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## **Sysmex and JVCKENWOOD Jointly Establish Company to Use Micro and Nano-Fabrication Technology to Develop and Manufacture IVD Biodevices**

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Sysmex Corporation (HQ: Kobe, Japan; Chairman and CEO: Hisashi Ietsugu) and JVCKENWOOD Corporation (HQ: Yokohama, Japan; Chairman and CEO: Takao Tsuji) have reached an agreement to jointly establish a new company, Creative Nanosystems Corporation (“Creative Nanosystems”), to develop and manufacture biodevices. These in vitro diagnostic (“IVD”) devices will consist of microfluidics to achieve rapid reactions among tiny amounts of specimens and reagents. Creative Nanosystems is expected to commence R&D in October 2018, toward the commercialization of biodevices.

Sysmex is a comprehensive manufacturer that conducts R&D, manufacturing, sales, and service and support for IVD instruments, reagents and software. We promote research and technological development with the aim of creating highly valuable testing and diagnostic technologies. By leveraging the technologies and knowhow we have accumulated in the IVD domain, we are working to reinforce our presence in the fields of life science, as well as primary care, involving early diagnosis at locations near patients.

JVCKENWOOD is a technology-based company that holds some 11,000 elements of intellectual property on visual, audio and communications technologies. By leveraging and applying its strengths in optical disk forming technology and nano-fabrication technology, JVCKENWOOD is working toward early commercialization through next-generation solutions in the healthcare domain—including life science and primary care—which is expected to grow.

Given that the two companies are aiming in same directions, in 2016 Sysmex and JVCKENWOOD began cooperating in the development of diagnostic systems targeting exosomes\* existing in the blood. The aim is to create advanced testing and diagnostic technologies to enhance the quality of diagnosis and treatment in such areas as personalized medicine and cancer.

In this collaboration, Sysmex has used its strength in reagent development, which applies its gene and protein measurement technologies, as well as its expertise and networks in the IVD domain. JVCKENWOOD has used its optical disk forming technology and nano-fabrication technology. By combining these abilities, the companies believe they can develop and manufacture biodevices that will enable the realization of fast, inexpensive and compact IVD systems for the life science and primary care domains, where demand is expected to grow. Accordingly, the two companies have agreed to establish a new joint company to promote collaboration and work toward the early commercialization of this biodevice business.

This new company, Creative Nanosystems, aims to develop and manufacture biodevices which are able to contain and fix reagents in microfluidic channels designed using micro and nano-fabrication technology at the nanometer and micrometer level. When specimens flow into these microfluidic channels, biodevices will enable separation into components, and other types of pretreatment of specimens, as well as the precise control of their reactions with multiple reagents. As a result, even compact instruments will be able to analyze and measure tiny amounts of specimens quickly and with a high degree of precision. In October 2018, the new company will commence operations at its headquarters (Kobe) and development base (Yokosuka), and plans to begin activities toward the commercialization of biodevices that will provide new diagnostic value in the life science and primary care domains. The company will begin by focusing on R&D activities to establish biodevice production technologies, and will collaborate with Sysmex and JVCKENWOOD with the goal of full-scale commercialization from fiscal 2020.

Going forward, Sysmex and JVCKENWOOD will maximize synergies between the two companies toward the creation of new diagnostic value and the realization of personalized medicine, thereby contributing to the health of people around the world.

### **Overview of the New Company**

Name:	Creative Nanosystems Corporation
Location:	4-4-4 Takatsukadai, Nishiku, Kobe, Japan
Establishment:	October 2018
Capital:	¥100 million
Ownership:	Sysmex 51%, JVCKENWOOD 49%
Executives:	-President, Hiromi Yoshinari (Senior Vice President of Technology Development Division, Sysmex Corporation) -Vice president, Masahiro Shimoda (General Executive of Healthcare Business Division, JVCKENWOOD Corporation)
Business:	Development and manufacture of biodevices

### **Terminology**

#### **\* Exosome**

These granular vesicles, which measure around 50–100nm, are secreted by many types of cells, and exist in blood, saliva, urine and other bodily fluids. Exosomes contain many substances, including proteins, mRNA and microRNA. In recent years, attention has focused on using exosomes as biomarkers for various diseases, including cancer and Alzheimer's disease.