

# 15th anniversary of the UKWIAŁ



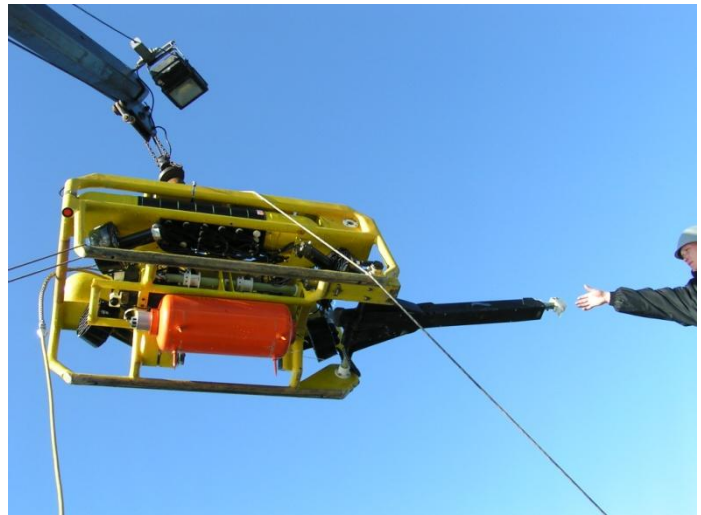
## The Sea Mine Countermeasure Remotely Operated Underwater Vehicle System

The UKWIAŁ is a specialized mine countermeasure Remotely Operated Vehicle System. It was introduced in year 1999. Eight vehicles were built to equip three mine-hunters of 206M type. The system is utilized to locate, identify and dispose of bottom and anchored sea mines. To destroy a mine various charges of different explosive mass are used. These are selected by ships command according to local environmental and tactical conditions. The UKWIAŁ system uses a typical open frame ROV, supplied and controlled by an umbilical cable. It is able to deliver charges up to safe distance of 400m from mine hunting ship, depending on water depth and sea current. Marking floats can be delivered instead of explosive charges. It can be used for majority of search, observation and manipulation tasks that can be needed during mine clearing operations. The open frame design of the vehicle and open control system architecture offers easy access to all components for checkout maintenance, repair and modifications.

### System components

The UKWIAŁ ROV system is composed of the following components:

1. Remotely Operated Vehicle
2. Pilot Control Console
3. Power Supply Unit
4. Umbilical Cable Winch
5. Tools and deck equipment
6. Spare parts set
7. System container (optional)



The UKWIAŁ vehicle is controlled by a pilot using 2 TV images and status information, overlaid on one of the TV images. These are supplemented by sonar image and navigation situation screens. All the images are displayed on dedicated 12" TFT LCD screens. Vehicle movements are controlled by means of two displacement type joysticks. System commands are inserted using a modified PC compatible keyboard with IP 66 sealed, membrane keys. Pilot work is aided by several auto piloting functions such as auto-heading, auto-depth and pitch stabilisation. Diagnostic functions are built in into system software.

All data and TV signals, between ROV and deck control room, are transmitted using fibre optic technology, giving high quality and high speed communication links that are immune to electromagnetic interference. A single multimode fibre is used for easy assembly and maintenance.

The UKWIAŁ system can be delivered with integrated training simulator that is built into the Pilot Console. Simulated images of four imaging devices are displayed for comprehensive "real life" training. Several lessons are available to train personnel of different skill levels. Complete trainer console, identical to real Pilot Console, can be separately supplied for training purposes.

