



Experience

Unmanned, shallow water pipeline survey - Trinidad & Tobago

Uncrewed Surface Vessel – Near Shore deployment.

▽ Location: Trinidad & Tobago

Challenge

How do you carry out a shallow water survey when there are no jetties or docks nearby with minimal impact to the environment and no risk to people?

Sulmara was commissioned to complete a survey of the client's 3" 450m long pipeline, including a 50m corridor on each side, which runs from an onshore terminal facility out into Guayaguayare Bay, in Trinidad & Tobago with a quick turnaround.



Deliverables

Establish the current stability and condition of the pipeline, including signs of lateral movement, upheaval bucking, exposure zones, and indications of possible damage.

The challenging conditions of the location meant that a beach deployment was the only option, and this combined with the problems of the surf meant that surveying with a traditional fixed hull vessel was not an option.

Sulmara proposed the WAM-V 16 Uncrewed Surface Vessel (USV) as an ideal solution to work in the shallow waters due to its wave adaptable pontoon hulls and the option to deploy from a beach. The USV is a system that can be air-freighted to a location, so Sulmara was able to react quickly to our client's tight timescales. The suspension technology connecting the payload bay to the pontoons allows the system to articulate and keep the retractable sensor mount (RSM) and payload stable. Along with a GPS positioning system we integrated the following three required payload sensors to the USV:

- Parametric Innomar Compact SBP
- Edgetech 2205
- Norbit's POSMV integrated curved MBES array (iWBMS)

Resilience

One spare is never enough! When the motors of the USV started to register water ingress, Sulmara responded immediately, shipping a replacement a motor overnight and Sulmara personnel escorting it to site in rapidly with almost no loss of time to the client.

Launch and recovery procedures have been updated internally and shared with our internal teams. Our in-field learnings form the backbone of how we improve our service and remain experts in multiple USV technology.

Our commitment to delivering for our customers is baked into our procedures and we improve each and every time we deploy.



Impact

The high-resolution data was delivered for the client which allowed them to accurately assess areas of exposure of their pipeline. The WAM-V 16 is designed for inland and nearshore coastal hydrographic survey operations and can be launched from the beach. This eliminated the need for a full traditional offshore team and vessel, removing risk to personnel with operations completed with a much smaller carbon footprint.

“I am proud of the responsiveness of our team and how they dealt with the issues as they arose. We work in a difficult environment, and it was our combined project experience that delivered for the client.”



Kevin McBarron

