

# ACTOR™ Robotic Crystal Placement System

Increasing safety and efficiency

The ACTOR™ (Automated Crystal Transport Orientation and Retrieval) robot is a proven commercial solution for automating routine crystal screening and data collection at synchrotron beam lines and home laboratories. Compatible with almost any goniometer and detector combination, the ACTOR system effectively eliminates the physical handling of samples by humans.



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## Increasing safety and efficiency

Oceaneering worked closely with crystallographers to ensure the crystal placement system (CPS) is compatible with typical techniques and tools. The system supports universities, industry, and government labs with an integrated solution that enables drug discovery, improves production-line quality, and supports exploration of new frontiers in science.

### The Central Processing System (CPS) in the ACTOR system:

- » Allows continuous operation of x-ray diffractometers for high-throughput screening and data collection
- » Improves safety by reducing the human activity near x-ray generators and beamlines
- » Includes magazines to protect crystals during transit and support convenient handling of large crystal batches
- » Enables faster and gentler robotic transfer of crystals to the goniometer
- » Uses common, commercially available cryo-pins

### The system features:

- » Reliable five degree-of-freedom articulated robotic arm, integrated system controllers, and automated heater preventing ice buildup on the gripper
- » Custom cryo-storage dewar with automated lid, heated frost free interface, and auto-liquid level maintenance,
- » Capacity for five magazines holding 25 mounted crystals each
- » Motorized, three-axis stage with one micron-resolution

■ For more information visit us at [oceaneering.com/space-systems](http://oceaneering.com/space-systems)



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