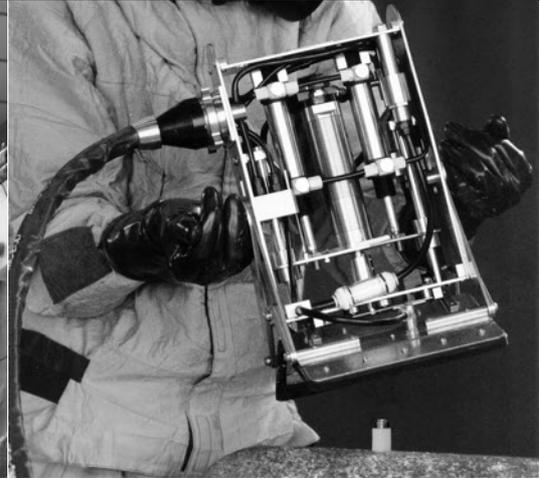




# Invasive Technology for investigation & disposal



## What's in the drum, chum?

Invasive technology for the investigation, sampling and disposal of hazardous sealed vessels and systems

**MMIC EOD is a world leader** in the development and manufacture of invasive technology and systems. 12 years' experience in disposing of chemical and biological weapons have produced a suite of equipment that can reduce the complexity and cost of working with sealed containers. Our solutions offer safe, fast and flexible systems with multiple capabilities for the investigation and remediation of all vessels and closed systems, regardless of size, shape or material.

### Reducing Uncertainty

The external walls or shielding of any sealed vessel or closed system important job - keeping the hazard safely contained. Unfortunately access to the contents for investigation or remediation work. Projects the target wall often require complex containment systems to cope with the occurs. This in turn increases costs and project time.



do a simple but they also prevent that need to penetrate inevitable leakage that

Invasive technology offers the ability to penetrate a vessel wall without allowing the contents to escape. The equipment is capable of allowing sealed access through most common applications. Originally invented for the defence market, it is now available to all hazardous material operations in any sector.

### Typical Applications

- Investigation of legacy containers and systems using endoscopes or other detection equipment.
- Sampling of working pipes and vessels without interruption.
- Introduction of materials into systems for decommissioning, neutralisation or decontamination.
- Drainage of hazardous materials for off-site disposal



## Typical Operational Sequence



**Step 1 - Attach**

Equipment can be attached to the target by manual means or by vacuum, mechanical or bespoke feet, depending on the project. Standard equipment can conform to almost any shape or material without prior surface preparation.

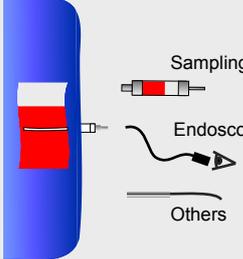
It can be deployed by ROV or manipulator arm.



**Step 2 - Drill**

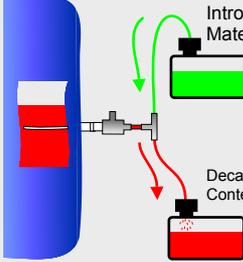
MMIC has developed an innovative drill & seal system which ensures there is no internal leakage during the process. The patented annular drill probes can cut through any metal, composite or plastic in under 2 minutes with no rise in temperature of the contents or the container wall.

All operations can be completed from 500m away.



**Step 3 - Investigate**

Once a probe is installed there are a number of options open to the operator; simple systems are able to take a quick sample of gas or liquid materials; larger equipment is able to give repeated access for a variety of sampling and sensor equipment. At all times the penetration remains sealed, even in high pressure systems.



**Step 4 - Remediation**

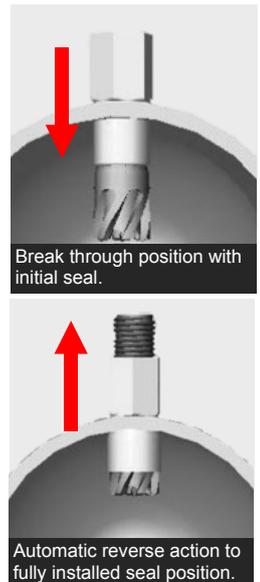
Using the same penetration the operator is then able to carry out a number of tasks. Large vessels can be emptied speedily for simple disposal. Equally material can be introduced for decontamination or other purposes. The aperture remains sealed and a robust cap can be fitted for longer term operations.

## Advantages

- **Fast** - A typical 20mm stainless steel wall can be drilled and sealed in around 2 mins.
- **Simple** - Requires little training as controls are intuitive and designed to be used in protective clothing
- **Safe** - All processes are designed to ensure no release of contents, even in the event of a power failure.
- **Flexible** - All systems can be used by hand or fitted to remote systems.

## Complete Sealed Solution

MMIC invasive equipment is designed to insert a gas-tight self-sealing probe through the target casing. It can deal with a wide range of materials including metal and plastics over a considerable range of wall thickness. Once installed the probes give fully sealed access for sampling, extraction and in-situ neutralisation of the contents. This can be repeated as often as required. Power can be either electric, hydraulic or compressed air.



## Standard Systems

### Midas Sampling System

The Midas system is a fast, highly portable system which is designed to take samples in gas and liquid materials. It is hand held, using a standard power drill for power.

It is capable of being used remotely if required.



### Monica Remote System

This compressed air system can be used for sampling, investigation and disposal operations. It is deployable either manually or remotely. Field proven in both the military and nuclear sectors it offers a high degree of flexibility in a simple to use system.



## Further Information.