba 3-chome,
Minato-ku, Tokyo, 105-0014, Japan
Telephone: 080-7930-3210
E-mail: yamamoto@kairos-8k.co.jp