



SeaView Systems' Titan Tunnel Inspection Tool

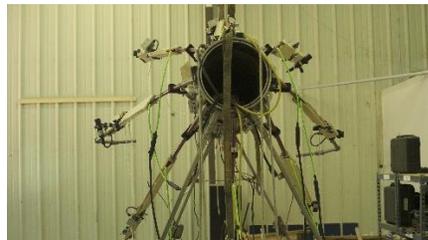
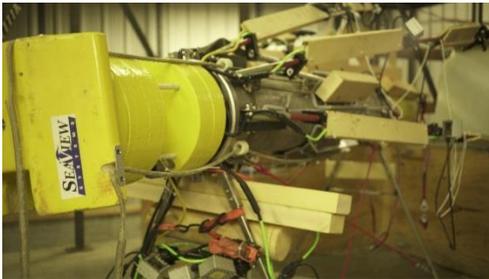
Titan, from SeaView Systems, is a battery powered vehicle capable of performing long, challenging tunnel inspections with diameters up to 16ft and with penetration lengths of 32,000ft (10km) and beyond for potable water systems or other applications. By exploiting the motive force of water flow within the pipeline, Titan is able to perform comprehensive surveys without service interruption and with smaller battery packs depending on the application.

Titan incorporates a set of booms which open in the tunnel, much like an umbrella, to capture energy from the flowing water for locomotion and utilizes Lithium ion battery packs to power a suite of onboard electronics and communications gear. The arms and cameras can be positioned as needed around the perimeter for a 360-degree view of the tunnel. High efficiency LED lighting provides sufficient illumination to produce a high-quality video record of the entire length of the survey traverse.

In addition to HD video, Titan can also incorporate profiling sonar to measure the internal surfaces of the tunnel including sediment depth and its payload can be configurable with other specialty sensor suites depending on the particular application requirements.

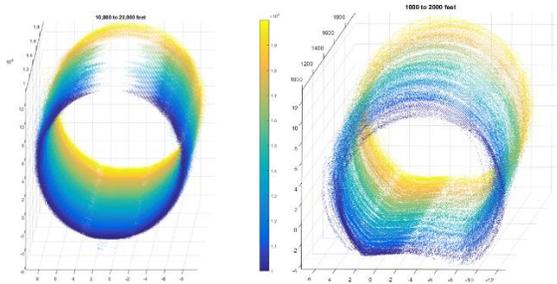
Titan's Design Concept:

- Rigid drogues for additional motive force if required
- Haul-back line and distance counter with time-stamp for precise position location for all data
- Eight umbrella-arm mounted camera/light sets plus two overview cameras
- Profiling sonar, DVR and onboard computer
- Flexible battery system can be configured as needed
- **Configurable and customizable to address your application requirements**





Sample Survey Results



3D point clouds of tunnel interior can be generated from the profiling sonar data. The diagram on the left shows a section of clean tunnel while the diagram on the right has accumulated debris in the tunnel invert. Volumes of sediment can then be calculated from the data.

These photographs show examples a zebra mussel infestation and interior damage to the tunnel.

Founded in 1998, SeaView Systems, Inc. has performed over 100 detailed pipeline and infrastructure inspections in addition to providing a range of oceanographic and underwater technologies and services. We design and build custom ROV's targeting specialized underwater applications. We provide services such as ROV tunnel or structural inspections using precisely located HD video or 3D sonar mapping or other techniques. And we design and sell a range of specialty electronics for various oceanographic, ROV, and survey applications tailored to the underwater technology industry.

For more details or to find out how SeaView can serve your inspection needs, please email SeaView Systems at info@seaviewsystems.com.

