



## Automatic Launch & Recovery System (AutoLARS)

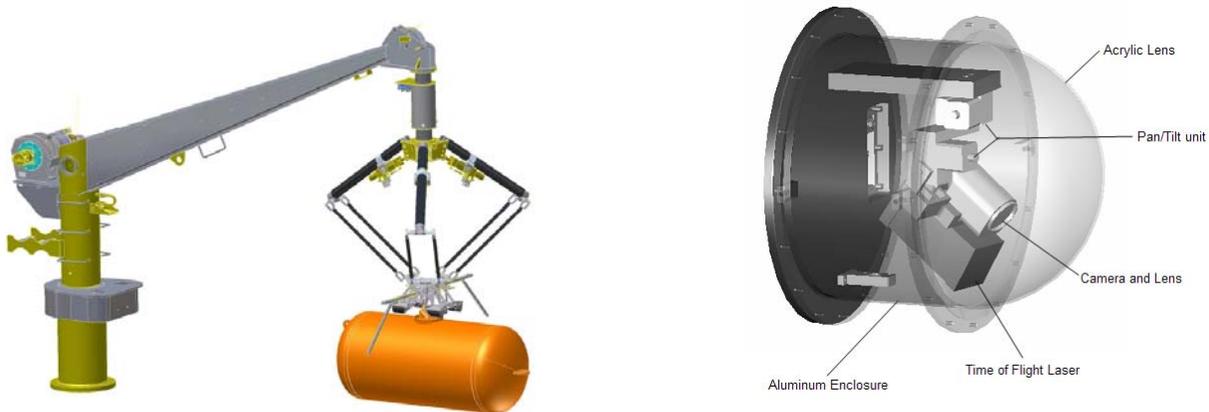
Concept Systems Inc.

Concept Systems Inc., Control Engineering Magazine’s 2007 System Integrator of the Year, knows how to successfully build complex automation systems. Recently a major heavy equipment systems provider turned to Concept Systems to develop a machine vision and control systems to automate recovery of objects from seagoing vessels.

Concept Systems developed a unique dual-camera system that allows precise determination of target object geometry using a purely passive optical system. A PC-based machine vision system processes imagery from the dual-camera system in order to track the target and determine the XYZ coordinates of the target in the end effector coordinate system. The XYZ coordinates are passed to an end effector system which utilizes predictive and non-predictive means to allow the operator to control the end effector in as intuitive a manner as possible. To effect the retrieval of the boat/vessel the system is capable of “Grabbing” either a question mark style hook or a probe style of connector. The dual-camera system is mounted on a pair of Directed Perception PTU-D46 model pan-tilt units. The units are controlled and queried in real-time to determine exact pointing angles to the target in order to derive XYZ position.

The **AutoLARS** required a precise, kinematically rigid pan-tilt unit to support the real-time control and geometry of vision subsystem. The Concept Systems team turned to Directed Perception’s **PTU-D46 model** pan-tilt.

“We were very successful in using the system on this project. The system is a true parallax vision system, the only one of its kind. The PTU-D46 product was one of the key items in the system, and it performed perfectly.” -- Doug Taylor, Principal Engineer, Concept Systems Inc.



Motion System and Camera of the AutoLARS



### About Concept Systems, Inc.

Concept Systems Inc, ([www.conceptsystemsinc.com](http://www.conceptsystemsinc.com)) is a leading systems integrator specializing in advanced systems incorporating motion control and machine vision. The key to Concept Systems’ success is a diverse team that brings a unique blend of technical expertise, detailed industry experience, and customer focus that is unmatched in the industry. Control Systems Inc. was recently named Control Engineering Magazine’s System Integrator of the Year.

Customer Success Story