

CUTTING EDGE

ROBOTS KEEP BLOOD FLOWING





Panasonic Electric Works Co. Ltd., a leading Japanese electronic and building materials manufacturer, has achieved a world-first by developing a blood sample transport system featuring autonomous robots that work together. In 2006, this system was supplied to clinical testing company BML Inc., where it is now in commercial operation.

The key players in the system are boxy one-meter tall robots called “Hospi AL.” Ten of these machines carry out a series of tasks from accepting blood samples to placing them in automated analyzers. Conventional automatic transporters require physical guidance mechanisms, such as magnetic tape on floors, but these robots navigate their way using maps input in advance. Since they don’t follow predetermined routes, the units can avoid or overcome obstacles and maneuver flexibly in response

to changes in lab layout. A newly-developed group monitoring system enables several robots to operate at once. Another feature of the system is centralized control of the ten robots’ individual destinations, which allows samples to be transported by the most efficient routes without congestion.

Panasonic researcher Hitoshi Kitano has high hopes for the future of the technology.

“As we gain more experience in transport in the laboratory environment and further improve safety features, it is conceivable that these devices could become service robots to transport goods outside the lab,” Kitano said.

FACING: “Hospi AL” robots travel at nearly the pace of a person walking.

ABOVE: BML’s robotic blood sample transport system can operate 24 hours a day without human control.