



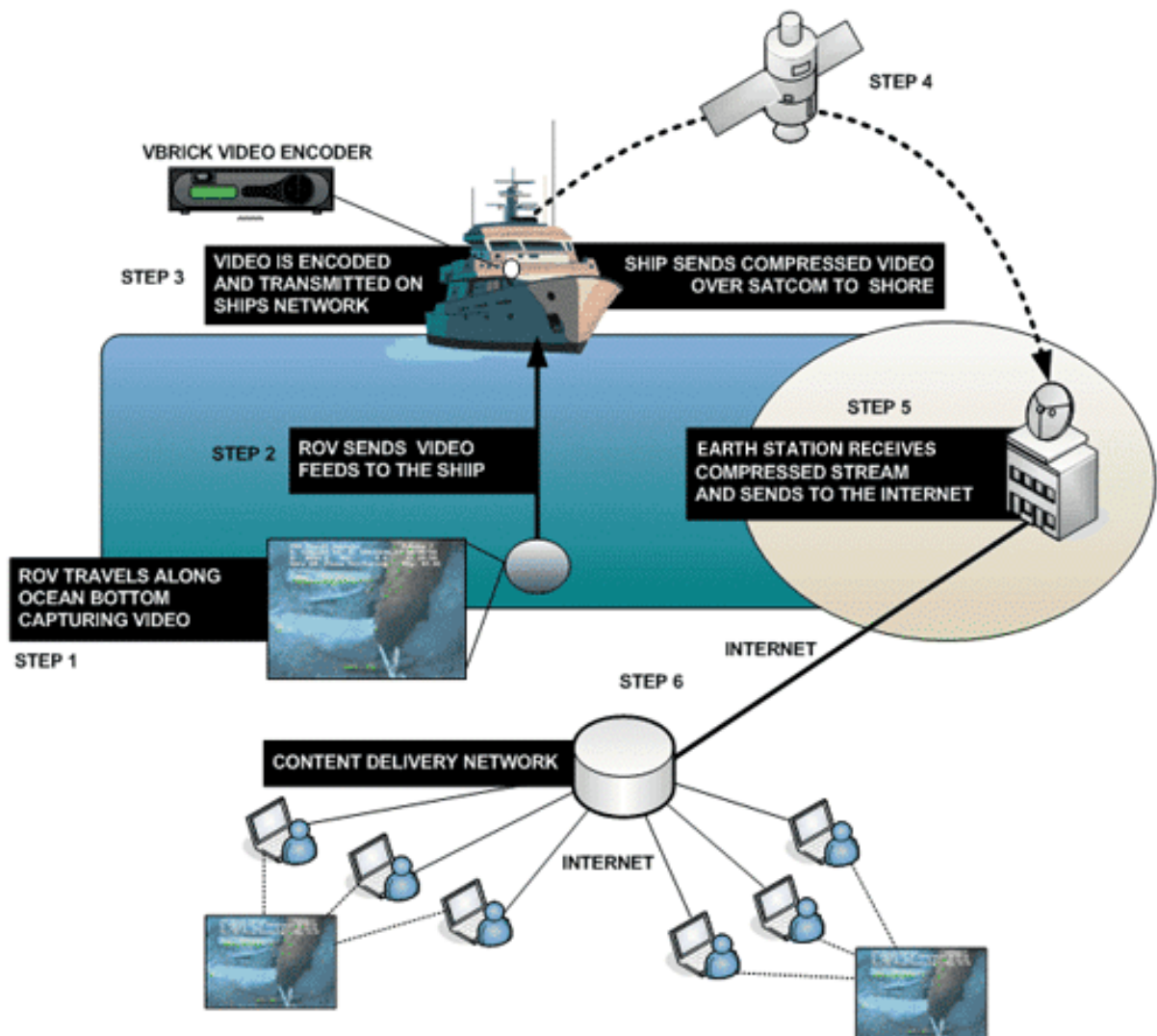
## MISSION CRITICAL VIDEO

How important is it for command decision makers to have a close-up view of the situation? Critical? What happens if that location is dangerous or hard-to-reach? This is a question that VBrick has been answering for a long time. The result is a suite of real-time video streaming products that provide “eyes-and-ears” on the scene that can be distributed to anyone, anywhere.

Most recently this has been the reality in the Gulf Coast of the United States where one of the potentially worst oil spills in United States history continues to threaten the local ecology. VBrick technology has helped bring video from miles below the ocean to be viewed by responders, independent scientists, the media and the world at large.

So how is it possible to get video from the floor of the ocean to viewers anywhere on the Internet? Let’s take a look.

## SHIP-TO-SHORE VIDEO APPLICATION OVERVIEW



### Step 1: Diving Miles Below the Surface

Video enabled ROVs (Remote Operated Vehicles) are submerged and lowered to the suspect location. These ROVs can reach depths that human beings would not be able to survive.

### Step 2: Making Video Contact

ROVs send video signals to the ships. These on-board cameras provide the eyes that will later be transmitted to viewers both on the surface and thousands of miles away.

### Step 3: Preparing the Video for Transmission

A VBrick Video Encoder compresses the video signal and transmits it to the ship's IP network. Encoding the video is key because the satellite connections that provide ship-to-shore communications usually provide limited (and expensive) bandwidth. The video being seen from the Gulf Oil Spill is only transmitting at 56kbps. High quality video using small amounts of bandwidth is critical.

### Step 4: Ship-to-Shore Transmission

The compressed video is transmitted from the ship's IP network over a wireless connection such as satellite or microwave.

### Step 5: Out to the Internet

The signal is picked up by an earth station and transmitted from the station's IP network to the Internet.

### Step 6: Worldwide Delivery

The transmission is picked up by a CDN (Content Delivery Network) such as VBrick's Online Streaming Service (VBOSS) where it can then be delivered to thousands of live viewers all over the world.

## NOT JUST FOR DEEP SEA EXPLORATION

VBrick's response to the increased need for real-time remote information has provided solutions for governments, first responders and corporations including:

### VBrick's Mobile Broadcast System (MBS)

The Mobile Broadcasting System provides First Responders with the unique ability to transmit video from almost anywhere, leveraging 3G and 4G data networks. This is important in a crisis when traditional communication channels might be interrupted.

### VBrick's Enterprise Media System (VEMS)

The VBrick Enterprise Media System provides an unprecedented level of scalability, management and flexibility when delivering streaming video within a controlled and complex network environment.

### VBrick's Video Streaming Encoders

VBrick encoders are designed to meet special network environments and environmental conditions. These appliance-based encoders provide the flexibility, reliability, and scalability required for mission-critical applications such as ISR (Intelligence, Surveillance, and Reconnaissance), highway monitoring, and high-definition video streaming from training facilities.

Encoding is the process of preparing the video for output, where the digital video is encoded to meet proper formats and specifications for recording and playback.

Compressed Video enables video to be transmitted or stored in a smaller file.

KPS is data transfer speed. Kbps is 1,000 bits per second, whereas a KB (kilobyte) is 1,024 bytes.

