

Customer Award-Winning Engineering Solutions and High-Quality Products

Hitachi High-Technologies Corporation Analytical & Medical Solution Business Group



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— Tell us about Hitachi High-Technologies and Analytical & Medical Solutions products.

Our corporate vision is “Simplify our customers’ high-tech processes.” We have developed our business around three segments: “Analytical & Medical Solutions” that provide bio and medical systems such as clinical analyzers and scientific instruments, “Nano-Technology Solutions” that provide semiconductor manufacturing equipment and electron microscopes, and “Industrial Solutions” that focus on fields such as social and industrial infrastructure as well as automotive and transportation equipment, etc. We help our customers to solve their problems by providing technologies, products, and services based on our core technologies in “Observation, Measurement, and Analysis.”

— Why did Hitachi High-Technologies (HHT) apply THK products on your medical systems?

HHT provides clinical analyzers for clinical laboratories in hospitals and commercial laboratories. Generally, these products are categorized as IVD (in-vitro diagnostics) devices. Our products are mainly used to quantify the concentration of components in blood, in urine, or in other body fluids. Medical doctors can request several specific tests from more than 200 items to identify diseases. The test menu has been expanding for the last fifty years. In the past, it took time to get the results. Patients were requested by doctors to appear the following week to get the results. Today, so many blood tests can be completed in a hospital’s clinical laboratory within one hour after drawing a patient’s blood. Medical doctors can diagnose the diseases more accurately. Supporting this change have been the many improvements

in the IVD industry, including those in clinical laboratories. We focused on the development of the analyzer, a kind of robot for biochemical reactions. It contains multiple mechanisms for quantitative liquid transportation of samples and reagents, mixing functions, optical detection, and a temperature-controlled incubator to carry out the reaction. Around one hundred reaction containers are processed in parallel. For clinical laboratories with limited space, the analyzers are designed with a combination of 3-dimensional movements. This requires many linear actuators with high accuracy and reliability. THK’s linear guide products are used for this very precise movement.

— Why did HHT award the VEC (Value Engineering for Customers) to THK in 2018?

The competition in this market is based on the throughput you get out of the floor space. We have been working with a European-based IVD reagent company for over forty years. They want to keep the established reagent composition. In addition to that, the system throughput and reagent capacity on board must be maximized in limited floor space. But the most critical point was reliability. New analyzers are expected to operate 24/7. To achieve that, THK’s marketing, sales, and engineering staff were requested to join the discussion with HHT’s purchasing and engineering team from very early in the concept stage. In 2018, we proudly selected THK for the award from among our 1,500 vendors. THK supported HHT in many important aspects, including prompt production on demand, high quality, and regulatory compliance.

— What does HHT expect from THK?

In the IVD device business, it takes time to get the approval of products with IVD assays by healthcare authorities after the instrument design is fixed. After we get clearance, rapid production ramp-up is required. We would like to cooperate with THK in this business environment to prepare for the scale-up. From our experience of the earthquake in 2011, we would like THK to prepare for various kinds of natural disasters, including those that may impact THK’s material vendors. Recently, environmental and national security requirements have been getting more complicated. We expect THK to prepare for such requirements in advance.



Immunoassay module cobas® e 801
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Interview